



GDS Associates, Inc.
ENGINEERS & CONSULTANTS
gdsassociates.com

prepared for

AMEREN MISSOURI



Ameren
MISSOURI

**2020 DSM MARKET
POTENTIAL STUDY
FINAL REPORT**

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prepared by

**GDS ASSOCIATES INC
BRIGHTLINE GROUP
ACEEE**

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1 EXECUTIVE SUMMARY

1.1 BACKGROUND & STUDY SCOPE

As part of their larger 2020 Integrated Resource Plan (IRP), Ameren Missouri commissioned GDS Associates (“GDS”), Brightline Group, and the American Council for an Energy Efficient Economy (“ACEEE”), collectively “the GDS Team”, to assess energy savings potential to help inform future planning efforts. In addition, Opinion Dynamics Corp. (“ODC”), Ameren Missouri’s current evaluation contractor, was also requested to conduct primary market research to help inform key inputs in the market potential analysis.

Based on a gap analysis of available data, and a variance analysis of Ameren Missouri’s historical energy efficiency achievements relative to estimated impacts from the 2016 market potential study, ODC developed a preliminary market research plan. After review and input from Ameren Missouri and stakeholders, the final research plan sought focused on 1) collecting updated equipment penetration, saturation, and efficiency characteristics, 2) site conditions related to distributed energy resources, and 3) customer willingness to participate (WTP) in program offerings across select end-uses/measures. In the residential sector, sample sizes typically allowed for observed differences between market-rate and income-eligible customers.¹ Primary data collection in the business sector reported findings for small vs. medium/large businesses.

Following the collection of primary market data, the GDS Team developed four distinct areas of analyses:

- residential market-rate and business sector energy efficiency potential;
- income-eligible sector energy efficiency potential,
- demand response potential; and
- Distributed Energy Resource (DER) potential.

Each study sought to identify and assess a wide-range of demand-side resources across all major customer classes, market segments, and end-uses.² Although largely four autonomous studies, for ease of reporting the four areas of analyses, as well as a review of the primary market research, these studies were ultimately combined into the single report presented here.

1.2 TYPES OF POTENTIAL ANALYZED

This potential study provides a roadmap for both policy makers and Ameren Missouri as they develop strategies and programs for energy efficiency (EE), demand response (DR), and distributed energy resources (DERs) in the Ameren Missouri service area. In addition to technical and economic potential estimates, the development of achievable and program potential estimates for a range of feasible measures is useful for program planning and modification purposes. Unlike achievable and program potential estimates, technical and economic potential estimates do not include customer acceptance considerations for measures, which are often among the most important factors when estimating the likely customer response to new programs. For this study, the GDS Team produced the following estimates of demand side management potential:

- Technical potential
- Economic potential
- Achievable potential
 - Maximum achievable potential
 - Realistically achievable potential
- Program potential
 - Maximum achievable potential
 - Realistically achievable potential

¹ Income-eligible was defined by household size and 80% of area median income.

² 4 CSR 240-22.050 (1)(A)1 through 3; 4 CSR 240-22.050 (3)(B)

For each level of potential, this detailed report presents the energy savings, peak demand savings, benefits and costs for the Ameren Missouri service area for the period of 2022-2040, a 19-year time frame.³

1.3 APPROACH SUMMARY

The purpose of this market potential study is to provide a foundation for the continuation of utility-administered energy efficiency and demand response programs in the Ameren Missouri service area, to determine the remaining opportunities for cost-effective energy savings, demand savings, and distributed energy resources for the Ameren Missouri service area. This study has examined a full array of technologies, programs, and energy efficient building practices that are technically achievable.

The GDS Team used a bottom-up approach to estimate energy efficiency potential in the residential sector. Bottom-up approaches begin with characterizing the eligible equipment stock, estimating savings and screening for cost-effectiveness first at the measure level, then summing savings at the end-use and service area levels. In the business sector (commercial and industrial), the GDS team utilized a top-down modeling approach to first estimate measure-level savings and costs as well as cost-effectiveness, and then applied cost-effective measure savings to all applicable shares of electric energy load. Bottom-up approaches were also used in the demand response and DER analyses for all sectors.

Chapter 4 (*Residential Market-Rate/Business Sector Energy Efficiency Potential Analysis*) includes a wide-ranging discussion of numerous methodological considerations addressed in this analysis. Many of the methodological issues discussed within this section are generally applicable to the income-eligible, demand response, and DER found in subsequent chapters of this report, with important distinctions in methodological approach noted in their respective chapters.

1.4 STUDY LIMITATIONS AND CAVEATS

As with any assessment of potential, this study necessarily builds on various assumptions and data sources, including the following:

- Energy efficiency measure lives, savings, and costs (total measure costs, incremental costs, and incentive costs)
- Projected penetration rates for energy efficiency measures
- Projections of energy avoided costs
- Future known changes to codes and standards
- End-use saturations and fuel shares

While the GDS Team has sought to use the best and most current available data (including the use of new primary market research in key market subsegments of interest based on stakeholder feedback) there are often reasonable alternative assumptions which would yield slightly different results. For instance, the analysis assumes that many existing measures, regardless of their current efficiency levels, can be eligible for future installation and savings opportunities. Other studies may select a narrower viewpoint, limiting the amount of potential from equipment that is already considered to be energy efficient. Additionally, the models used in this analysis must make several assumptions regarding program delivery and the timing of equipment replacement that may ultimately occur more rapidly (or more slowly) than currently forecasted.

Furthermore, while the lists of energy efficiency measures examined in this study analysis represent technologies available on the market today and characterized in the Ameren Missouri submittal tool⁴, as well

³ 4 CSR 240-22.050 (3)(G)

⁴ For the purposes of this study, GDS relied on the "Ameren Missouri Deemed Savings Table revision 2.0", as approved in EO-2018-0211 on December 31, 2018. During the course of this study, Ameren MO updated and received approval for version 3 of

as a limited amount of emerging technologies not characterized or currently offered by Ameren, these measure lists may not be exhaustive. The GDS Team acknowledges that new efficient technologies may become available over the course of the 19-year study timeframe that could produce efficiency gains and costs at different levels than those currently assumed.

To address some of these limitations, sensitivities to address particular uncertainties surrounding customer participation and cost-effectiveness are also included in the energy efficiency, demand response, and DER analyses. The study also attempts to benchmark the potential results against other studies, both regionally and nationally. This holistic approach creates a robust data set from which to draw meaningful conclusions.

The 2020 Ameren Missouri Market Potential Study (MPS) focuses on energy efficiency measures where electric savings are the primary benefit. However, select measures may provide additional secondary benefits (i.e. opportunities to improve the building shell in homes/businesses with fossil fuel heating and electric cooling, or low-flow water devices) that could be quantified by other utilities.⁵ Where applicable, this combination of primary and secondary benefits may afford Ameren Missouri opportunities for joint utility coordination. Although notable challenges to joint delivery exist, including concerns over cross-fuel competition, added complexity to the regulatory process, and program imbalances, co-delivery of efficiency programs may be able to provide additional savings opportunities and/or reduced costs for specific measures and/or programs.⁶

Last, where possible, the GDS Team and Ameren Missouri collaborated to ensure consistency with assumptions and methodological considerations that are expected to be employed by during the program planning process. However, final program designs and implementation strategies may need additional flexibility to target specific or underserved markets, address equity concerns, or react to changing customer preferences.

1.5 POTENTIAL SAVINGS OVERVIEW

The following several sub-sections provide an overview of the energy efficiency potential for residential market rate customers, business customers, income-eligible customers, as well as summary demand response potential and distributed energy resource potential. Chapters 4 through 7 of this report provide additional summary data and methodological considerations and descriptions.

1.5.1 Energy Efficiency Potential for Residential Market Rate Customers

Figure 1-1 provides the technical, economic, MAP and RAP results for the 3-year, 10-year, and 19-year timeframes for the residential market-rate sector. The 3-year technical potential is 12% of forecasted sales, and the economic potential is 8% of forecasted sales. The 3-year MAP is 3.0% and the RAP is 2.7%, as a percentage of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 42% and 35% of forecasted sales, respectively. This indicates that a large portion of the technical potential is cost-effective. The MAP and RAP rise respectively to 22% and 16% of forecasted sales over the study timeframe. The gap between economic potential and MAP/RAP represent market barriers to prospective program participants, both financial and non-financial, to achieving the full amount of economic potential.

the TRM, effective January 1, 2020. GDS was able to incorporate select updates, including PY 2018 Evaluation Results and updated incremental costs for HVAC measures.

⁵ 4 CSR 240-22.050 (2)(F)

⁶ Successful Practices in Combined Gas and Electric Utility Energy Efficiency Programs. ACEEE. Report U1406. August 2014.

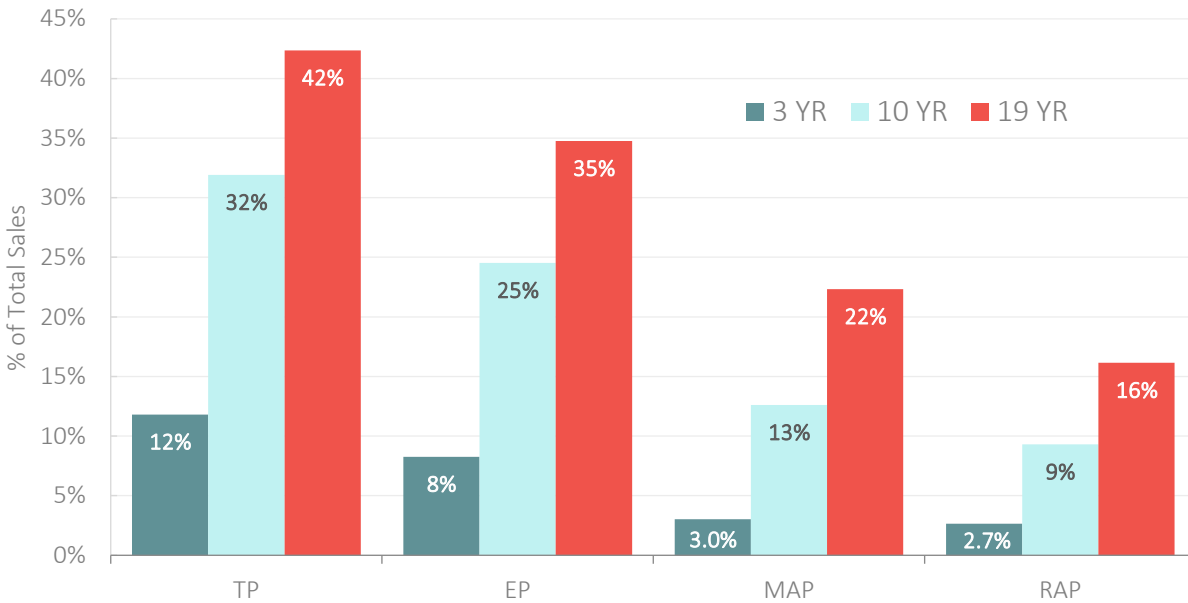


FIGURE 1-1: OVERVIEW OF RESIDENTIAL MARKET-RATE POTENTIAL

Table 1-1 provides incremental and cumulative annual energy and demand savings for MAP and RAP across the next five years as well as over the 10-yr and 19-yr time horizons. Incremental RAP energy savings range from nearly 83,000 MWh in 2022 to nearly 180,000 MWh by 2040, and cumulative RAP energy savings rise to more than 1.8 million MWh by 2040.

TABLE 1-1 RESIDENTIAL MAP & RAP POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Incremental Annual Energy (MWh)							
MAP	87,042	99,859	111,730	122,749	132,178	201,823	227,972
RAP	82,876	88,702	93,756	98,469	102,507	149,862	179,353
Incremental Annual Energy (MW)							
MAP	40.1	44.1	47.6	50.7	53.1	62.8	62.6
RAP	38.9	40.8	42.3	43.6	44.8	51.6	53.4
Cumulative Annual Energy (MWh)							
MAP	87,042	165,572	253,770	351,724	458,067	1,071,190	1,957,915
RAP	82,876	151,177	222,506	297,376	375,311	789,911	1,415,540
Cumulative Annual Energy (MW)							
MAP	40.1	74.3	110.6	149.4	190.2	334.9	487.7
RAP	38.9	70.1	101.6	134.0	167.0	266.8	376.7

1.5.2 Energy Efficiency Potential for Business Customers

Figure 1-2 provides the technical, economic, MAP and RAP results for the 3-year, 10-year, and 19-year timeframes for the business sector. The 3-year technical potential is 14% of forecasted sales, and the economic potential is 13% of forecasted sales. The 3-year MAP is 5.8% and the RAP is 4.5%, as a percentage of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 40% and 37% of forecasted sales, respectively. This indicates that a large portion of the technical potential is cost-effective. The MAP and RAP rise respectively to 25% and 17% of forecasted sales over the study timeframe. The gap between economic potential and MAP/RAP represent market barriers to prospective program participants, both financial and non-financial, to achieving the full amount of economic potential.

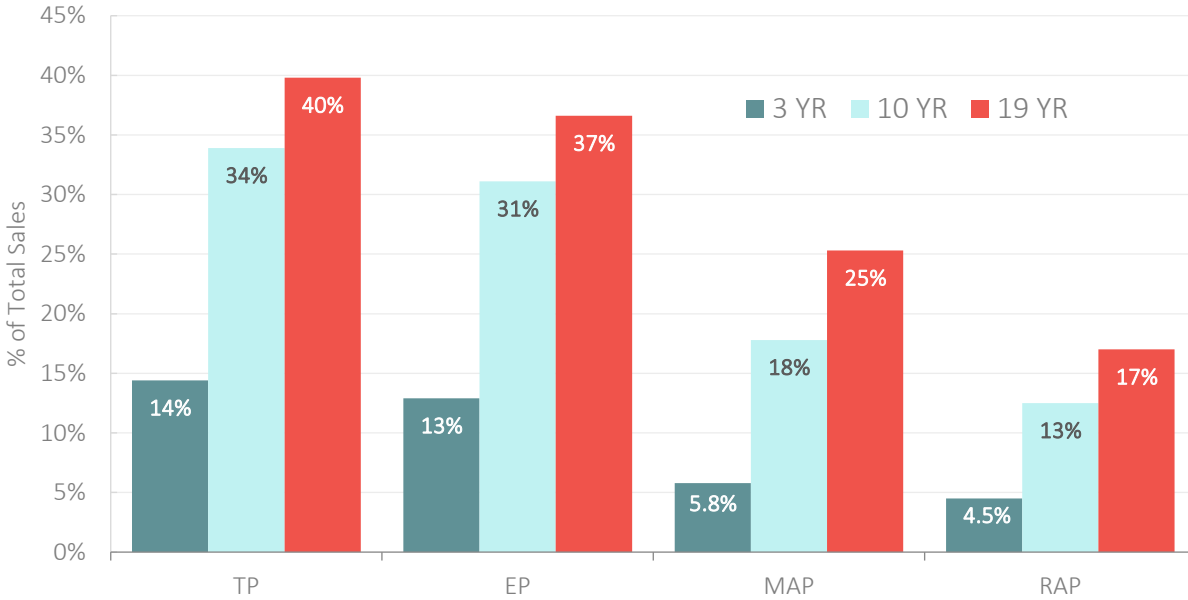


FIGURE 1-2: OVERVIEW OF BUSINESS POTENTIAL

Table 1-2 provides incremental and cumulative annual energy and demand savings for MAP and RAP across the next five years as well as over the 10-yr and 19-yr time horizons. Incremental RAP energy savings range from 218,000 MWh in 2022 to 272,000 MWh by 2040, and cumulative RAP energy savings rise to nearly 2.7 million MWh by 2040.

TABLE 1-2 BUSINESS MAP & RAP POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Incremental Annual Energy (MWh)							
MAP	267,773	288,371	310,852	335,241	361,496	332,958	396,143
RAP	218,237	226,719	235,394	244,199	253,088	204,336	272,334
Incremental Annual Energy (MW)							
MAP	70.5	77.6	85.4	94.0	103.5	113.0	128.5
RAP	61.7	64.9	68.2	71.3	74.4	69.5	85.8
Cumulative Annual Energy (MWh)							
MAP	267,773	548,921	847,501	1,164,597	1,500,812	2,739,456	4,022,682
RAP	218,237	434,102	656,965	886,679	1,122,658	1,924,785	2,698,861
Cumulative Annual Energy (MW)							
MAP	70.5	147.0	229.8	319.7	416.9	854.4	1,327.3
RAP	61.7	124.8	190.7	259.3	330.3	622.8	898.4

1.5.3 Energy Efficiency Potential for Residential Income-Eligible Customers

Figure 1-3 provides the technical, economic, and Scenario 1 and Scenario 2 results for the 3-year, 10-year, and 19-year timeframes. The 3-year technical potential is 15% of forecasted sales, and the economic potential is 11% of forecasted sales. The 3-year Scenario 1 potential is 2.1% and the Scenario 2 potential is 2.9%, as a percentage of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 50% and 41% of forecasted sales, respectively. This indicates that a large portion of the technical potential is cost-effective. The Scenario 1 and Scenario 2 potential rise respectively to 18% and 30% of forecasted sales over the study timeframe.

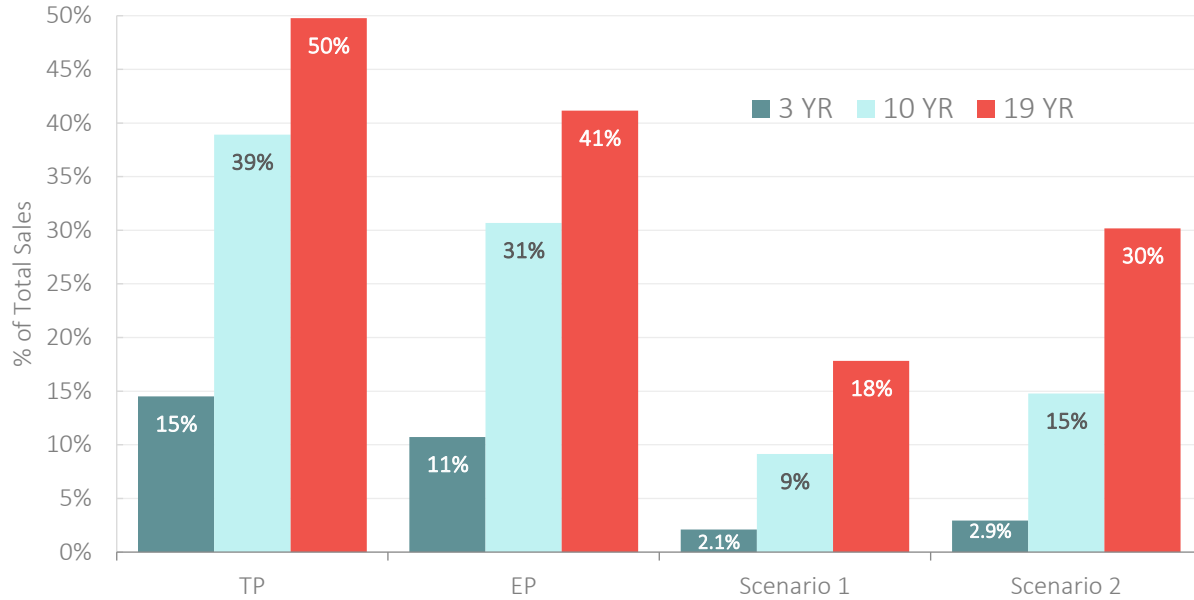


FIGURE 1-3: OVERVIEW OF INCOME-ELIGIBLE POTENTIAL

Table 1-3 provides incremental and cumulative annual energy and demand savings for Scenario 1 and Scenario 2 across the next five years as well as over the 10-yr and 19-yr time horizons. Incremental Scenario 1 energy savings range from 34,000 MWh in 2022 to more than 95,000 MWh by 2040, and cumulative Scenario 1 energy savings rise to more than 840,000 MWh by 2040.

TABLE 1-3 INCOME-ELIGIBLE SCENARIO 1 AND SCENARIO 2 POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Incremental Annual Energy (MWh)							
Scenario 1	34,031	37,718	42,093	45,742	50,900	73,824	95,074
Scenario 2	40,881	49,437	59,221	68,845	80,127	122,032	150,383
Incremental Annual Energy (MW)							
Scenario 1	12.3	13.4	14.8	15.8	17.6	24.2	28.1
Scenario 2	13.0	15.6	18.7	21.6	25.2	36.4	42.6
Cumulative Annual Energy (MWh)							
Scenario 1	34,031	61,095	92,088	126,541	166,075	414,316	843,401
Scenario 2	40,881	83,710	134,504	193,197	261,388	685,260	1,444,067
Cumulative Annual Energy (MW)							
Scenario 1	12.3	20.7	30.3	40.8	53.0	123.6	238.0
Scenario 2	13.0	25.6	40.3	57.0	76.6	189.4	387.3

1.5.4 Demand Response Potential for All Customers

Figure 1-4 shows the 2040 residential market rate and income-eligible technical, economic, MAP and RAP demand response potential. These demand reduction values are presented at the customer meter level of the Ameren Missouri grid.

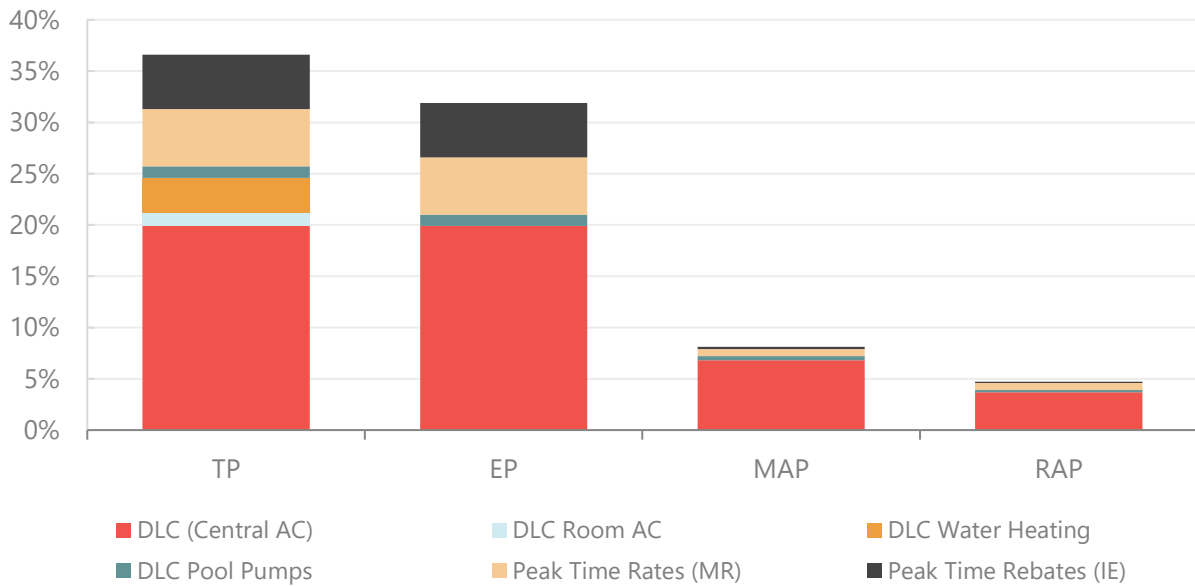


FIGURE 1-4. SUMMER PEAK MW RESIDENTIAL SECTOR BASE CASE RESULTS AS % OF 2040 BUSINESS CLASS LOAD

Figure 1-5 shows the 2040 business technical, economic, MAP and RAP demand response potential. These demand reduction values are present at the customer meter level of the Ameren Missouri grid.

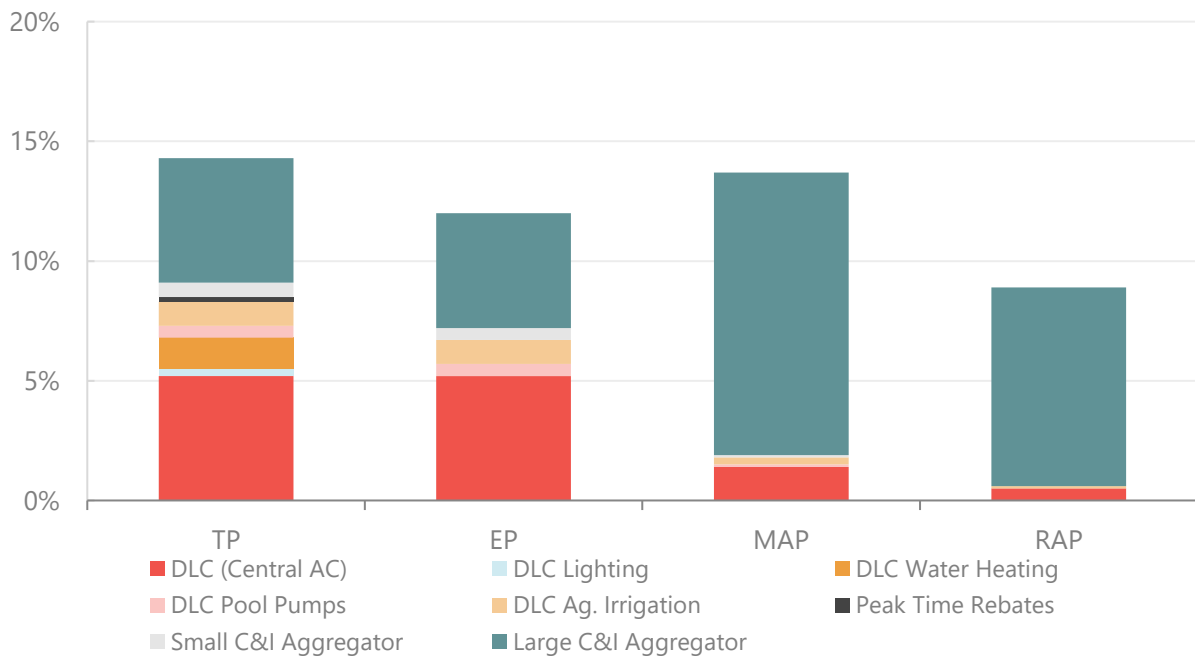


FIGURE 1-5. SUMMER PEAK MW BUSINESS SECTOR BASE CASE RESULTS AS % OF 2040 BUSINESS CLASS LOAD

1.5.5 Distributed Energy Resource Potential for All Customers

Table 1-4 summarizes the CHP cumulative annual potential estimates for electric demand and Table 1-5 for electric energy. 2040 technical market potential for CHP represents 26.7% of the 2040 business sales forecast and economic potential represents 1.2% of the 2040 business sales forecast.

TABLE 1-4: SUMMARY OF CHP ELECTRIC DEMAND MARKET POTENTIAL

Year	Technical (MW)	Economic (MW)	MAP (MW)	RAP (MW)
2023	128	0	0	0
2030	513	15	15	8
2040	1,218	30	30	15

TABLE 1-5: SUMMARY OF CHP ELECTRIC ENERGY MARKET POTENTIAL

Year	Technical (MWh)	Economic (MWh)	MAP (MWh)	RAP (MWh)
2030	2,150,159	95,789	95,789	47,895
2040	5,101,722	227,431	227,431	113,715

Table 1-6 summarizes the Solar PV cumulative annual potential estimates for electric demand and Table 7-14 for electric energy. 2040 technical market potential for Solar PV represents 51.6% of the 2040 residential and business sector sales forecast. Additionally, 43.9% of the technical market potential exists in the residential sector.

TABLE 1-6: SUMMARY OF SOLAR PV ELECTRIC DEMAND MARKET POTENTIAL

Year	Technical DC Capacity (MW)	Technical Peak Capacity (MW)	Economic (MW)	MAP (MW)	RAP (MW)
2023	595	262	0	0	0
2030	4,767	2,101	0	0	0
2040	11,319	4,989	0	0	0

TABLE 1-7: SUMMARY OF SOLAR ELECTRIC ENERGY MARKET POTENTIAL

Year	Technical (MWh)	Economic (MWh)	MAP (MWh)	RAP (MWh)
2030	7,067,211	0	0	0
2040	16,779,461	0	0	0

2 MARKET RESEARCH

The initial step in the assessment of future potential is to develop a clear understanding of the current market segments, as well as a clear understanding of the market research data available in the Ameren Missouri service area.

Opinion Dynamics Corp. (ODC) was retained by Ameren Missouri to conduct the market research that would inform critical elements of the market potential study.⁷ The research objectives of this effort were based on a gap analysis, conducted by the GDS Team, and subsequent prioritization of data needs. The research objectives were developed in coordination with Ameren Missouri and the potential study team (including ACEEE) and were refined based on feedback from regulatory stakeholders.⁸

Following this collaboration, primary market research activities were focused on 1) collecting updated equipment penetration, saturation, and efficiency characteristics, 2) site conditions related to distributed energy resources, and 3) customer willingness to participate (WTP) in program offerings across select end-uses/measures. Market research activities in the residential sector were intensified to adequate sample sizes to report on key differences between market-rate and income-eligible customers. Residential research activities included both an online survey as well as a more detailed on-site survey by trained field technicians with a nested sample of participants. In addition, multifamily property managers were also surveyed to further assess adoption rates and equipment characteristics for building-level systems. Primary data collection in the business sector was limited to an online survey with business customers.

The resulting data was used to develop updated estimates of baseline and efficient equipment saturation estimates in the market potential study and develop expected long-term adoption rates for energy efficiency, demand response, and DERs over the study horizon. In addition, the primary market research was also used to update select inputs to algorithms contained in the Ameren Submittal Tool to derive updated baseline or efficient equipment estimates of annual consumption.

The following section provides an overview of the market research plan and major deliverables of primary importance to the assessment of energy efficiency potential. The full report, *Ameren Missouri Baseline Study Report*, published by ODC in December 2019 is included as Appendix B.

2.1 PRIMARY DATA COLLECTION

The following subsections provide a brief overview of the primary data collections activities conducted by Opinion Dynamics to support the market potential analysis of energy efficiency, demand response, and distributed energy resource potential.

2.1.1 Residential Online Survey

The residential customer research targeted homeowners and tenants in the following key segments: income-eligible and market-rate customers, and customers occupying single family and multifamily homes. Income-eligible was defined by household size and 80% of area median income.

A residential online customer survey collected home characteristics, equipment penetration for key end-uses – such as heating, cooling, water heating, insulation, smart power strips, thermostats, major appliances, solar PV systems, pool pumps, and electric vehicles – and information on barriers and willingness to adopt a range of energy efficient measures at varying incentive levels.

⁷ 4 CSR 240-22.050 (2)

⁸ Opinion Dynamics presented the planned market research scope of work at an in-person stakeholder meeting on May 6, 2019 and finalized the scope following receipt of stakeholder comments.

Table 2-1 provides the targeted and completed residential online surveys.

TABLE 2-1: TARGETED AND COMPLETED RESIDENTIAL SECTOR ONLINE SURVEYS

Residential Online Survey	Target Sample Size	Total Completed	Achieved Precision @ 90% Confidence
Single Family Market Rate	250	513	3.6%
Multifamily Market Rate	250	224	5.5%
Single Family Income-Eligible	250	294	4.8%
Multifamily Income-Eligible	250	364	4.3%

The sampling precision for the residential online survey (as well as the other primary market research efforts discussed below) was the industry-standard 90% confidence at 10% relative precision (often referred to as “90/10”). In some market segments, the ultimate number of completed surveys may allow for precision estimates that approach or exceed 5% relative precision at 90% confidence, particularly when reporting on equipment penetrations where all survey responses in the market segment contribute to the point estimate. For example, this would include the penetration of electric heating, cooling, or water heating. In other cases, such as equipment saturation or efficiency characteristics, the statistical significance can be lower. For example, this would include the specific type of water heating or cooling technology. This is particularly true when the type of equipment is limited in the market and/or there is large variability in the characteristic being examined.

2.1.2 Residential On-Site Survey

The residential on-site visits collected detailed information on building characteristics as well as the penetration, saturation, and characteristics of key energy using equipment (including the specific type of heating, cooling, and water heating equipment; lighting; insulation; clothes washers; smart strips; water-related equipment; pool pumps; solar PV systems; and windows and doors).

ODC developed the sample of on-site visits from the respondents to the residential online survey (a nested sampling approach). The target number of completed on-site visits was 120. ODC reached the target of 60 visits with income-eligible customers and 60 visits with market-rate customers and achieved representative samples of single family and multifamily homes.

2.1.3 Multifamily Property Managers Survey

Since the multifamily tenants targeted by the residential customer survey do not make adoption decisions on building-level systems (such as heating, cooling, water heating, and solar) and generally cannot report on characteristics of these systems, we also conducted a survey with multifamily building owners and property managers. The sample frame for the building owner/manager survey was derived from multiple sample sources including mailing lists from real estate lists, contact lists provided by Ameren Missouri program staff, vendor contacts, as well as Community Development Organizations engaged in outreach and education efforts regarding energy efficiency.

Despite significant effort, the number of completed multifamily property manager surveys fell short of the original target of 140 surveys, with 85 completed. It is important to note that the multifamily property manager’s survey continues to meet the industry standard sampling precision targets of 90% confidence at 10% relative precision. The total number of responses does however limit the comparison of adoption rate responses between income-eligible and market-rate property managers at the same statistical levels. As an added step, adoption rates developed for measure level technologies in multifamily properties were also reviewed by ACEEE and other subject matter experts and found to be valid for the purposes of this study.

It should also be noted that the main purpose of this survey is to supplement the online/onsite research as described above. The survey data is also used to develop adoption curves for shared systems in multifamily properties. The survey included penetration and saturation questions about these shared systems. This data helped support similar data collected through the on-site visits from the residential survey.

2.1.4 Business Sector Online Survey

Primary data collection in the business sector was limited to an online survey with business customers. The survey collected business and facility characteristics, as well as equipment penetrations for key end-uses, such as lighting, heating, cooling, water heating, refrigeration, thermostats, and on-site generation (including solar PV systems). The business online survey also collected information on barriers to energy efficiency and willingness-to-adopt energy efficient measures under various incentive offerings.

ODC stratified the survey sample into two primary segments (small usage and medium/large usage) and within each primary segment, we further classified the sample within the following five business segments: office/government, industrial, retail/entertainment, food sales/service, and other.

TABLE 2-2: TARGETED AND COMPLETED BUSINESS SECTOR ONLINE SURVEYS

Business Online Survey	Target Sample Size	Total Completed
Small Businesses	300	354
Medium/Large Businesses	300	377

2.2 RESIDENTIAL MARKET DATA

The tables below provide some key demographic data as well as weighted and on-site adjusted penetration and saturation results by key market segment. Additional data tables can be found in Appendix B of this report.

Table 2-3 presents some key demographic information for the residential sector by income type and home type. In general, although the average home size for income-eligible households is significantly smaller than market-rate customers, average annual electric use (kWh) is much more aligned leading to an overall higher electric energy use intensity (kWh per square foot) in the income-eligible market segment for both housing types. This data was particularly useful in disaggregating the residential sales forecast for the market-rate and income-eligible potential assessments. Further detail on this disaggregation is provided in Section 3.4.1.

TABLE 2-3: KEY HOUSEHOLD CHARACTERISTICS AND INCOME DISTRIBUTION

	Total	Market Rate Single Family (MR-SF)	Income-Eligible Single Family (IE-SF)	Market Rate Multifamily (MR-MF)	Income Eligible Multifamily (IE-MF)
Household Characteristics					
Number of Occupants	2.3	2.5	2.3	1.6	1.7
Year Home Built	1967	1973	1954	1964	1977
Square Footage	1,629	2,054	1,194	1,113	770
Avg. Annual Consumption (kwh)	12,812	14,500	12,100	8,700	7,800
Energy Use Intensity (kWh/Sq. ft)	7.86	7.06	10.13	7.82	10.13
Income Distribution					
Income < \$15,000	10%	<1%	19%	<1%	38%
Income < \$25,000	21%	<1%	48%	<1%	68%

Table 2-4 provides example summary data by market segment for major residential end-uses. These data points of electric HVAC and water heating equipment penetrations help quantify the energy efficiency improvement opportunities by market segment. In addition, the research also provided recent market conditions for remaining efficiency opportunities, for example: the percent of households with low-flow devices, heat pump water heaters, as well as good and/or better insulation levels.

TABLE 2-4: SELECT RESIDENTIAL MARKET RESEARCH RESULTS FOR KEY END-USES (BASED ON ONLINE/ONSITE SURVEYS)

End Use	Equipment	Penetration			
		MR-SF	IE-SF	MR-MF	IE-MF
Heating	Electric Resistance Heating	27%	44%	60%	67%
	Heat Pump Heating	5%	6%	11%	6%
	Primary Electric Heating (Total)	32%	50%	71%	73%
Cooling	Central AC Cooling (non-heat pump)	88%	76%	92%	79%
	Central AC Cooling (heat pump)	5%	6%	11%	6%
	Room AC	23%		14%	
Water Heating	Electric Water Heating	29%	40%	22%	40%
	Heat Pump Water Heating (as a % of electric WH)	2%	1%	0%	1%
	Low Flow Aerators	63%	54%	78%	60%
	Low Flow Showerheads	64%	57%	68%	63%
Other	Refrigerator (saturation)	167%	130%	109%	105%
	Pool Pump	5%	1%	1%	2%
	Insulation Quality (Good or better)	70%	60%	62%	48%

Table 2-5 provides both the penetration (% of households with at least one) and saturation (average number per household) by residential lighting bulb type. At least one LED bulb can be found in 87% and 69% of market-rate and income-eligible homes, respectively. For market-rate homes, there are an average of 72 lighting sockets, with nearly 42% of sockets housing LED bulbs. In income-eligible homes, roughly 19% of the 29 sockets have LED bulbs installed.

TABLE 2-5: RESIDENTIAL LIGHTING BULB TYPE: PENETRATION / SATURATION

End Use	Equipment	Penetration		Saturation	
		MR	IE	MR	IE
Lighting	Total Sockets	100%	100%	72.02	28.91
	LEDs	87%	69%	30.15	5.59
	CFLs	88%	83%	13.72	7.14
	Incandescent or Halogens	97%	95%	23.37	14.01
	Linear Fluorescents	59%	47%	4.77	2.18

2.3 BUSINESS MARKET DATA

Table 2-6 Table 2-5 provides select demographic information in the business sector. In general, smaller businesses were more likely to lease their space and only occupy part of the entire facility. Small businesses also had a much smaller size and fewer hours of operation during both weekdays and weekends.

As noted earlier in this chapter, more complete data tables related to the business sector market research can be found in the complete market research report by ODC, included in Appendix B.

TABLE 2-6: RESIDENTIAL LIGHTING BULB TYPE: PENETRATION / SATURATION

	Overall	Small Business	Medium/Large Business
Own	64%	63%	76%
Lease	35%	36%	24%
Occupy Entire Facility	73%	71%	88%
Occupy Part of Facility	25%	27%	11%
Occupy None (Manage Only)	2%	2%	<1%
Average Age of Facility (Years)	51	53	41
Average Size of Facility (Sq. Ft)	12,452	8,313	49,786
Average Weekday Hours of Operation	10.3	9.8	14.2
Average Weekend Hours of Operation	6.3	5.8	9.9

The penetration of different lighting fixtures in small and medium/large businesses is shown in Table 2-7. Linear LED fixtures can be found in nearly twice as many medium/large businesses relative to small businesses. In addition, lighting controls are more often found in medium/large businesses, with a greater proportion of lighting being controlled, relative to small businesses. Table 2-8 provides example summary data by business size for major end-uses.

TABLE 2-7: BUSINESS SECTOR LIGHTING END-USE CHARACTERISTICS

End Use	Equipment	Penetration		
		Overall	Small Business	Medium/Large Business
Lighting	Linear Fluorescent	75%	75%	71%
	Linear LED	38%	35%	66%
	Nonlinear LED	39%	36%	58%
	High Bay Lighting	36%	33%	66%
Lighting Controls	Occupancy Sensors	12%	9%	41%
	<i>% of Lighting Controlled</i>	26%	21%	38%
	Daylight Dimming	5%	5%	9%
	<i>% of Lighting Controlled</i>	39%	38%	38%
	Time Controls	17%	14%	41%
	<i>% of Lighting Controlled</i>	24%	24%	26%

TABLE 2-8: BUSINESS SECTOR EQUIPMENT PENETRATION ACROSS KEY END-USES

End Use	Equipment	Penetration		
		Overall	Small Business	Medium/Large Business
Heating	Primary Natural Gas	75%	75%	71%
	Primary Propane	38%	35%	66%
	Primary Electric	39%	36%	58%
	Furnace	36%	33%	66%
	Heat Pump	12%	9%	41%
	Electric Resistance	5%	5%	9%
Cooling	Packaged System AC	17%	14%	48%
	Split System AC	14%	12%	38%
	Heat Pump (Ducted)	8%	7%	24%
	Heat Pump (Ductless)	10%	7%	34%
Thermostats	Smart Thermostats	63%	62%	73%
	Manual Thermostats	33%	33%	31%
Ventilation	Demand Controlled Ventilation	6%	5%	17%
	Vent Hoods	18%	14%	48%
	Vent Hoods with Demand Controlled Vent.	5%	4%	12%
Refrigeration	Has Commercial Refrigeration?	17%	14%	48%
	Refrigerated Non-Display Cases	14%	12%	38%
	Refrigerated Display cases	8%	7%	24%
	Commercial Refrigerated Walk-Ins	10%	7%	34%
Smart Strips	Smart Strips	18%	17%	29%
Water Heating	Electric WH	49%	49%	42%
	Heat Pump Water Heater	<1%	<1%	3%
On-Site Generation	Renewable Energy Generation	1%	<1%	3%
	Emergency/Backup Generation	7%	5%	18%
	Cogeneration/CHP	1%	1%	1%

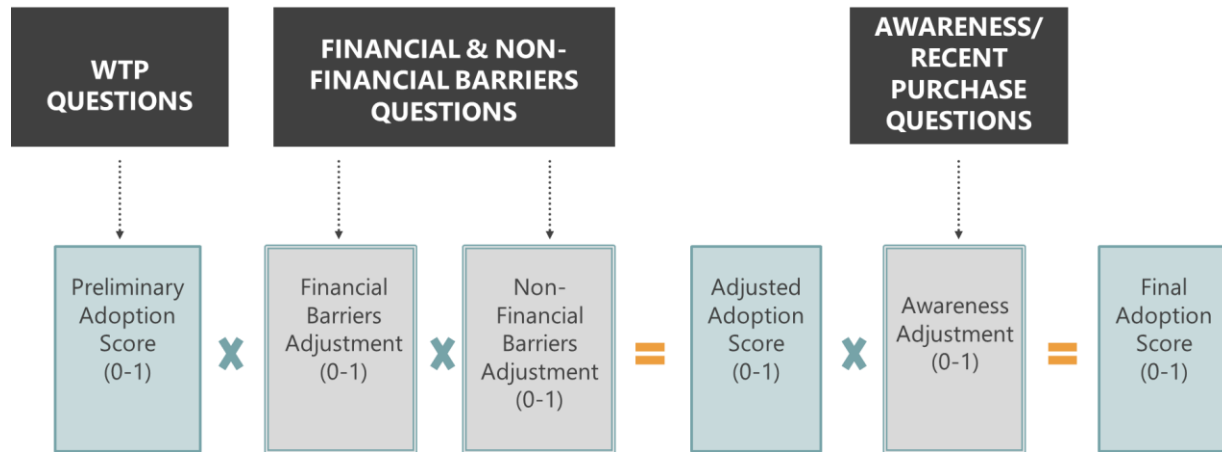
2.4 ADOPTION CURVE MARKET DATA

In addition to new primary research on building and energy-consuming equipment characteristics in the Ameren Missouri service area, one of the major objectives of the primary research was to develop survey research that could be utilized to develop measure/program adoption curves to develop estimates of achievable potential. Table 2-9 describes the end-uses or categories in which adoption rate estimates were developed for energy efficiency, demand response programs, or distributed energy resources by ODC.

TABLE 2-9: ADOPTION RATE CATEGORIES ANALYZED

Willingness to Participate	EE End Uses	DR Programs	DER
Residential Customers	Heating/CAC Heat Pump Water Heater Major Appliances Insulation/Air Sealing	Central AC Control	Solar PV (Purchase) Solar PV (Lease) Electric Vehicles (EVs)
MF Building Owners	Heating/CAC Heat Pump Water Heater Insulation/Air Sealing	n/a	Solar PV (Purchase) Solar PV (Lease)
Business Customers	HVAC Equipment Water Heating Equip. Refrigeration Lighting Equipment	Central AC Control Water Heater Control Customized DR	Solar PV (Purchase) Solar PV (Lease)

Adoption rate calculations were based on a battery of questions which assessed (1) the respondent’s willingness to adopt energy efficiency technologies or participate in demand response programs in scenarios with varying levels of program support, (2) the magnitude of the respondent’s financial and non-financial barriers to adoption/participation, and (3) their awareness of Ameren Missouri energy efficiency programs and/or high efficiency technologies. Adoption rates were calculated based on the equation shown below.



EQUATION 2-1: ADOPTION RATE FORMULA FOR FINAL ADOPTION SCORE

Direct willingness-to-participate questions are the starting point of measure/program-specific adoption curve calculations. For each item, respondents were asked to rate the likelihood that they would purchase the energy efficient version of the equipment, or participate in the DR program, at various incentive levels, including no incentive and an incentive that covers the full incremental (or total) cost. An example question from the residential online survey is provided below:

Now, please think about what actions you would take with respect to replacing a broken major appliance if incentives were available to cover some or all the cost. These incentives could come in the form of a rebate after purchasing.

Again, one example of appliance costs is the cost of a standard versus high efficiency clothes washer. The cost of a typical standard efficiency clothes washer is about \$450 while the cost of a high efficiency clothes washer is

about \$600. An energy efficient appliance like this would give you an energy saving of about \$10-\$15 a year compared to the stand efficiency model.

If you had to replace a broken appliance, how likely would you be to purchase an ENERGY EFFICIENT model to replace this broken equipment, if there was...

a. NO incentive?

b. An incentive for ONE-QUARTER of the additional cost of an energy efficient model, compared to a standard model? (If the energy efficient model cost \$600 and a standard model cost \$450, the incentive would cover \$38 of the additional cost of \$150.)

Responses to financial and non-financial barrier questions were then used to adjust the preliminary adoption score. Last, to reflect that some customers who might otherwise participate will not be aware of the program, survey respondents were also asked about their current awareness of Ameren Missouri programs/incentives. Key adoption rates are provided below, with additional detail available in Appendix B. In addition, Section 4.1.7.1 has additional description regarding the utilization of the adoption rate research for assessing achievable savings potential.

2.4.1 Residential Sector Final Adoption Scores

Table 2-10 presents the final adoption scores (after all adjustments) based on responses by residential homeowners and tenants, segmented between market-rate and income-eligible customers. In general, market rate customers indicated a greater willingness to participate and install energy efficiency measures across all end-uses, particularly at lower incentive levels relative to income-eligible customers.

TABLE 2-10: HOMEOWNER/TENANT FINAL ADOPTION SCORES BY INCENTIVE LEVEL

Homeowners / Tenants	Annual Incentive (% of incremental measure cost)				
	0%	25%	50%	75%	100%
HVAC	26%	38%	46%	53%	59%
Water Heat	6%	11%	17%	21%	25%
Insulation	10%	22%	33%	43%	55%
Appliances	23%	30%	38%	44%	51%
Market Rate	0%	25%	50%	75%	100%
HVAC	31%	44%	53%	59%	64%
Water Heat	6%	12%	16%	21%	24%
Insulation	12%	26%	37%	48%	59%
Appliances	26%	33%	40%	46%	52%
Income-Eligible	0%	25%	50%	75%	100%
HVAC	17%	25%	33%	42%	50%
Water Heat	4%	10%	16%	22%	28%
Insulation	4%	13%	23%	32%	44%
Appliances	16%	25%	33%	40%	48%

Table 2-11 provides final adoption scores based on survey responses from multifamily property managers and/or building owners. For multifamily property manager and owner WTP (as well as in the business sector), incentives were described in the form of payback periods to better align with how purchasing decisions are likely to be considered.

TABLE 2-11: MULTIFAMILY PROPERTY MANAGER/BUILDING OWNER FINAL ADOPTION SCORES BY PAYBACK PERIOD

MF Property Managers	Payback Years				
	10 Y	5 Y	3 Y	1 Y	0 Y
HVAC	18%	32%	42%	50%	57%

MF Property Managers	Payback Years				
	10 Y	5 Y	3 Y	1 Y	0 Y
Water Heat	11%	21%	28%	36%	42%
Insulation	13%	26%	38%	50%	59%
Market Rate	10 Y	5 Y	3 Y	1 Y	0 Y
HVAC	16%	30%	40%	48%	56%
Water Heat	8%	16%	23%	29%	35%
Insulation	10%	24%	35%	47%	54%
Income-Eligible	10 Y	5 Y	3 Y	1 Y	0 Y
HVAC	24%	36%	47%	56%	60%
Water Heat	20%	33%	46%	54%	62%
Insulation	21%	34%	50%	65%	81%

Final adoption scores for residential direct load control (DLC) of central AC and water heating systems is shown in Table 2-12, depending on varying annual incentive levels. Current annual incentive offerings are \$25 for direct load control of central air conditioning systems. Table 2-13 provides the final adoption score for a Time of Use (TOU) rate option based on a prescribed difference between peak and off-peak rates.

TABLE 2-12: DLC DEMAND RESPONSE FINAL ADOPTION SCORES BY INCENTIVE LEVEL

DR - DLC	Annual Incentive (% of incremental measure cost)				
	\$0	\$15	\$25	\$35	\$50
Central AC	10%	15%	18%	21%	26%
Water Heat	5%	10%	14%	17%	22%
Market Rate	\$0	\$15	\$25	\$35	\$50
Central AC	11%	16%	20%	24%	28%
Water Heat	5%	11%	15%	18%	22%
Income-Eligible	\$0	\$15	\$25	\$35	\$50
Central AC	8%	12%	15%	18%	22%
Water Heat	5%	10%	14%	17%	23%

TABLE 2-13: TOU DEMAND RESPONSE FINAL ADOPTION SCORES BY INCENTIVE LEVEL

DR - Rate	Peak: Off Peak Ratio ⁹			
	3:1	4:1	6:1	8:1
DR-TOU	14%	19%	24%	30%
Market Rate	3:1	4:1	6:1	8:1
DR-TOU	19%	26%	33%	40%
Income-Eligible	3:1	4:1	6:1	8:1
DR-TOU	4%	7%	9%	10%

The final adoption scores related to select distributed energy resources are presented in Table 2-14. Survey questions asked participants about their likelihood to purchase and/or lease solar PV systems as well as electric vehicles assuming different incentive level amounts (or payback periods).

⁹ In the survey, peak rate was defined as \$0.24/kWh. At a 3:1 peak to off-peak ratio, where the peak rate is \$0.24/kWh, the off-peak rate is \$0.08/kWh.

TABLE 2-14: RESIDENTIAL DER FINAL ADOPTION SCORES

Solar Purchase	Annual Incentive (% of incremental measure cost)				
	0%	25%	50%	75%	100%
Homeowners/Tenants	5%	19%	36%	52%	74%
Solar Purchase	Payback Years				
	10 Y	5 Y	3 Y	1 Y	0 Y
Multifamily Property Managers/Owners	10%	20%	34%	44%	56%
Solar Lease	Annual Incentive (% of incremental measure cost)				
	0%	25%	50%	75%	100%
Homeowners/Tenants	5%	14%	24%	33%	41%
Solar Lease	Incentive				
	\$0	\$1,250	\$2,500	\$3,750	\$5,000
Multifamily Property Managers/Owners	5%	21%	33%	49%	55%
	Incentive				
	\$0	\$8,300	\$12,500	\$25,000	\$33,300
Electric Vehicle	9%	23%	36%	47%	59%

2.4.2 Business Sector Final Adoption Scores

Table 2-15 presents the final adoption scores (after all adjustments) for small business customers across several end-uses, depending on whether the investment is a minor or major investment. Small businesses indicated a minor investment to be approximately \$4,000 or less. Final adoption scores were generally similar regardless of the initial investment amount.

TABLE 2-15: SMALL BUSINESS FINAL ADOPTION SCORES BY INCENTIVE LEVEL AND INVESTMENT TYPE

Small Business; Minor Inv.	Annual Incentive				
	0%	25%	50%	75%	100%
HVAC	14%	20%	25%	29%	32%
Lighting	14%	20%	25%	30%	33%
Refrigeration	12%	18%	25%	27%	30%
Water Heat	14%	20%	25%	29%	32%
Small Business; Major Inv.	Annual Incentive				
	0%	25%	50%	75%	100%
HVAC	15%	22%	29%	33%	36%
Lighting	16%	24%	29%	34%	37%
Refrigeration	14%	21%	26%	29%	32%
Water Heat	15%	23%	29%	33%	36%

Table 2-16 presents the final adoption scores (after all adjustments) for medium/large business customers depending on whether the investment is a minor or major investment. Medium/Large businesses indicated a minor investment to be roughly \$20,000 or less. While, final adoption scores were generally similar regardless

of the initial investment amount, medium/large businesses indicated they were more likely to adopt efficiency measures than small businesses, regardless of incentive level.

TABLE 2-16: MEDIUM/LARGE BUSINESS FINAL ADOPTION SCORES BY INCENTIVE LEVEL AND INVESTMENT TYPE

Med/Large Business; Minor Inv.	Annual Incentive (% of incremental measure cost)				
	0%	25%	50%	75%	100%
HVAC	24%	35%	44%	53%	58%
Lighting	26%	38%	48%	55%	60%
Refrigeration	25%	36%	47%	53%	58%
Water Heat	25%	37%	48%	55%	60%
Med/Large Business; Major Inv.	Annual Incentive (% of incremental measure cost)				
	0%	25%	50%	75%	100%
HVAC	24%	35%	44%	51%	55%
Lighting	27%	39%	47%	53%	58%
Refrigeration	25%	36%	46%	52%	56%
Water Heat	25%	38%	47%	54%	57%

Final adoption scores for business sector demand response options are shown in Table 2-17, depending on varying annual incentive levels for direct load control as well as volunteer load reduction. The table also provides business sector responses for participation likelihood for a TOU DR rate program on a prescribed difference between peak and off-peak rates designs.

TABLE 2-17: BUSINESS SECTOR DEMAND RESPONSE FINAL ADOPTION SCORES

DR - DLC	Annual Incentive				
	\$0	\$15	\$25	\$35	\$50
Central AC	6%	7%	9%	10%	12%
Water Heat	5%	8%	10%	11%	14%
DR – Capacity Bidding	Incentive per kW				
	\$0	\$25	\$50	\$100	
Custom DR-Large C&I Aggregator	8%	18%	27%	34%	
DR - TOU	Peak: Off-Peak Ratio				
	3:1	4:1	6:1	8:1	
DR-TOU	5%	7%	9%	12%	

Table 2-18 provides the final adoption scores for solar PV purchasing and/or leasing in the business sector. As with the energy efficiency measures, medium/large businesses indicate they are more likely to adopt DER measures across all incentive categories.

TABLE 2-18: BUSINESS SECTOR DER FINAL ADOPTION SCORES

Purchased Solar	15 YR+	10 YR	5 YR	3 YR	1 YR	0 YR
Small Business	4%	8%	14%	17%	21%	23%
Med/Lg Business	5%	9%	17%	22%	26%	30%

Solar Lease	\$0.00	Min (1/12 total cost)	Low (1/8 total cost)	High (1/4 total cost)	Max (1/3 total cost)
Small Business	2%	7%	10%	14%	17%
Med/Lg Business	2%	8%	13%	17%	20%

3 BASELINE FORECAST

The load forecast is a critical input into Ameren Missouri's 2020 DSM Market Potential Study, having various uses in estimation of residential and business sector potential. Therefore, our Team took considerable time and effort to review Ameren's most recently completed load forecast models and documentation to produce the various forecast components necessary as inputs into this analysis. The chapter describes the various ways in which the forecast is used for this study, presents the baseline and disaggregated forecasts, and describes the methodology and data sources used by GDS for the purposes of generating the load forecasts that were used in the potential analysis.

3.1 AMEREN MISSOURI'S LOAD FORECASTING SYSTEM

Ameren employs a sophisticated load forecasting system that uses econometric and Statistically Adjusted End-Use ("SAE") models to project number of consumers, average consumption per consumer, and total energy sales by class. Residential, Commercial, and Industrial consumers are projected using traditional econometric techniques. Residential average usage and commercial energy sales are projected using SAE model specifications. Industrial energy sales are projected using econometric techniques.

A residential SAE model specification takes end-use data drawn from utility, regional, and even national sources and develops monthly end-use indices designed to predict average household consumption. The end-use data includes market share of key electric consuming appliances, average device efficiency trends, average building shell efficiency trends, price elasticity of demand, income elasticity of demand, and elasticity associated with the average number of people per household. A cooling index is developed to represent space cooling load and is further modified by Cooling Degree Days to incorporate summer weather into the model. Likewise, a heating index representing space heating is modified by Heating Degree Days. Finally, a base index is developed to represent consumption of all other end-uses in the home.

A commercial SAE model specification is very similar to a residential specification, with end-use energy intensity indices developed based on area employment in various industry codes. National and regional commercial data is used to estimate end-use consumption for various industries (for example, restaurants will have higher cooking usage shares than offices).

Ameren also projects impacts of DSM programs it has run in the past. Three different programs are projected:

- Programs initiated prior to the Missouri Energy Efficiency Investment Act ("MEEIA")
- MEEIA Cycle 1 programs
- MEEIA Cycle 2 programs

3.2 ADJUSTMENTS TO THE AMEREN MISSOURI LOAD FORECAST

Before assessing the future potential for energy efficiency, demand response, or distributed energy resources in the Ameren Missouri service area, a few modifications to the 20107-vintage Ameren forecast were necessary to create an adjusted baseline forecast. These modifications are addressed in more detail below.

3.2.1 Current DSM Impacts

Although the load forecast provided by Ameren Missouri already excluded the impacts of future DSM impacts, historical DSM impacts were included in the load forecast projections. While each Missouri Energy Efficiency Investment Act (MEEIA) cycle only last three years, the effects of those measures installed last beyond that three-year period. An important question is how to handle the savings of those programs at the expiration of the current measure. GDS evaluated three possible options:

- 1) Assume the full savings potential is repeated. This implicitly assumes all participants in the program would participate again at the same level, even without the program in place. This indicates full transformation of the entire DSM market from Cycles 1 and 2.
- 2) In the second approach, it is assumed that free riders only would continue to install efficient equipment or behave efficiently even without the DSM program in place, but all others would revert to the minimum standard of efficiency. This represents an approach in which none of the participants that were not already actively engaged in efficiency and conservation would have been transformed by participation in the program.
- 3) The last approach is one in which free riders remain engaged in efficient behaviors plus some portion of the remaining participant population is transformed. Consistent with the approach in the 2016 MPS for Ameren Missouri, customers were segmented according to their perceptions of energy efficiency and conservation. GDS has assumed that “Active Conservers” and “Cost-Focused Conservers” would represent the proportion of the population transformed. In the residential sector, this is equivalent to a 22% assumed transformation rate in excess of free ridership. In the C&I sector, 25% of the market is assumed transformed.

The GDS and Ameren team selected the third option for this study. This approach recognizes the likelihood that some portion of program participants that were not originally free riders would likely continue to exhibit efficient behaviors but that not all such consumers would do so.

3.2.2 Naturally Occurring Efficiency Savings

The end-use appliance efficiency trends in the SAE model framework show appliance efficiency changing over time, often showing average equipment efficiency above current equipment standards. These trends are a byproduct of assumptions regarding natural occurring efficiency. In order to estimate the amount of energy associated with naturally occurring efficiency, GDS used appliance stock accounting information developed as part of the SAE modeling framework. The average device efficiency curve was recomputed by only allowing appliance replacements and new appliances in a given year to be purchased at the minimum standard level. The result is a new trend in efficiency that approaches the minimum standard without exceeding it. The new efficiency estimate was then run through the SAE regression modeling to produce the estimated change in end-use energy sales because of the new estimated efficiency without naturally occurring effects.

3.2.3 Adjustment for Non-Buildings and Low Use

In both the residential and business class sectors, a portion of the existing load forecast is attributable to customer accounts that are not typical dwellings or buildings or have extremely low annual consumption. For the residential class, customers with an annual usage less than or equal to 1,525 kWh were excluded. This equated to 8% of residential customers and 0.3% of energy use of all residential customers.

For the commercial and industrial classes, customers with an annual usage less than or equal to 1,000 kWh were excluded. Additionally, any C&I customers that were flagged as residential or telecommunications locations were excluded. This equated to 27% of C&I customers and 9% of energy use of all C&I customers.

3.2.4 Adjustment for Large C&I Opt-Out Customers

4 CSR 240-20.094(7)(A) states that, any customer meeting one or more of the following criteria shall be eligible to opt-out of participation in utility-offered demand-side programs: (1) The customer has one or more accounts within the service territory of the electric utility that has a demand of 5,000 kW or more; (2) The customer operates an interstate pipeline pumping station; or (3) The customer has accounts within the service territory of the electric utility that have, in aggregate across its accounts, a coincident demand of 2,500 kW or more in

the previous 12 months, and the customer has a comprehensive demand-side or energy efficiency program and can demonstrate savings at least equal to those expected from utility-provided demand-side programs.

Ameren provided a list of all business customers that have opted out of participating in Ameren Missouri’s MEEIA programs, and the associated sales from these customers was removed from the business sector sales forecast and thus, from the base estimates of future efficiency potential.¹⁰

3.2.5 Reclassification of Load

Last, the 2018 Ameren Missouri business sector customer database designated commercial and industrial rate code based on current tariff definition. When only using the account type/tariff definition to classify customers as either commercial or industrial, there were several manufacturing type premises classified as commercial, as well as several typically commercial customers classified as industrial, (i.e. a retail service building coded as an industrial account).

Conversely, the dataset also identified each business by Standard Industry Code (SIC). We then mapped these industry codes to a specified building type, and lastly classified the building type as either commercial or industrial. Customers with a building type classified as “Industrial Manufacturing” were coded as Industrial customers, while all other building types were coded as Commercial. This reclassification shifted approximately 6% of commercial sales, or 700,000 MWh, to the industrial sector.

3.3 LOAD FORECAST COMPARISON

Figure 3-1 demonstrates the impacts of the adjustments noted above to the overall Ameren forecast in 2018. The bar on the left is the original Ameren forecast in 2018, including the impacts of Ameren Missouri’s MEEIA (and pre-MEEIA) DSM activities, but excluding future DSM. The BAU forecast includes the adjustments to DSM impacts to account for decay in DSM savings as well as to net out the impacts of naturally occurring savings already embedded in the forecast. Both adjustments result in a relatively small increase to the Ameren forecast. The final three bars provide the adjustments from excluding non-buildings and active opt-out customers, as well the reclassification of C&I load noted above.

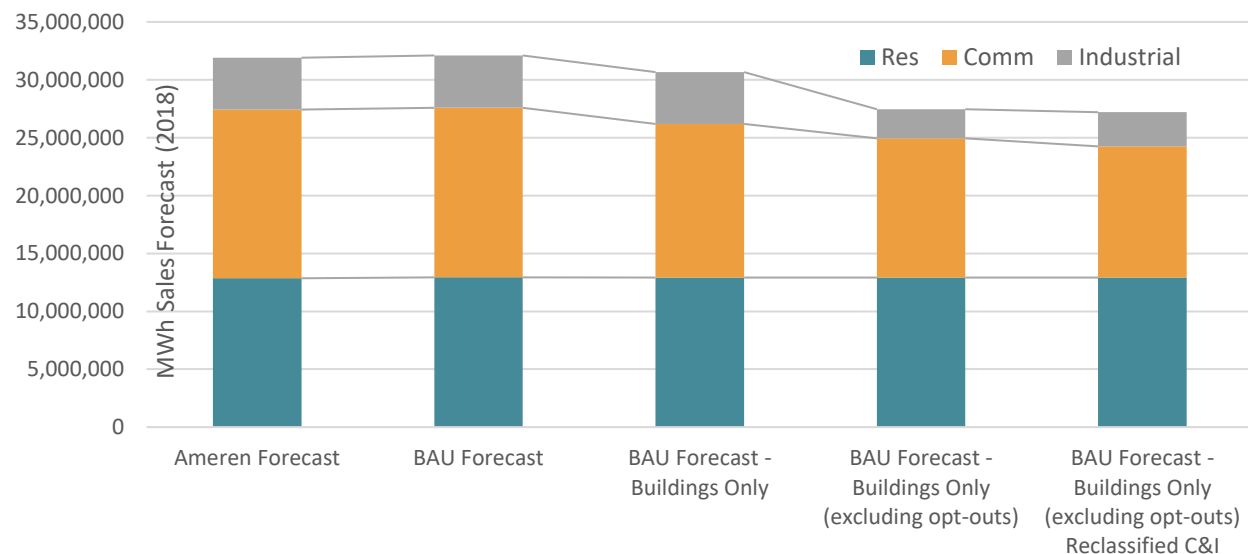


FIGURE 3-1: STEP-BY-STEP COMPARISON OF ADJUSTMENTS TO 2018 AMEREN LOAD FORECAST

¹⁰ A sensitivity on savings was performed that included current opt-out customers.

Figure 3-2 depicts the total system load forecast for the MPS study timeframe of 2022-2040, following the adjustment noted in Section 3.2.

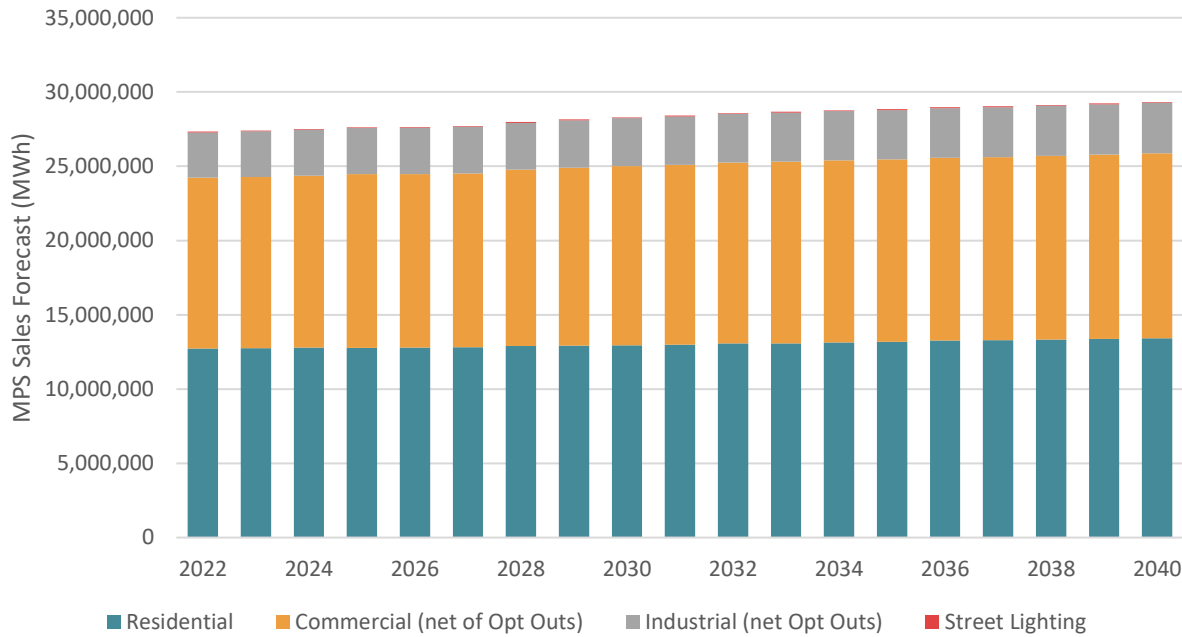


FIGURE 3-2: TOTAL SYSTEM LOAD FORECAST (NET OF OPT-OUTS) USED IN MPS

3.4 LOAD FORECAST DISAGGREGATION

The baseline forecasts represent projected total energy sales by class. For the potential studies, it is useful to have the class forecasts disaggregated in several different ways. This section presents the forecast disaggregation scenarios that will be used by GDS in developing the market potential study.

3.4.1 Residential Market Rate & Income Eligible

The baseline residential forecast for the study includes customer counts as well as energy sales for each year of the study timeframe, broken out by housing type as well. To develop breakouts of these forecasts by income-type, the GDS Team leveraged the results of the ODC market research to calculate the proportion of each housing type (single-family (SF) and multifamily (MF)) that were market rate (MR) and income-eligible (IE). These proportions were then used to calculate housing stock totals by housing-type/income-type.

The housing-type/income-type housing stock forecasts are then used to develop housing-type/income-type sales forecasts. There were a few steps taken to create these sales forecast breakouts. An initial estimate was produced by multiplying the housing-type/income-type housing stock forecasts by the estimated housing-type/income-type per home consumption as determined through the ODC market research. These initial estimates are then trued-up to the baseline residential forecast by multiplying the housing-type/income-type initial estimates by the ratio of forecasted sales by housing-type to the initial estimate by housing-type.

Once the housing-type/income-type sales forecasts are calculated the final step is to calculate sales forecasts by income-type. This is done by simply adding the single-family and multifamily sales forecasts together (for a given income-type).

Table 3-1 provides an example of the process described above to calculate the sales by housing type (HT) and income type (IT) for an example year (2022).

TABLE 3-1: DEMONSTRATION OF CALCULATION OF HOUSING-TYPE AND INCOME-TYPE SALES DISAGGREGATION

Example Year	SF-MR	SF-IE	MF-MR	MF-IE	MR	IE
Homes	490,410	268,739	76,117	124,454	566,527	393,193
Per Home (ODC)	14,500	12,100	8,700	7,800	13,721	10,739
Sales by HT/IT (initial)	7,110,947	3,251,738	662,214	970,742	7,773,161	4,222,480
True-up multiplier	1.09	1.09	0.89	0.89	14,707	11,206
Sales by HT/IT (final)	7,740,841	3,539,780	591,075	866,458	8,331,916	4,406,238

The baseline residential forecast for the study is provided across 13 different end-uses. These end-use level forecasts are important in helping to calibrate measure-level savings estimates as well as for making interactive effects adjustments in the potential model to avoid over-estimating (double-counting) savings. Table 3-2 provides a breakdown by end-use (consolidated to 7 end-uses; e.g. HVAC includes space heating and space cooling) for an example year (2022).

TABLE 3-2: END-USE BREAKDOWN OF SALES FORECAST (2022)

End Use	Sales	% of Total
HVAC	6,046,202	47.5%
Appliances	1,942,252	15.2%
Water Heating	876,524	6.9%
TV	688,582	5.4%
Lighting	452,225	3.6%
Cooking	417,272	3.3%
Miscellaneous	2,315,097	18.2%
Total	12,738,154	-

3.4.2 Business Sector

In the business sector, disaggregated forecast data provides the foundation for the development of energy efficiency potential estimates. GDS received a Business as Usual (“BAU”) sales forecast from Ameren for the residential, commercial and industrial sectors. As noted above, the C&I forecast was adjusted from the BAU Baseline by using SIC information from Ameren to reclassify usage as commercial or industrial. SIC information from Ameren, along with CBECS building type consumption tables, was then used to segment the forecast into building types. The forecast was further segmented into end-uses by building type using CBECS 2012 end-use survey data. Figure 3-3 provides a breakdown of commercial electric sales by building type for the commercial segment of the business sector. Retail (18%) and Office (18%) are the leading contributors of stand-alone building types to the total commercial electric sales.¹¹

¹¹ “Other” building types include buildings that engage in several different activities, a majority of which are commercial (e.g. retail space), though the single largest activity may be industrial or agricultural; “other” also includes miscellaneous buildings that do not fit into any other category.

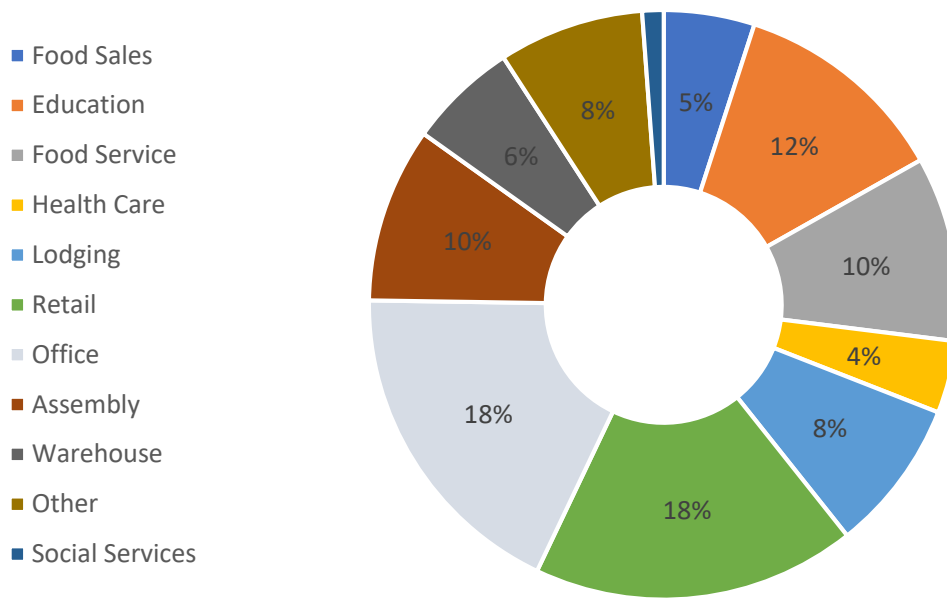


FIGURE 3-3: COMMERCIAL ELECTRIC SALES BREAKDOWN BY BUILDING TYPE

Figure 3-4 provides an illustration of the leading end-uses across all building types in the commercial sector. Lighting typically represents 20% of the commercial business sector load across buildings, with space cooling and ventilation each typically representing 10% or more across building types. Shares of refrigeration and office/computing are often dependent on the type of building, with refrigeration loads greatest in food sales and food service while office/computing loads are greatest in offices and education.

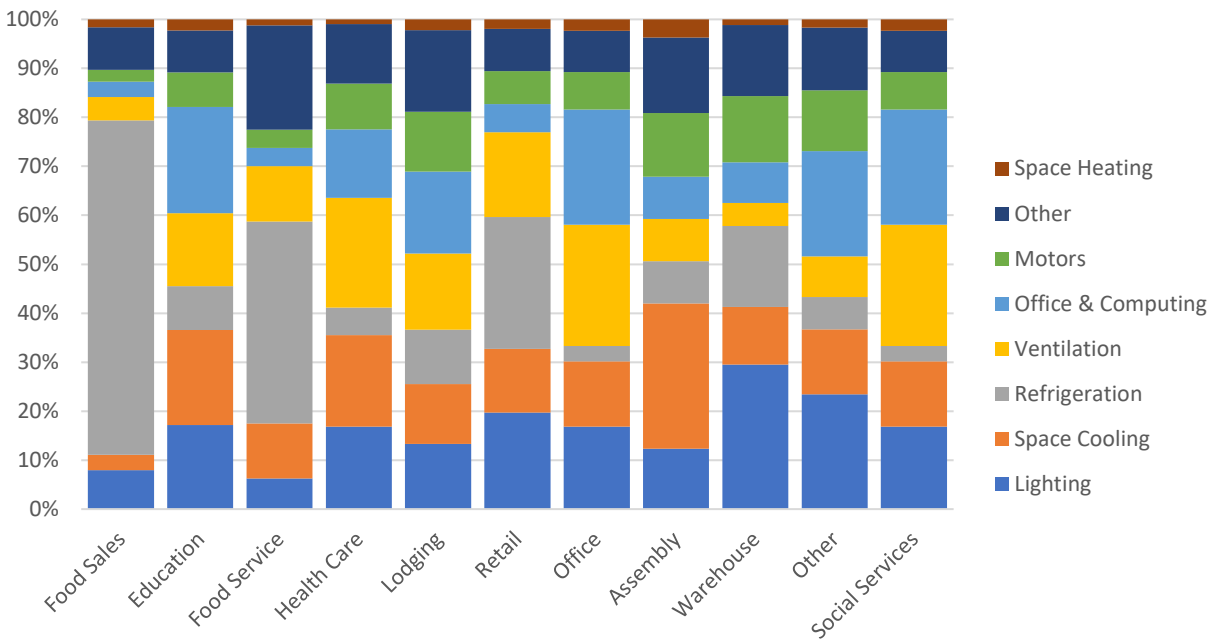


FIGURE 3-4: COMMERCIAL ELECTRIC END-USE BREAKDOWN BY BUILDING TYPE

Figure 3-5 depicts in the industrial segment of the business class, broken down by both industry type (left pie chart) and end-use (right pie chart). Food, chemical, equipment manufacturing, and miscellaneous manufacturing were the

leading industry types according to SIC code. Industrial process end-use is the dominant share of industrial sales, following by lighting and space cooling. The industry type and end-use breakdowns are based on the industrial sales that are net of opt-out customers in the Ameren Missouri service area.

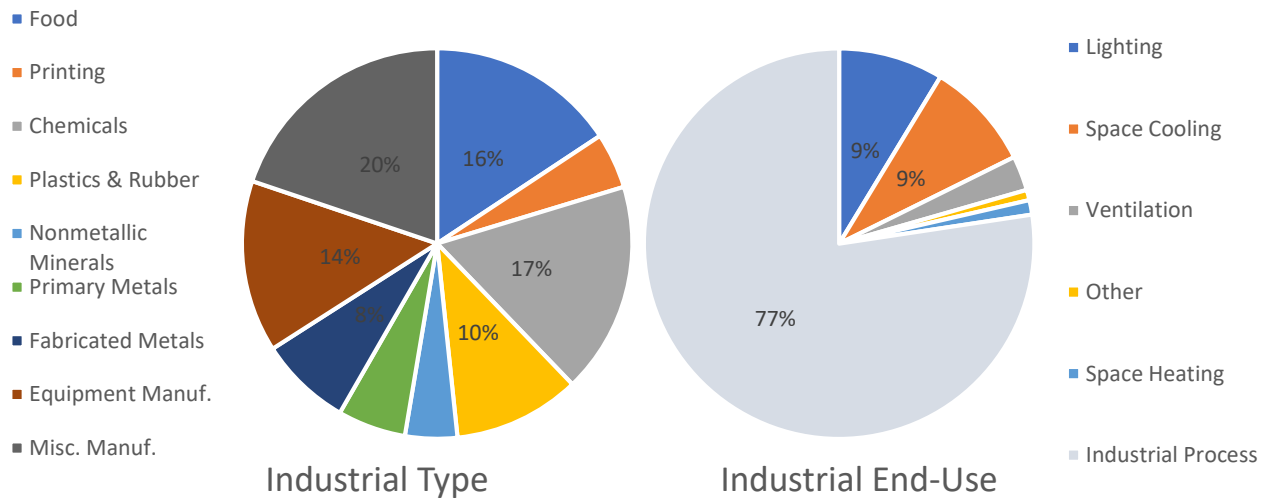


FIGURE 3-5: INDUSTRIAL SECTOR BREAKDOWN BY INDUSTRY TYPE AND END-USE (EXCLUDE OPT-OUT CUSTOMERS)

3.5 PEAK DEMAND FORECAST

Projected hourly loads for each class and the total system were provided by Ameren. GDS used the hourly loads to calculate the projected system peak demands in summer and winter months. Using the system peak demands, class coincident peak (“CP”) demands were calculated from the hourly data. GDS then calculated class load factors for summer and winter. The CP demand represents the contribution of each class to the one-hour Ameren system peak demand. Summer and winter contributions to the Ameren system demand were developed for the residential, commercial, and industrial classifications. Ameren is expected to be a summer peaking system in the future.

Residential contribution to the Ameren system demand is expected to grow from about 3,250 MW in 2022 to over 3,550 MW by 2040. The commercial class is expected to contribute about 2,600 MW (2,370 net of opt-outs) to Ameren’s peak demand in 2022 and grow to just over 2,730 MW by 2040 (2,475 net of opt-outs). Industrial demand is projected to grow from 825 MW to 870 MW from 2022 to 2040; or 460 MW to 490 MW net of opt-outs, over the same timeframe.

4 RESIDENTIAL MARKET RATE / BUSINESS SECTOR ENERGY EFFICIENCY POTENTIAL ANALYSIS

4.1 ANALYSIS APPROACH¹²

This section describes the overall methodology proposed to assess the electric energy efficiency potential for market-rate residential and business customers in the Ameren Missouri service area. Many of the methodological considerations discussed within this section are generally applicable to the income-eligible, demand response, and DER found in subsequent chapters of this report, with important distinctions in methodological approach noted in their respective chapters.

The main objectives of this Market Potential Study were to estimate the technical, economic, maximum achievable potential (“MAP”) and realistic achievable potential (“RAP”) of energy efficiency in the Ameren Missouri service territory; and to quantify these estimates of potential in terms of MWh and MW savings, expected incremental and cumulative program participants, and associated costs, for each level of energy efficiency potential.¹³ An overview of these results is found in subsequent sections and chapters of this report. Detailed appendices also provide a catalog of assumptions and annual outputs associated with this analysis.¹⁴

4.1.1 Overview of Approach

For the residential sector, GDS utilized a bottom-up approach to the modeling of energy efficiency potential, whereby measure-level estimates of costs, savings, and useful lives were used as the basis for developing the technical, economic, and achievable potential estimates. The measure data was used to build-up the technical potential, by applying the data to each relevant market segment. The measure data allowed for benefit-cost screening to assess economic potential, which was in turn used as the basis for achievable potential, taking into consideration incentives and estimates of annual adoption rates.

For the business sector, GDS employed a bottom-up modeling approach to first estimate measure-level savings, costs, and cost-effectiveness, and then applied measure savings to all applicable shares of energy load.

4.1.2 Market Characterization

The initial step in the analysis was to gather a clear understanding of the current market segments in the Ameren Missouri service area. The GDS team coordinated with Ameren Missouri to gather utility sales and customer data to define appropriate market sectors, market segments, vintages, saturation data and end uses.

4.1.2.1 Forecast Disaggregation

As noted in Chapter 2, through the development of the baseline forecasts, the GDS Team produced disaggregated forecasts by sector and end-use. The produced baseline forecasts were disaggregated by sector and then further segmented as follows¹⁵:

- **Market-Rate Residential.** The market-rate residential forecast was broken out by housing type between existing and new construction. Segmentation for the income-eligible population were performed in a separate analysis.
- **Commercial.** Typically based on major EIA CBECS business types: retail, warehouse, food sales, office, lodging, health, food service, assembly, and education. Businesses that were identified as non-profit were also segmented separately and included in the assessment of income-eligible potential under the business social services program.

¹² 4 CSR 240-22.050 (3)(I)

¹³ 4 CSR 240-22.050 (3)(G)3 through 5

¹⁴ 4 CSR 240-22.050 (3)(H); complete models will be provided to Ameren Missouri as a deliverable for this study.

¹⁵ 4 CSR 240-22.050 (1)(A)1 and 4 CSR 240-22.050 (3)(B)

- **Industrial.** As determined by actual load consumption shares and major industry types as defined by EIA’s Manufacturing Energy Consumption Survey (MECS) data.¹⁶

The segmentation analysis was performed by applying Ameren Missouri-specific segment and end-use consumption shares, derived from Ameren Missouri’s customer database and SIC code analysis (building segmentation), and by EIA CBECs and MECS data (end-use segmentation) to forecast year sales. Within the residential, commercial and industrial market segments, the produced forecasts were segmented by the major end uses shown in Table 4-1.

TABLE 4-1: ELECTRIC END-USE LOADS¹⁷

Residential	Business	
Market-Rate	Commercial	Industrial
Appliances	Interior Lighting	Interior Lighting
Cooking	Exterior Lighting	Exterior Lighting
HVAC	Street Lighting	Space Cooling
Lighting	Space Cooling	Space Heating
Televisions	Space Heating	Ventilation
Water Heating	Ventilation	Water Heating
Miscellaneous	Motors	Process - Machine Drive
	Water Heating	Process - Industrial
	Cooking	Process - Process Cooling & Refrigeration
	Refrigeration	Process - Process Heating
	Office & Computing	Process - Agriculture
	Compressed Air	
	Pools	
	Other	

4.1.2.2 Eligible Opt-Out Customers

In Missouri, commercial or industrial customers with significant peak demand requirements and/or meet specific criteria (see Section 3.2.4) are eligible to opt out of utility-funded electric energy efficiency programs. In the Ameren Missouri service area, approximately 9% of commercial sales have opted out of utility-funded electric energy efficiency programs, while nearly 44% of industrial sales have opted out.¹⁸

Figure 4-1 shows the total sales for the business sector, as well as the sales, by sector that have currently opted out of paying the charge levied to support utility-administered energy efficiency programs. The portion of sales that have not opted out include both ineligible load (i.e. does not meet the eligibility requirement) as well as eligible load that has not yet opted out.



FIGURE 4-1: INDUSTRIAL: OPT-OUT SALES BY C&I SECTOR

¹⁶ Industrial sector potential was ultimately aggregated into an additional building type in the business sector analysis.

¹⁷ 4 CSR 240-22.050 (1)(A)3

¹⁸ These percentages were calculated based on the 2018 Ameren Missouri business customer data and 2018 billing history. Note, the total business sector sales were adjusted to shift select industrial sales into the commercial sector based on the identified building type and more applicable mapping to the commercial sector models for the MPS.

The MPS focuses most report elements on the electric energy efficiency potential savings in the business sector excluding sales from opt-out customers. Results of business sector potential that includes savings from Ameren Missouri's opt-out customers are provided as a scenario later in this report.

4.1.2.3 Building Stock/Equipment Saturation

To assess the potential electric energy efficiency savings available, estimates of the current saturation of baseline equipment and energy efficiency measures are necessary.

4.1.2.3.1 Residential Sector

For the residential sector, GDS relied on the primary research efforts noted in Chapter 2 of this report. The online and onsite survey results provided by ODC allowed for the GDS Team to characterize the baseline and efficiency saturations of the residential sector using housing-type and income-type specific data in most cases. In some cases, the sample sizes were too small to provide estimates at this level of granularity, and in these cases either housing-type or income-type specific estimates are used.

Other data sources included ENERGY STAR unit shipment data, Ameren Missouri evaluation reports, and the EIA Residential Energy Consumption Survey data from 2015. The ENERGY STAR unit shipment data filled data gaps related to the increased saturation of energy efficient equipment across the U.S. in the last decade.

4.1.2.3.2 Business Sector

GDS used the latest 2019 Business Sector market research (referenced in Chapter 2) as well as market research previously collected in 2013 by EnerNOC to inform two main assumptions for the potential study, the Base Case factor and saturation of efficient equipment. The 2019 market research for the business sector mainly utilized online surveys to collect information regarding customer installed equipment while the 2013 market research utilized site visits to gain specific information about types and quantities of equipment.

The Base Case Factor is the fraction of the end use energy that is applicable for the efficient technology in given market segment. The Baseline studies collected counts for equipment and energy usage levels for the lighting, heating, cooling, water heating, motors and refrigeration end-uses. For example, T12 and T8 lighting used 46% of the energy for interior fluorescent lamps and fixtures for the surveyed buildings. The remaining usage was a combination of compact fluorescent lights (CFLs), T5s and LED linear tube lighting.

GDS developed base case factors for other end-uses through review of the Energy Savings Potential and RD&D Opportunities for Commercial Building Appliances (2015 Update) report developed by the DOE. This report provided end-use consumption estimates by equipment type for commercial cooking equipment, dishwashers, IT and office equipment, water heaters and commercial laundry equipment. Refrigeration base case factors were developed from DOE Refrigeration Study - Energy Savings Potential and Research & Development Opportunities for Commercial Refrigeration.

Data collected for the 2019 Ameren Missouri Baseline Study was leveraged to develop remaining factors for many of the measures. Saturation data from this study was used to determine the remaining factors for measures within the lighting, ventilation and office & computing end-use categories. The ENERGY STAR® Unit Shipment and Market Penetration Report for Calendar Year 2018 was used to determine remaining factors for commercial cooking equipment, refrigerators and freezers, computer and data center equipment and commercial dishwashers.

4.1.2.4 Remaining Factor

The remaining factor is the proportion of a given market segment that is not yet efficient and can still be converted to an efficient alternative. It is, by definition, the inverse of the saturation of an energy efficient

measure. This study makes several assumptions regarding the future potential of equipment that is already efficient, or will become efficient, over the analysis timeframe.

For measures that are not yet efficient, estimated savings reflect the initial measure assumptions developed as part of the MPS and are typically consistent with the Ameren Missouri submittal tool, and discussed in Section 4.1.3.3, below. The question, then, is whether there is any additional future potential to be quantified from homes/businesses that already possess an efficient measure. Consistent with the 2016 MPS and assumptions used to develop the load forecast used in the MPS (see Section 3.2.1), the team developed our models to allow a portion of these existing measures to be refilled, during their natural replacement cycle, by assuming that consumers will either backslide back to baseline technologies or that advances in the efficiency of equipment will enable new technologies, tiers, or improved standards to replace the current measure and allow for continued savings opportunities. Since the precise level of savings and measure characterizations for these future measures is not presently known, the methodology adopted assumes that subsequent equipment replacement that occurs over the course of the 19-year study timeframe, and at the end of the initial equipment's useful life, will continue to achieve similar levels of energy savings, relative to improved baselines, at similar incremental costs.

There are, of course, exceptions to this logic. Select measures were considered one-time efficiency opportunities and are not be eligible to be replaced/refilled in the analysis once it has been initially converted to efficient status. Examples of these measures include variable frequency drives, motor controls, comprehensive residential retrofits, and most shell measures (insulation, air sealing, door improvements). Other exceptions in the 2020 Ameren Missouri MPS include: measures that are known to be impacted by codes or standards or are considered to have reached the limit of technological advancements in efficiency (ex. Screw-based LED Lighting, where future efficiency improvements are expected to be minimal compared to historic baselines) and miscellaneous residential electronics with high market penetration.

An additional adjustment was made to business sector lighting to reflect the rapid replacement of inefficient lighting with LED technologies by Ameren Missouri in recent years. The business sector lighting potential was modeled as a market opportunity with baseline lighting technologies (T-12, standard T-8, and high-performance T-8s) being replaced with LEDs at the rate of 1 divided by the baseline technology's measure life. During the initial year calibration process to ensure 2022 savings were benchmarked against historical and/or planned savings, the GDS team front-loaded the replacement opportunities to the first six-years for these inefficient technologies so that LED replacements would be introduced into the technical potential earlier than would have otherwise happened.

Last, we have also assumed that measures that are converted during early years of the analysis but reach the end of their useful life over the 19-year analysis timeframe, are also eligible for future installations assuming the same adjustment for future efficiency and/or costs and the same stated exceptions.

4.1.3 Measure Characterization

4.1.3.1 Measure Lists

The study's sector-level energy efficiency measure lists were informed by a range of sources. The primary resource for developing the measure included Ameren Missouri's most recent Submittal Tool/TRM. In addition to this resource, additional measures were considered for inclusion by referencing current Ameren Missouri program offerings, prior Ameren Missouri and other regional potential assessments and program offerings, other regional technical reference manuals, and commercially viable emerging technologies, among others.¹⁹ Measure list development was a collaborative effort in which GDS developed a draft measure lists that was

¹⁹ 4 CSR 240-22.050 (3)(A); In addition, Ameren Missouri performed a broad review of programs available around the country through the Energy Star website as part of the measure list review.

shared with Ameren MO and stakeholders for qualitative review. The final measure lists ultimately included in the study reflects the informed comments and considerations from the parties that participated in the measure list review process.

In total, GDS will analyzed 201 residential and 367 business measure types for Ameren Missouri. To help inform future program planning and to align with existing offerings, many measures were included in the study as multiple permutations to account for different specific market segments, such as different building types, efficiency levels, and replacement/delivery options.²⁰ GDS developed a total of 5,060 measure permutations for this study. Each permutation was screened for cost-effectiveness according to the Total Resource Cost (TRC) Test. The parameters for cost-effectiveness under the TRC are discussed in detail later in Section 4.1.6.²¹

In select cases, certain measures initially considered for inclusion in the 2020 Ameren Missouri MPS were ultimately screened out of the quantitative analysis. Measures were qualitatively screened out for several possible reasons, including:

- 1) **Recently changed baselines:** Central AC (SEER 14), multispeed pool pumps
- 2) **Limited applicability:** Integrated space & water heater, kneewall insulation, sports field lighting, water heater desuperheater, LED fuel pump canopy fixture
- 3) **Assumed current practice/non-EE considerations:** Televisions, computers, displays, soundbars, water coolers, dishwashers
- 4) **Poor customer acceptance:** refrigerator (demand defrost), refrigerator (eCube), high performance elevators, escalator motor efficiency controls
- 5) **Outdated/health and safety concerns:** water heater blankets
- 6) **Regulatory limitations:** residential pre-pay

4.1.3.2 Emerging Technologies

GDS considered several specific emerging technologies as part of analyzing future potential.²² In the residential sector, these technologies include several smart technologies, including smart outlets and connected lighting, smart window coverings, smart ceiling fans, heat pump dryers, smart vents/sensors and home automation/home energy management systems. In the business sector, specific emerging technologies considered as part of the analysis include strategic energy management, advanced lighting controls, advanced rooftop controls and cloud-based energy information systems (“EIS”). While this is likely not an exhaustive list of possible emerging technologies over the next 19 years it does consider many of the known technologies that are available today but may not yet have widespread market acceptance and/or product availability.

In addition to these specific technologies, GDS acknowledges that there could be future opportunities for new technologies as equipment standards improve and market trends occur. While this analysis does not make any explicit assumption about unknown future technologies, the methodology assumes that subsequent equipment replacement that occurs over the course of the 19-year study timeframe, and at the end of the initial equipment’s useful life, will continue to achieve similar levels of energy savings, relative to improved baselines, at similar incremental costs.

4.1.3.3 Assumptions & Sources

A significant amount of data is needed to estimate the electric savings potential for individual energy efficiency measures or programs across the residential market-rate and business sectors. GDS utilized data specific to Ameren Missouri when possible. Evaluation report findings and the Ameren Missouri Submittal Tool/TRM were leveraged to the extent feasible – additional data sources were only used if these first two sources either did not address a certain

²⁰ 4 CSR 240-22.050 (1)(A)2; 4 CSR 240-22.050 (3)(E)

²¹ 4 CSR 240-22.050 (5)(B)

²² 4 CSR 240-22.050 (1)(E)1

measure or contained outdated information. Following the collection of primary market research, select fields in the Ameren Missouri Submittal Tool were updated to incorporate the latest findings.

Additional sources for measure data included the Illinois TRM and the Michigan Energy Measures Database (MEMD). Additional source documents also included American Council for an Energy-Efficient Economy (ACEEE) research reports covering topics like emerging technologies.²³

Considerable effort was expended to identify, review, and document all available data sources in the development of reasonable and supportable assumptions regarding: measure lives; measure costs (incremental or full costs as appropriate); measure electric savings; and saturations for each energy efficiency measure included in the final list of measures examined in this study.²⁴

Measure Savings²⁵: GDS relied primarily on the Ameren Missouri Submittal Tool as well as the latest Ameren Missouri evaluation report findings and collected primary research to inform calculations supporting estimates of annual measure demand and energy reduction impacts as a percentage of base equipment usage. For measures not included in the Ameren Missouri Submittal Tool, GDS estimated savings from a variety of sources, including:

- Illinois TRM, MEMD
- Engineering analyses
- Secondary sources such as the ACEEE, Department of Energy (DOE), Energy Information Administration (EIA), ENERGY STAR[®], and other technical potential studies

For each measure, estimates of annual energy and demand reductions are also characterized to provide seasonal on- and -off peak impacts.²⁶

Measure Costs²⁷: Measure costs represent either incremental or full costs. These costs typically include the incremental cost of measure installation, when appropriate based on the measure definition. For purposes of this study, nominal measure costs held constant over time.²⁸

GDS obtained measure cost estimates primarily from Ameren Missouri program planning databases and evaluation reports. GDS also used the following data sources to supplement measure cost data:

- Illinois TRM, MEMD
- Secondary sources such as the ACEEE, ENERGY STAR, and National Renewable Energy Lab (NREL)
- Program evaluation and market assessment reports completed for utilities in the Pacific Northwest (Bonneville Power Administration) and California

Costs and savings for new construction and replace on burnout measures were calculated as the incremental difference between the code minimum equipment and the energy efficiency measure. This approach was utilized because the consumer must select an efficiency level that is at least the code minimum equipment when purchasing

²³ For example: Energy Impacts of Smart Home Technologies. Report A1801. ACEEE. 2018; Smart Buildings: A Deeper Dive into Market Segments. Report A1703. 2017; Rate Design Matters: The Intersection of Residential Rate Design and Energy Efficiency. Report U1703. 2017.

²⁴ The appendices and supporting databases to this report provide the data sources used by GDS to obtain up-to-date data on energy efficiency measure costs, savings, useful lives and saturations.

²⁵ 4 CSR 240-22.050 (3)(G)1

²⁶ 4 CSR 240-22.050 (6)(B); The energy efficiency potential study utilizes seasonal load shapes to assess the cost-effectiveness of measures. More granular hourly load shapes of energy impacts will be developed for inputs into the IRP as needed.

²⁷ 4 CSR 240-22.050 (3)(G)5A

²⁸ GDS reviewed the deemed measure cost assumptions included in the Illinois TRM from 2012 (v1) through 2018 (v7). Where a direct comparison of cost was applicable, GDS found no change in measure cost across 80% of residential and business measures. In a similar search of the Michigan Energy Measure Database (MEMD) from 2011 to 2018, GDS again found that most of incremental measure costs in 2018 were either the same or higher than the recorded incremental measure cost in 2011.

new equipment. The incremental cost is calculated as the difference between the cost of high efficiency and standard efficiency (code compliant) equipment. However, for retrofit or direct install measures, the measure cost was the “full” cost of the measure, as the baseline scenario assumes the consumer would not make energy efficiency improvements in the absence of a program. In general, the savings for retrofit measures are calculated as the difference between the energy use of the removed equipment and the energy use of the new high efficiency equipment (until the removed equipment would have reached the end of its useful life).

Measure Life: Measure life represents the number of years that energy using equipment is expected to operate. GDS obtained measure life estimates from the Ameren Missouri Submittal Tool and used the following data sources for any additional measures:

- Illinois TRM, MEMD, and other regional/state TRMs
- Manufacturer data
- Savings calculators and life-cycle cost analyses

All measure savings, costs, and useful life assumption sources for residential market-rate and business sectors are documented in Appendix C and Appendix D.

4.1.3.4 Treatment of Codes & Standards

By law, the U.S. Department of Energy (DOE) is expected to review each national appliance standard every six years and publish either a proposed rule to update the standard or determine that no change to the existing standard is needed. As of January 2020, DOE has missed legal deadlines for twenty-one product standards since 2016, and is expected to miss several more update opportunities by January 2021.²⁹ Given these delays in future standard updates, the initial start year of 2022 for this analysis, and that the analysis is not intended to predict how or when energy codes and standards will change over time, there are only limited known improvements to federal codes and standards to reasonably account for in this analysis.³⁰

The primary adjustment in this analysis impacts residential screw-based lighting. Although DOE did issue a final rule stating the EISA backstop has not been triggered and adopted a narrow definition of general service lighting, based on discussion with Ameren Missouri program administrators and a review of the implied efficacy of residential lighting in Ameren’s residential load forecast³¹, the base case analysis for the 2020 MPS severely limited the future potential for residential lighting starting in 2022. The base case assumes only a limited number of direct-install screw-based lighting opportunities for standard, specialty, and reflector bulbs over the analysis period. Although future potential for residential lighting is limited in the base case, the analysis does provide a sensitivity that assumes future opportunities for residential lighting due exist under broader conditions (see Section 4.5.1).

Although not exhaustive, other key adjustments include:

- The baseline efficiency for air source heat pumps (ASHP) is anticipated to improve to 15 SEER/8.8 HSPF³² in 2023. As the new standards allow for a sell-through period, the baseline efficiency will be assumed to be the new federal standard, beginning in 2024.
- The baseline efficiency for split system central AC systems is anticipated to improve to 14 SEER in 2023. As the new standards allow for a sell-through period, the baseline efficiency will be assumed to be the new federal standard, beginning in 2024.

²⁹ Missed Deadlines for Appliance Standards. Prepared by the Appliance Standards Awareness Project. Updated January 2020.

³⁰ 4 CSR 240-22.050 (3)(C)

³¹ Implied assumptions embedded in the Ameren load forecast for residential lighting indicate a wattage somewhere between an LED and CFL.

³² SEER: Seasonal Energy Efficiency Ratio; HSPF: Heating Seasonal Performance Factor.

- DOE established the first national standards for pool pumps in 2017, becoming effective in 2021. The new standards will cut energy use for in-ground pool pumps by approximately 70% and can be met by switching from single-speed to variable-speed pool pumps.
- In 2019, the DOE makes new standards effective for residential portable and whole-home dehumidifiers. The new standards are based on a new metric, integrated energy factor (IEF) and improves the test procedure to better reflect the actual energy consumption of dehumidifiers in the home. The new standards range from 1.30 L/kWh for small dehumidifiers up to 2.8 L/kWh for larger capacity dehumidifiers.
- In July 2019, the DOE makes new standards effective for more efficient furnace fan/motors. The standards are expected to improve the efficiency by approximately 45% over the current baselines. To date, many furnaces are equipped with standard induction motors, which operate at about 60-65% efficiency. The new standard will create a shift to electronically commutated motors (ECMs).
- DOE established new standards for pre-rinse spray valves, setting maximum flow rates between 1.0 and 1.28 gallons per minute. The new standards took effect in early 2019 and will be reflected in the analysis.

4.1.4 Types of Potential

Potential studies often distinguish between several types of energy efficiency potential: technical, economic, achievable, and program. However, because there are often important definitional issues between studies, it is important to understand the definition and scope of each potential estimate as it applies to this analysis.

The first two types of potential, technical and economic, provide a theoretical upper bound for energy savings from energy efficiency measures. Still, even the best-designed portfolio of programs is unlikely to capture 100% of the technical or economic potential. Therefore, achievable and program potential attempts to estimate what savings may realistically be achieved through market interventions, when it can be captured, and how much it would cost to do so. In this analysis, achievable and program potential were included an assessment of maximum and achievable potential, with maximum achievable assuming aggressive incentive levels and optimistic delivery conditions and realistic achievable potential closely calibrated to historical incentive levels and current program awareness.

Figure 4-2 illustrates the types of energy efficiency potential considered in this analysis.

Not Technically Feasible	TECHNICAL POTENTIAL			
Not Technically Feasible	Not Cost Effective	ECONOMIC POTENTIAL		
Not Technically Feasible	Not Cost Effective	Market Barriers	MAXIMUM ACHIEVABLE POTENTIAL	
Not Technically Feasible	Not Cost Effective	Market Barriers	Partial Incentives	REALISTIC ACHIEVABLE POTENTIAL
Not Technically Feasible	Not Cost Effective	Market Barriers	NTG	PROGRAM POTENTIAL MAP
Not Technically Feasible	Not Cost Effective	Market Barriers	Partial Incentives	NTG
				PROGRAM POTENTIAL RAP

FIGURE 4-2 TYPE OF ENERGY EFFICIENCY POTENTIAL³³

³³ Reproduced from “Guide to Resource Planning with Energy Efficiency.” November 2007. US Environmental Protection Agency (EPA). Figure 2-1. Modified to depict the additional levels of achievable and program potential included in this study.

4.1.5 Technical Potential

Technical potential is the theoretical maximum amount of energy use that could be displaced by efficiency, disregarding all non-engineering constraints such as cost-effectiveness and the willingness of end users to adopt the efficiency measures. Technical potential only constrained by factors such as technical feasibility of measures. Under technical potential, GDS will assume that 100% of new construction and market opportunity measures are adopted as those opportunities become available (e.g., as new buildings are constructed, they immediately adopt efficiency measures, or as existing measures reach the end of their useful life). For retrofit measures, implementation will be assumed to be resource constrained and that it is not possible to install all retrofit measures all at once. Rather, retrofit opportunities will be assumed to be replaced incrementally until 100% of stock will be converted to the efficient measure over a period of no more than 19 years.

The core equation used in the residential sector energy efficiency technical potential analysis for each individual efficiency measure is shown in Equation 4-1 below. The business (C&I) sector employs a similar analytical approach.

EQUATION 4-1 CORE EQUATION FOR RESIDENTIAL SECTOR TECHNICAL POTENTIAL



Where...

Base Case Equipment End-Use Intensity = the electricity used per customer per year by each base-case technology in each market segment. In other words, the base case equipment end-use intensity is the consumption of the electrical energy using equipment that the efficient technology replaces or affects.

Saturation Share = the fraction of the end-use electrical energy that is applicable for the efficient technology in a given market segment. For example, for residential water heating, the saturation share would be the fraction of all residential electric customers that have electric water heating in their household.

Remaining Factor = the fraction of equipment that is not considered to already be energy efficient. To extend the example above, the fraction of electric water heaters that is not already energy efficient.

Feasibility Factor = (also functions as the applicability factor) the fraction of the applicable units that is technically feasible for conversion to the most efficient available technology from an engineering perspective (e.g., it may not be possible to install heat pump water heaters in all homes because of space limitations).³⁴

Savings Factor = the percentage reduction in electricity consumption resulting from the application of the efficient technology.

4.1.5.1 Competing Measures & Interactive Effects Adjustments³⁵

GDS prevents double-counting of savings, and accounts for competing measures and interactive savings effects, through three primary adjustment factors:

Baseline Saturation Adjustment. Competing measure shares may be factored into the baseline saturation estimates. For example, nearly all homes can receive insulation, but the analysis will create multiple measure permutations to account for varying impacts of different heating/cooling combinations and will apply baseline saturations to reflect proportions of households with each heating/cooling combination.

³⁵ 4 CSR 240-22.050 (3)(G)2

Feasibility Factor Adjustment. GDS will combine measures into measure groups, where total applicability factor across measures is set to 100%. For example, homes cannot receive a programmable thermostat, connected thermostat, and smart thermostat. In general, the models assign the measure with the most savings the greatest feasibility factor in the measure group, with competing measures picking up any remaining share.

In instances where there are two (or more) competing technologies for the same electrical end use, such as heat pump water heaters with different tiers of efficiency an applicability factor aids in determining the proportion of the available population assigned to each measure. In estimating the technical potential, measures with the most savings are given priority for installation. The applicability factors for Economic Potential, MAP and RAP are adjusted to account for cost-effectiveness screening results.³⁶

Interactive Savings Adjustment. As savings are introduced from select measures, the per-unit savings from other measures need to be adjusted (downward) to avoid over-counting. The analysis typically prioritizes market opportunity equipment measures (versus retrofit measures that can be installed at any time). For example, the savings from a smart thermostat are adjusted down to reflect the efficiency gains of installing an efficient air source heat pump. The analysis also prioritizes efficiency measures relative to conservation (behavioral) measures. These impacts are accounted for in all phases of estimated potential savings.

4.1.6 Economic Potential

Economic potential refers to the subset of the technical potential that is economically cost-effective (based on screening with the TRC Test) as compared to conventional supply-side energy resources. Both technical and economic potential ignore market barriers to ensuring actual implementation of energy efficiency. Finally, they typically only consider the costs of efficiency measures themselves, ignoring any programmatic costs (e.g., marketing, analysis, administration, program evaluation, etc.) that would be necessary to capture them.

The State of Missouri Revised Statutes, Chapter 393, Section 393.1075.1, states that “The commission shall consider the total resource cost test a preferred cost-effectiveness test.” The TRC test calculations in this study follow the prescribed methodology detailed in the latest version of the California Standard Practice Manual (CA SPM). The California Standard Practice Manual establishes standard procedures for cost-effectiveness evaluations for utility-sponsored or public benefits programs and is generally considered to be an authoritative source for defining cost-effectiveness criteria and methodology. This manual is often referenced by many other states and utilities.

Although the TRC Test was used as the primary screening test for measure, program, and portfolio cost-effectiveness for inclusion in economic, achievable, and program potential, measure level screening results for the Utility Cost Test (UCT) and Participant Cost Test are also provided in the appendices of this report.³⁷ In each year of the analysis, the benefits of each measure are calculated as the cumulative energy and demand impact multiplied by all applicable avoided costs; the net present value of annual lifetime benefits are then compared against the cost of each measure.³⁸ Further definitions of the tests are outlined below:

The Total Resource Cost (TRC) test measures benefits and costs from the perspective of the utility and society as a whole. The benefits include the net present value of the energy and capacity saved by the measures but exclude any natural gas or other fossil fuel benefits. The forecast of electric avoided costs of energy and capacity were obtained from Ameren Missouri and represent their most recent forecast of avoided electric benefits³⁹ The costs are the net

³⁶ HVAC measure applicability with respect to early replacement and market opportunity measures are allocated in approximation with MEEIA Cycle 3 planning estimates.

³⁷ 4 CSR 240-22.050 (5)(B); 4 CSR 240-22.050 (5)(C); 4 CSR 240-22.050 (5)(E); 4 CSR 240-22.050 (5)(F); 4 CSR 240-22.050 (5)(G)

³⁸ 4 CSR 240-22.050 (5)(A)

³⁹ 4 CSR 240-22.050 (5)(A)1 through 3; the MPS makes use of the avoided cost forecast provided by Ameren Missouri, and includes avoided capacity, transmission and distribution, and avoided energy. Ameren separately documents the methods and

present value of all costs to implement those measures. These costs include full incremental costs (both utility and participant contributions), but no incentive payments that offset incremental costs to customers and no lost revenues.⁴⁰ The full incremental costs include single upfront costs and operational & maintenance costs where applicable. While non-incentive costs were not included in the measure-level screening of electric energy efficiency potential, they were included in further assessments of potential at the achievable and/or program potential level. Programs passing the TRC test (that is, having a B/C ratio greater than 1.0) result in a decrease in the total cost of energy services to electric ratepayers.⁴¹

The Utility Cost Test (UCT), also referred to as the Program Administrator Cost Test (PACT) measures the costs and benefits from the perspective of the utility administering the program. As such, this test is characterized as the revenue requirement test. Benefits are the net present value of the avoided energy and capacity costs resulting from the implementation of the measures. Costs are the administrative, marketing and evaluation costs resulting from program implementation along with the costs of incentives but do not include lost revenues.⁴² Programs passing the UCT result in overall net benefits to the utility, thus making the program worthwhile from a utility cost accounting perspective.

The Participant Cost Test (PCT) measures the benefits and costs from the perspective of program participants, or customers. Benefits are the net present value savings that participating customers receive on their electric bills as a result of the implementation of the energy efficiency and demand response measures plus incentives received by the customer. Costs are the customer's up-front net capital costs to install the measures. If the customer receives some form of a rebate incentive, then those costs are considered as a credit to the customer and are added to the customer's total benefits.

For this analysis, measure cost-effectiveness was re-screened any every 5-year increment of the 2022-2040 analysis timeframe. If a measure was not cost-effective based on an install year in 2022, it was rescreened in 2027, 2032, and 2037 to determine whether a delayed installation year (and projected increased in avoided cost over time) would result in a 1.0 or greater TRC ratio. If a measure became cost-effective over the study horizon, it was introduced into the economic potential (and subsequent estimates of potential) at that time.⁴³

All measures that are not found to be cost-effective based on the results of the measure-level cost effectiveness screening were excluded from the economic and achievable potential. Feasibility factors were then re-adjusted and applied to the remaining measures that are cost effective, where appropriate.

4.1.7 Achievable Potential⁴⁴

Achievable potential is the amount of energy that can realistically be saved given various market barriers. Achievable potential considers real-world barriers to encouraging end users to adopt efficiency measures; the non-measure costs of delivering programs (for administration, marketing, analysis, and EM&V); and the capability of programs and administrators to boost program activity over time. Barriers include financial, customer awareness and willingness to participate in programs, technical constraints, and other barriers the "program intervention" is modeled to overcome. Additional considerations include political and/or regulatory constraints. The potential study will evaluate two achievable potential scenarios:

assumptions supporting the development of their avoided cost forecast in their IRP. The base avoided costs do not explicitly include any value for reduced carbon emissions. The MPS includes a sensitivity on avoided costs that could be considered as an examination of the potential impacts of additional environmental costs and the IRP, itself, is also expected to assess these impacts.

⁴⁰ 4 CSR 240-22.050 (5)(B)(1); 4 CSR 240-22.050 (5)(B)(3)

⁴¹ 4 CSR 240-22.050 (5)(D)

⁴² 4 CSR 240-22.050 (5)(C)1; 4 CSR 240-22.050 (5)(C)2

⁴³ 4 CSR 240-22.050 (1)(E)1

⁴⁴ 4 CSR 240-22.050 (2)(G)5B

- **Maximum Achievable Potential** estimates achievable potential from aggressive adoption rates based on paying incentives equal to 100% of measure incremental costs and increased program awareness.
- **Realistic Achievable Potential** estimates achievable potential with Ameren Missouri paying incentive levels (as a percent of incremental measure costs) and program awareness closely calibrated to historical levels but is not constrained by any previously determined spending levels.

4.1.7.1 Market Adoption Rates

The assumed level of customer participation (take rate) for each energy efficiency measure is a key driver of achievable potential estimates. To inform estimates of future market adoption, the GDS Team relied on both the historical achievements of Ameren Missouri in prior years, as well as measure specific final adoption rates that were developed as part of the primary market research activities and discussed in Section 2.4 of this report.⁴⁵ The historical benchmarking provides a point-estimate to serve as an initial “ground floor” market adoption rate while the final adoption rates from the market research reflect the presence of possible market barriers and associated difficulties in achieving the 100% market adoption assumed in the technical and economic scenarios. Addition detail, including an example demonstrating how the final market adoption curve was developed is provided below. A complete list of annual market adoption rates by measures are included in appendices to this report.

Initial Year Measure Adoption. First year adoption levels were informed either by recent historical⁴⁶ or planned performance (where possible) or by the primary market research indicating the current saturation of energy efficient equipment. For example, 331 heat pump water heaters were installed via Ameren Missouri programs in 2018, and 214 are planned for 2021 (or 2.2% of electric water heaters expected to burn out on an annual basis). This informed the MPS initial year adoption rate for HPWH. The GDS Team also redistribution applicability factors that may have emphasized the highest saving measures in technical and economic potential and redistributed these factors to ensure adoption rates reflected recent historical realities. Last, as noted in Section 4.1.2.4, GDS front-loaded the remaining potential associated with the lighting end-use in the business sector to reflect the rapid adoption rates of LED lighting that have recently been achieved by Ameren Missouri’s existing programs. These calibration efforts help to ensure that the forecasted achievable potential in 2022 is realistic and attainable.

Long-Term Market Adoption Rates. The final adoption scores that resulted from the WTP surveys serve as the point-estimate for the long-term market adoption potential for the realistic achievable scenario. Final adoption score calculations were based on a battery of questions which assessed (1) the respondent’s willingness to adopt energy efficiency technologies or participate in demand response programs in scenarios with varying levels of program support, (2) the magnitude of the respondent’s financial and non-financial barriers to adoption/participation, and (3) their awareness of Ameren Missouri energy efficiency programs and/or high efficiency technologies. Measure specific final adoption scores in the RAP scenario were based on the assumed current incentive level (see Section 0)

For the maximum achievable scenario, the final adoption score was adjusted upward, assuming an increase in customer awareness of Ameren Missouri programs and/or technologies. Specifically, the MAP scenario assumed an awareness factor adjustment of 73% or maintained the original awareness factor score if already 73% or higher.

Adoption Curve. Once the initial year adoption rate (Point A) and long-term adoption rates (Point B) are determined, the remaining step was to determine the rate and duration to get from Point A to Point B. The 2020 Ameren Missouri MS employed a standard s-curve that was set to either 15 years (in MAP scenario) or 20 years (in RAP scenario) with the end-point estimate from the ODC Adoption Rate research. The 1st year point estimate is then used to establish the number of years remaining to reach the long-term adoption rate and the slope of adoption. An example of this process is provided below:

⁴⁵ 4 CSR 240-22.050 (2)

⁴⁶ GDS performed a historical benchmarking and variance analysis between Ameren Missouri’s evaluated performance relative to estimates of potential included in the 2016 analysis. This variance analysis helped to identify measures with significant variation between prior potential models and actual results.

Using a residential refrigerator as an example, the maximum adoption rate for the market-rate single family appliance end-use is 66%, assuming 100% incentive. The realistic adoption rate, also for the market-rate single family appliance end-use, is 45% (based on an assumed incentive that covers 50% of the incremental cost of an energy efficient refrigerator). In addition, according to the primary market research, approximately 25% of refrigerators in the Ameren Missouri service area are already energy efficient, serving as the point-estimate for the initial year adoption rate. The assumed 15-year MAP and 20-year RAP adoption curves, as well as the initial year adoption rate are all shown in the left line chart for Figure 4-3.

For the final adjusted adoption curve, the intersection of the initial year adoption rate and the unadjusted MAP and RAP adoption curve identifies the new shape of the curve. Using the initial year adoption rate of approximately 25% for energy-efficient refrigerators the MAP starting point shifts along the initial MAP curve to Year 6 (with 9 years remaining to reach the long-term MAP adoption rate of 66%), and to Year 11 (also with 9 years remaining to reach the long-term RAP adoption rate of 45%). The final adjusted MAP and RAP adoption curves are shown in the right line chart for

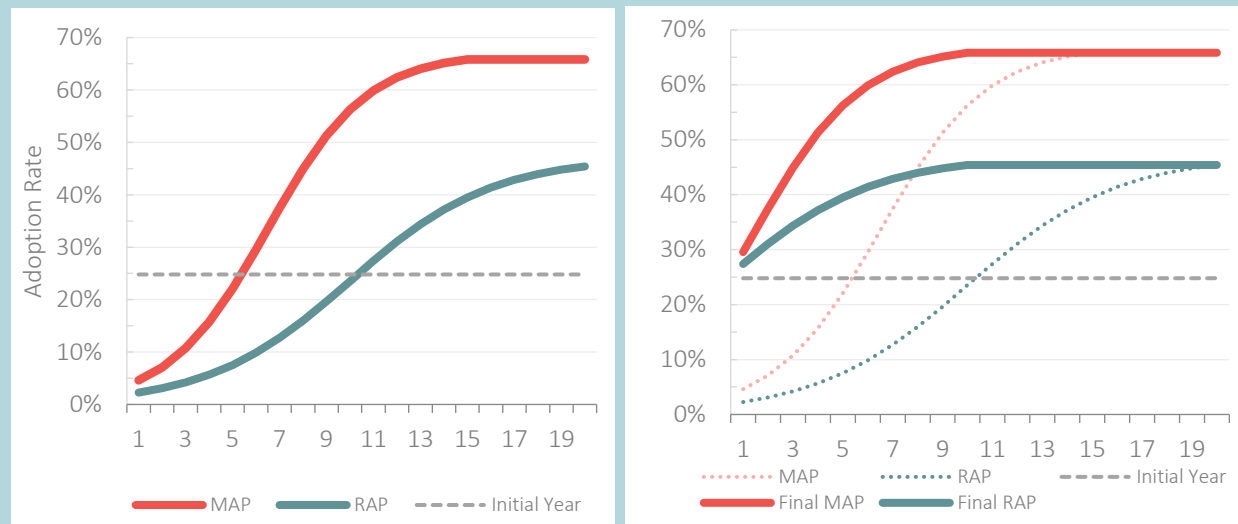


Figure 4-3.

FIGURE 4-3: EXAMPLE INITIAL ADOPTION CURVES (left) AND FINAL ADJUSTED ADOPTION CURVES FOR MAP AND RAP (right)

4.1.7.2 Program Costs

GDS conducted a summary review of available information pertaining to Ameren Missouri's evaluated energy efficiency program performance. GDS reviewed each of Ameren's filed annual evaluation reports for 2016-2018 and collected various data points including Ameren direct and indirect expenditures to establish benchmarking data on Ameren's performance of their DSM programs under MEEIA. Metrics tracked included:

- Gross and Net Energy Savings
- Incentive expenditures as a percentage of incremental measure costs
- Administrative cost (\$ per 1st-year kWh saved)

The purpose of this step was to understand historical program delivery performance, and to help inform estimates of maximum and realistic achievable potential. Table 4-2 summarizes the observed incentive cost trends observed for the Ameren Missouri territory and applied to the analysis.⁴⁷ Incentives were derived primary from the Ameren Missouri

⁴⁷ 4 CSR 240-22.050 (3)(G)5B

submittal tool. For study measures that do not map directly to a current offering or were not in the submittal tool, GDS calculated the average incentive level by sector and/or program and applied these “typical” incentive levels to the new measures. The incentive cost assumptions below were applied in the RAP and program RAP scenarios. The remaining portion of the incremental measure cost is assumed to be borne by the consumer.⁴⁸ MAP and program MAP assume that incentives are equal to 100% of incremental measure cost.

TABLE 4-2: AVERAGE AMEREN MISSOURI INCENTIVE LEVELS BY END-USE

Residential Market Rate	Incentive as a % of Incremental Measure Cost	Business	Incentive as a % of Incremental Measure Cost
Appliance	53%	Lighting	30%
Building Shell	56%	Space Cooling	70%
Cross-Cutting	100%	Space Heating	14%
Electronics	61%	Ventilation	43%
HVAC Equipment	50%	Motors	96%
Lighting	97%	Cooking	12%
Pools	100%	Refrigeration	77%
Water Heating	49%	Compressed Air	93%
		Process - Industrial	15%
		Other	0%
		Behavioral	100%
		Water Heating	80%

Consistent with National Action Plan for Energy Efficiency (NAPEE) guidelines⁴⁹, utility non-incentive costs were also included in the overall assessment of cost-effectiveness in the achievable and program potential MAP and RAP scenarios. Initial Year (2022) non-incentive costs Non-Incentive Costs were developed using recent PY16-PY18 actual program cost data. Program non-incentive costs were calculated on a gross \$ per first-year kWh saved. Where a three-year trend was present, GDS applied the latest year \$/kWh to forecasted potential incremental annual savings to develop an estimate of future year non-incentive budgets. If a consistent trend was not present, the average \$/kWh over the last three program years was used. Future year non-incentive costs were then escalated annually at half the rate of inflation%.⁵⁰

Non-incentive costs were developed for each program by sector.⁵¹ Figure 4-4 shows the historical non-incentive costs and assumed 2022 non-incentive costs for residential programs. Figure 4-5 provides the historical non-incentive costs and assumed 2022 non-incentive costs for business sector programs.

⁴⁸ 4 CSR 240-22.050 (3)(G)5D

⁴⁹ National Action Plan for Energy Efficiency (2007). Guide for Conducting Energy Efficiency Potential Studies. Prepared by Optimal Energy. This study notes that economic potential only considers the cost of efficiency measures themselves, ignoring programmatic costs. Conversely, achievable potential should consider the non-measures costs of delivering programs. Pg. 2-4.

⁵⁰ As noted earlier in the report, measure costs and utility incentives were not escalated over the 20-year analysis timeframe to keep those costs constant in nominal dollars. Non-incentive costs were escalated at only ½ the rate of inflation to acknowledge the possibility of select operational efficiency gains off-setting administrative increases from salary raises, cost-of-living and other factors.

⁵¹ 4 CSR 240-22.050 (3)(G)5E; 4 CSR 240-22.050 (3)(G)5F

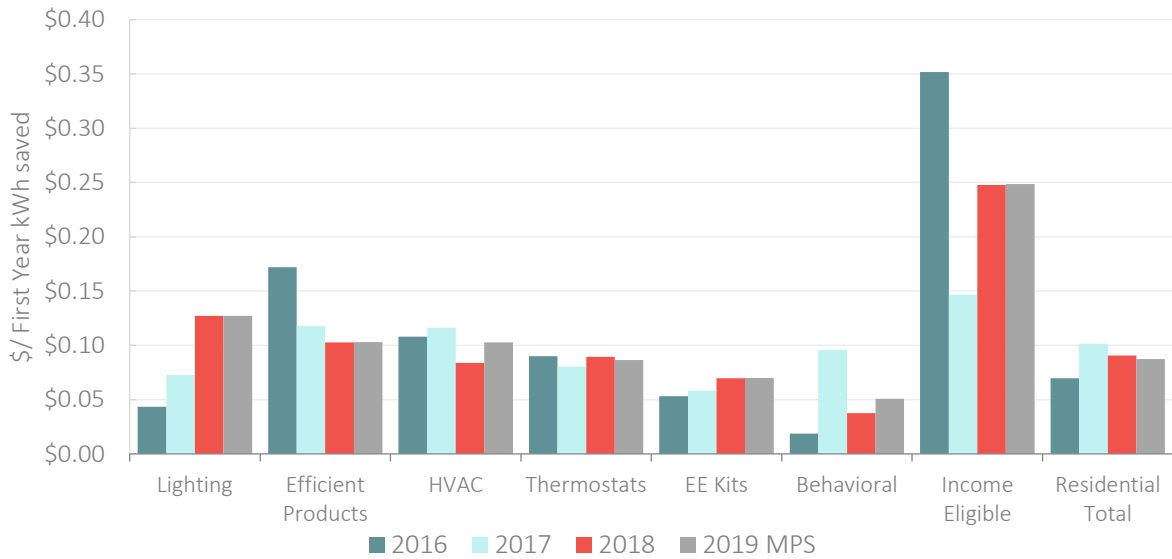


FIGURE 4-4 RESIDENTIAL NON-INCENTIVE COSTS BY PROGRAM

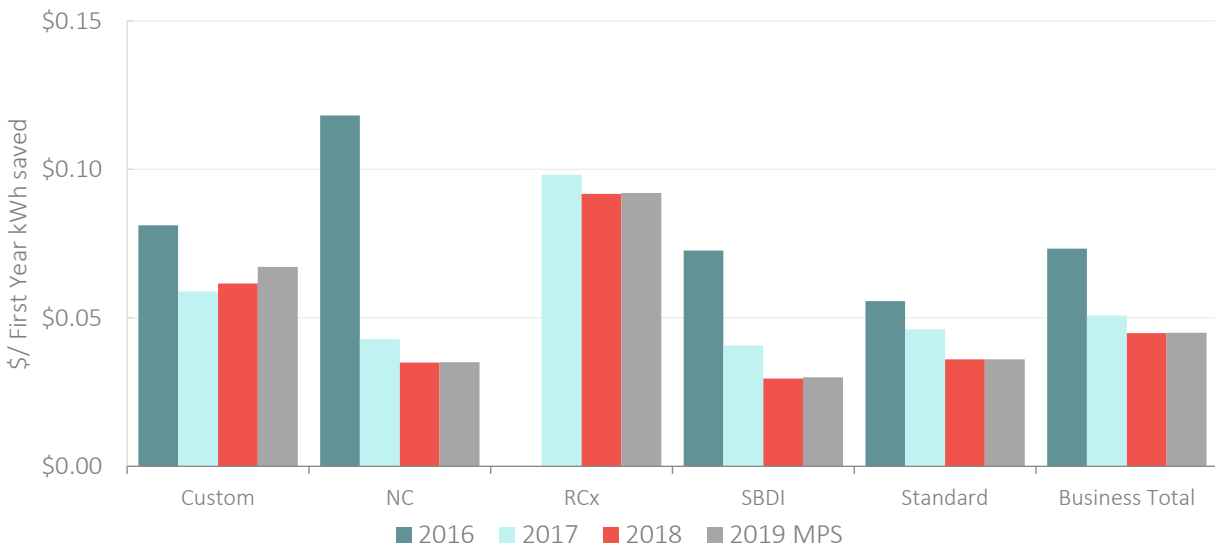


FIGURE 4-5 BUSINESS SECTOR NON-INCENTIVE COSTS BY PROGRAM

Historical non-incentive cost categories included: (1) Administration, (2) Marketing, and (3) Indirect Costs. Non-incentive budgets breakdowns were also informed by Ameren Missouri’s recent evaluated spending. Figure 4-6 provides the allocation breakdown of these administrative costs.

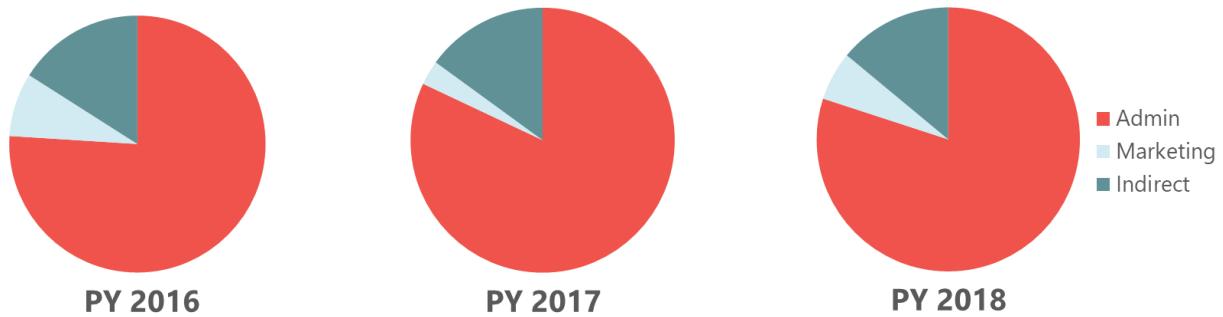


FIGURE 4-6 RECENT (2016-2018) HISTORICAL NON-INCENTIVE COST ALLOCATION BREAKDOWN

4.1.8 Program Potential

Program potential includes the allocation and bundling of individual measures into specific program concepts to support Ameren Missouri’s program planning process. All cost-effective measures across all end-uses were bundled into programs based on a mapping to existing Ameren Missouri programs or new programs, if necessary.⁵² Program potential cases were created based on the RAP and MAP achievable potentials.

4.1.8.1 Net to Gross (NTG)

All estimates of technical and economic potential, as well as measure level cost-effectiveness screening are conducted in terms of gross savings to reflect the absence of program design considerations in these phases of the analysis. The initial estimates of maximum and program achievable potential are also presented in the context of gross savings. Program Potential MAP and RAP are, however, presented in terms of net savings to reflect the importance of program design in overcoming market barriers to participation.

Net energy savings consider free-riders (participants who would have installed the high efficiency option in the absence of the program) and spillover customers (participants who install efficiency measures due to program activities, but never receive a program incentive). Measure net-to-gross ratios were based on the most recent evaluation findings of Ameren Missouri’s efficiency programs and mapped to individual measures in both the residential market rate and business sector. Assumed net to gross ratios for each measure are based on reported NTG ratios in the 2018 Evaluation Portfolio Summaries. The application of NTG ratios, as well as a shift in reporting from end-use detail to program offering, are the sole differences between the initial estimates of MAP/RAP and Program Potential MAP/RAP in this report.

4.1.9 Whole Building Potential

4.1.9.1 Residential Market-Rate

Energy efficiency potential is assessed at the measure-level. The study also assessed single-family and multifamily residential potential and business customer potential at the whole building level. This assessment required a breakdown of housing type/building types across the residential and business sectors. Once the breakdown was developed and each housing type/building type was defined, a baseline consumption estimate, as well as a per building potential for each building type was calculated. In this way we have estimated the savings across tiers of whole building categories such that the measure-level technical potential has been distributed across each tier and building type.

Table 4-3 below illustrates how we went about developing the definitions of home types in the residential market-rate sector. The existing housing stock was parsed out into 48 building types (24 each for single-family and multifamily) based on HVAC types (3), Water Heating types (2), and building shell tiers (4). The new construction housing stock was

⁵² 4 CSR 240-22.050 (1)(B) and 4 CSR 240-22.050 (3)(C)

parsed out into 4 building types (2 each for single-family and multifamily) based on HVAC types (homes were assumed to be all electric heating/water heating or all non-electric).

TABLE 4-3: DEMONSTRATION OF CALCULATION OF WHOLE HOME DISAGGREGATION

Home Types	Vintage	HVAC Types	Water Heating Type	Building Shell Tiers	Combinations
SF/MF	Existing	Elec Furnace / AC Heat Pump Gas Furnace / AC	Electric Non-Electric	Tier 1: Tight Tier 2: Sometimes drafty Tier 3: Mostly drafty Tier 4: Always drafty	48
SF/MF	NC	Heat Pump Gas Furnace / AC	Electric Non-Electric	Tier 1: Tight	4

Once the combinations were defined, the next task was developing a segmentation of the housing stock into the 52 categories. This was accomplished by developing assumptions of saturations of HVAC type, water heating type and building shell tier, for each home type and construction vintage, and then calculating a home type-vintage-specific weight to calculate a total number of homes in the service territory that would fall into each of the 52 combinations.⁵³ The saturation assumptions were developed using the results of the ODC market research.

The next step was to calculate a baseline consumption estimate for each of the 52 categories. This was accomplished by a series of steps that included leveraging the Submittal Tool to calculate baseline consumption estimates for HVAC and water heating and developing baseload (defined as anything other than water heating or HVAC heating and cooling) consumption estimates through a review of the residential load forecast.

The final step was to allocate the measure-level potential across the 52 categories. This was achieved by weighting the allocations of the savings of each individual measure in the analysis by the proportion of the population which the measure applied for each home type-vintage-type category. For example, a single-family home with an electric furnace, electric water heater, and tier 1 building shell efficiency accounts for about 2% of the existing single-family housing stock. Therefore, 2% of the savings of measures that do not affect water heating or HVAC consumption would therefore be allocated towards this category of homes. However, measure savings that address electric water heating (e.g. heat pump water heater) or electric furnace (e.g. efficient heat pump) consumption would be allocated towards this category in proportion with the number of homes that have electric water heating and electric furnaces. In other words, homes that do not apply (homes with non-electric water heating or non-electric heating) would not receive an allocation of the measure-level savings for these measures. Ultimately, we were able to calculate the overall potential for each of the 52 home types, a per home potential, as well as a potential as a percentage of the baseline consumption estimate for each of the 52 categories.

4.1.9.2 Business Sector

Using the top-down approach in the business sector, the forecast is disaggregated by building type and end-use at the outset of the potential savings analysis. As such, the business sector is equipped to report potential at the disaggregated building type level, demonstrating which business types are more likely to possess increased opportunities for electric energy efficiency based on their existing electric end-use and efficiency characteristics.

⁵³ The market research didn't yield cross-tabulations to identify an estimate of the number of homes in each of the whole building combinations assessed in the study. The research provided estimates of the individual components (e.g. homes with an electric furnace, homes with electric heat, building shell efficiency, etc.). To develop population estimates by building category we treated the proportions of each estimate as independent variables and multiplied the proportions in sequence by the number of homes to develop an estimate of the applicable market size for each whole building type.

4.2 RESIDENTIAL MARKET RATE ENERGY EFFICIENCY POTENTIAL FINDINGS

Figure 4-7 provides the technical, economic, MAP and RAP results for the 3-year, 10-year, and 19-year timeframes. The 3-year technical potential is 12% of forecasted sales, and the economic potential is 8% of forecasted sales. The 3-year MAP is 3.0% and the RAP is 2.7%, as a percentage of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 42% and 35% of forecasted sales, respectively. This indicates that a large portion of the technical potential is cost-effective. The MAP and RAP rise respectively to 22% and 16% of forecasted sales over the study timeframe. The gap between economic potential and MAP/RAP represent market barriers to prospective program participants, both financial and non-financial, to achieving the full amount of economic potential.

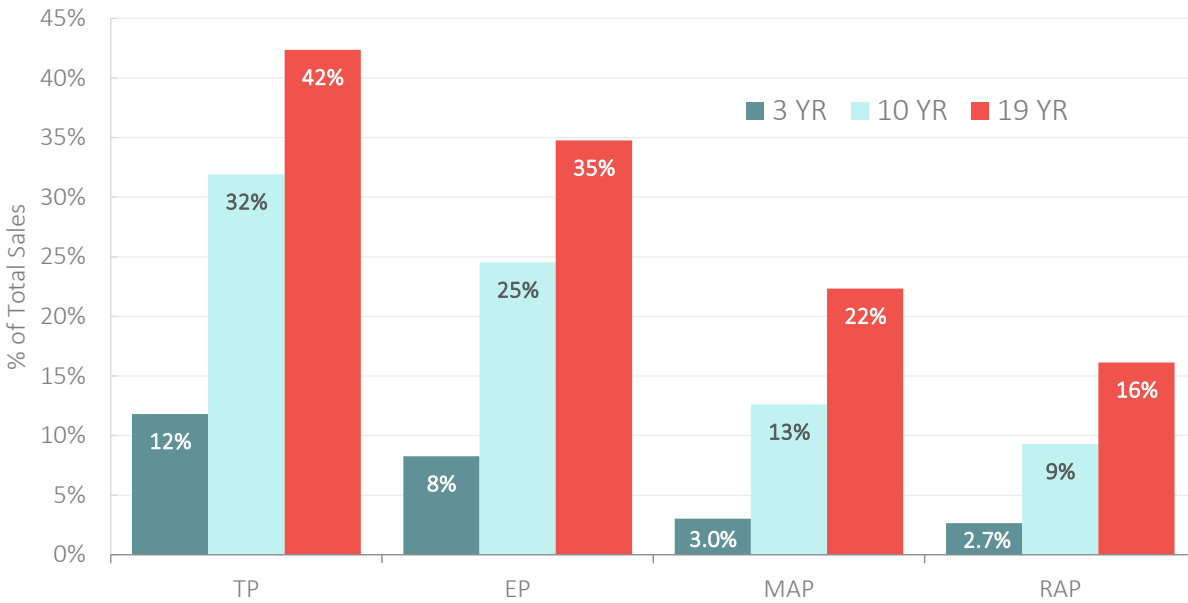


FIGURE 4-7: OVERVIEW OF RESIDENTIAL MARKET-RATE POTENTIAL

4.2.1 Technical/Economic Potential

Table 4-4 provides cumulative annual technical and economic potential results across the 2022-2026 (Years 1-5) timeframe, as well as for 2031 (10th-year) and 2040 (19th-year). The technical potential is nearly 1 million MWh by 2024 and rises to more than 3.7 million MWh by 2040. Economic potential rises to more than 3 million MWh by 2040 as well. Peak demand savings associated with technical potential reach more than 300 MW by 2024 and reach more than 900 MW by 2040, and peak demand savings associated with economic potential reach nearly 750 MW by 2040.

TABLE 4-4 TECHNICAL & ECONOMIC RESIDENTIAL MARKET-RATE POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Energy (MWh)							
Technical	361,134	680,356	989,288	1,287,917	1,576,149	2,711,400	3,714,507
Economic	252,917	474,834	691,995	904,428	1,111,633	2,083,421	3,047,975
Peak Demand (MW)							
Technical	119	219	316	409	498	747	918
Economic	92	170	246	320	392	598	742

Figure 4-8 shows a comparison of the technical and economic potential (3-year) by end use. HVAC Equipment is by far the leading end-use among technical and economic potential, followed by Building Shell. Appliances and Water

Heating also provide a significant amount of technical potential. Lighting provides a small amount of potential as this end-use is transformed by changes in the market.

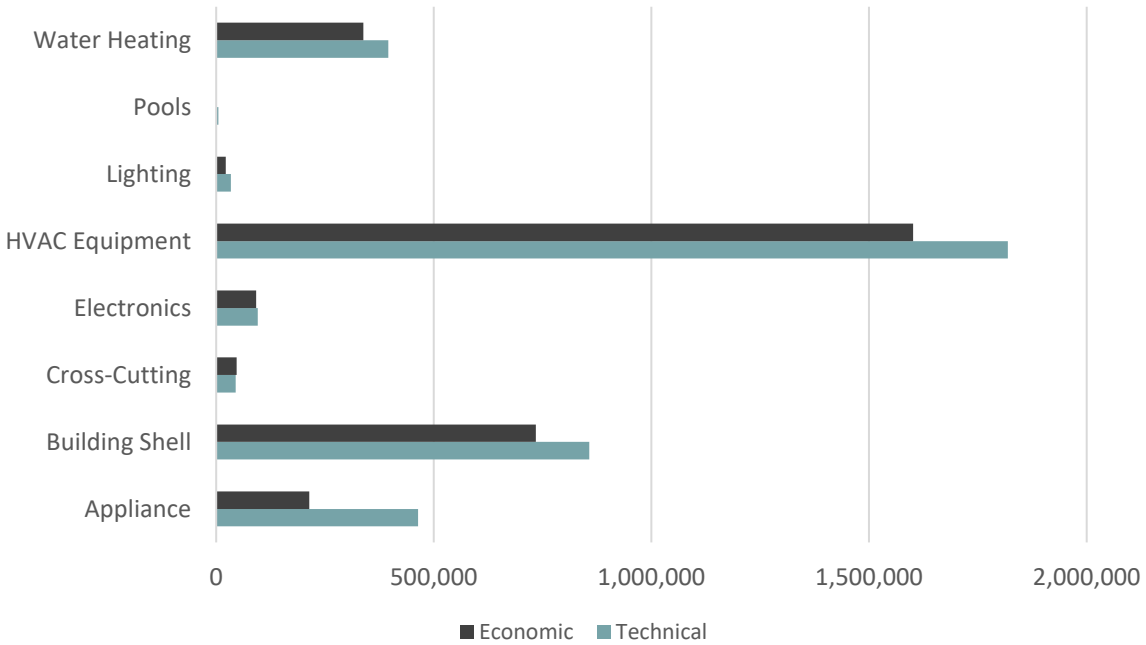


FIGURE 4-8: 19-YR RESIDENTIAL MARKET-RATE TECHNICAL & ECONOMIC POTENTIAL, BY END-USE

4.2.2 Achievable Potential

Figure 4-9 provides the MAP and RAP across the 19-yr timeframe of the study. The green and orange bars provide the respective incremental annual MAP and RAP in MWh per year energy savings. The green and red lines provide the corresponding cumulative annual MAP and RAP as a percent of forecasted annual sales. The MAP rises to 22% by 2040 and the RAP rises to 16%.

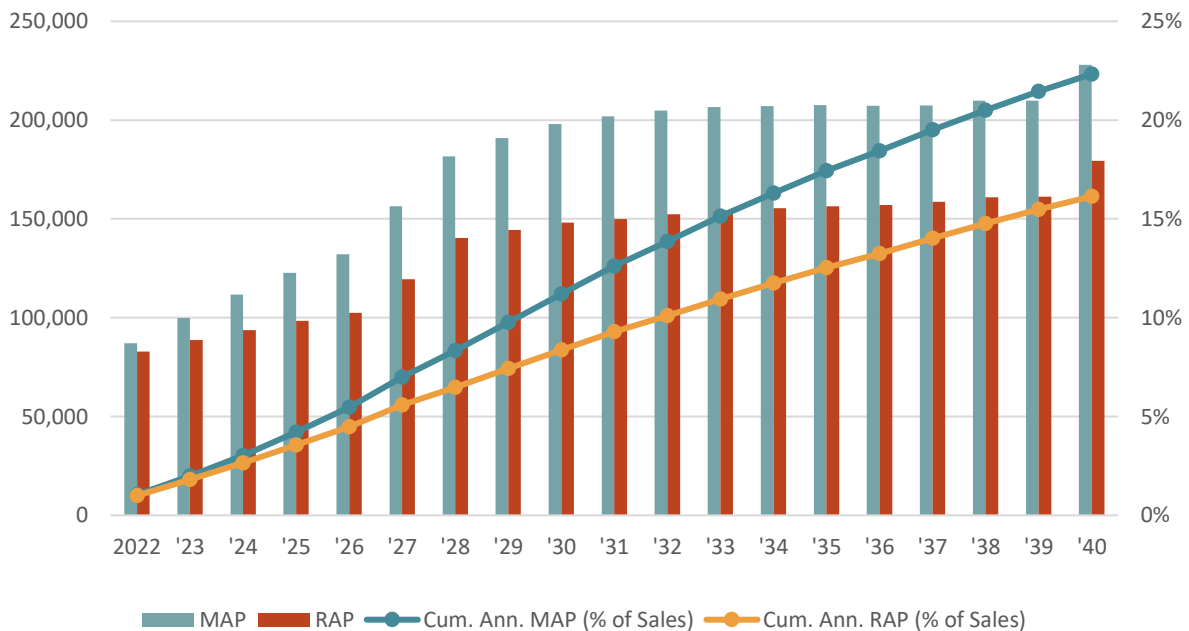


FIGURE 4-9: OVERVIEW OF RESIDENTIAL MARKET-RATE POTENTIAL – RAP 2040

Figure 4-10 provides a breakdown of the RAP potential in 2040 across end-uses and building type market segments. As in technical and economic potential, the HVAC Equipment is by far the leading end-use accounting for 58% of the total and Building Shell accounts for an additional 23%. Appliances, Water Heating and Cross-Cutting measures account for between 4% and 6%. Electronics contributes 2%, Lighting 1%, and Pools is 0% in 2040. The single-family market rate housing sector represents 86% of the potential, the multifamily market rate sector represents 10%, and new construction accounts for the remaining 4% of potential by housing type in 2040.

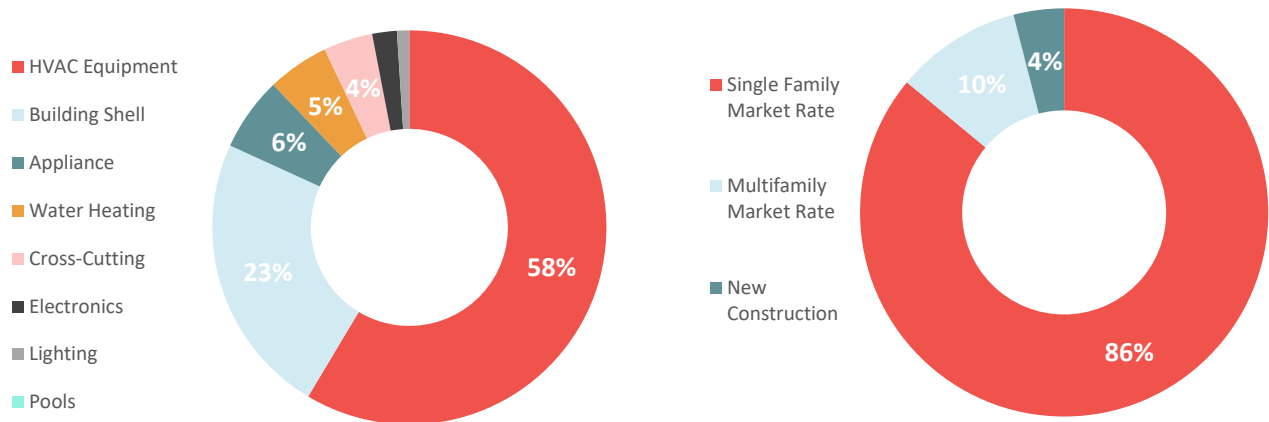


FIGURE 4-10: RESIDENTIAL MARKET-RATE POTENTIAL BY END-USE AND BUILDING TYPE – RAP 2040

Table 4-5 provides incremental and cumulative annual energy and demand savings for MAP and RAP across the next five years as well as over the 10-yr and 19-yr time horizons. Incremental RAP energy savings range from nearly 83,000 MWh in 2022 to nearly 180,000 MWh by 2040, and cumulative RAP energy savings rise to more than 1.8 million MWh by 2040.

TABLE 4-5 RESIDENTIAL MAP & RAP POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Incremental Annual Energy (MWh)							
MAP	87,042	99,859	111,730	122,749	132,178	201,823	227,972
RAP	82,876	88,702	93,756	98,469	102,507	149,862	179,353
Incremental Annual Energy (MW)							
MAP	40.1	44.1	47.6	50.7	53.1	62.8	62.6
RAP	38.9	40.8	42.3	43.6	44.8	51.6	53.4
Cumulative Annual Energy (MWh)							
MAP	87,042	165,572	253,770	351,724	458,067	1,071,190	1,957,915
RAP	82,876	151,177	222,506	297,376	375,311	789,911	1,415,540
Cumulative Annual Energy (MW)							
MAP	40.1	74.3	110.6	149.4	190.2	334.9	487.7
RAP	38.9	70.1	101.6	134.0	167.0	266.8	376.7

4.2.3 Whole Building Potential

Figure 4-11 below shows a box and whisker plot of the residential market-rate whole building potential for the MAP and RAP scenarios. The 48 existing home types are grouped into six categories based on housing type (single-family and multifamily) and heating/cooling type (electric furnace/central AC, heat pump, gas

furnace/central AC). Homes with electric furnace/central AC have the highest estimated baseline consumption and have the greatest change in consumption in the Post-MAP and Post-RAP cases. Homes with heat pumps have the second most amount of potential on a per home basis, followed by homes with gas furnaces/central AC. The variation in base consumption and the effects of the MAP and RAP potential as shown by the box and whisker plot are associated with different water heating types and assumed building shell efficiencies. Homes with electric water heating and poor building shell efficiency have greater baseline consumption and therefore more opportunity for savings than homes with either non-electric water heating and/or efficient building shell conditions.

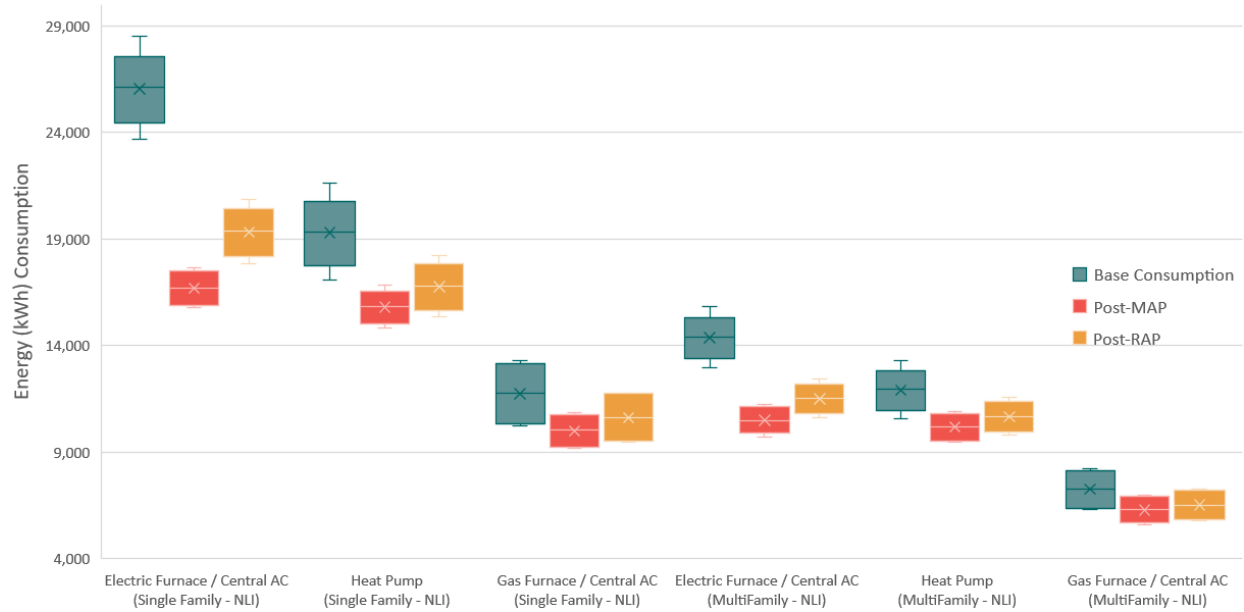


FIGURE 4-11: RESIDENTIAL MARKET RATE WHOLE BUILDING POTENTIAL – MAP AND RAP BY 2040

4.3 BUSINESS ENERGY EFFICIENCY POTENTIAL

Figure 4-12 provides the technical, economic, MAP and RAP results for the 3-year, 10-year, and 19-year timeframes. The 3-year technical potential is 14% of forecasted sales, and the economic potential is 13% of forecasted sales. The 3-year MAP is 5.8% and the RAP is 4.5%, as a percentage of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 40% and 37% of forecasted sales, respectively. This indicates that a large portion of the technical potential is cost-effective. The MAP and RAP rise respectively to 25% and 17% of forecasted sales over the study timeframe. The gap between economic potential and MAP/RAP represent market barriers to prospective program participants, both financial and non-financial, to achieving the full amount of economic potential.

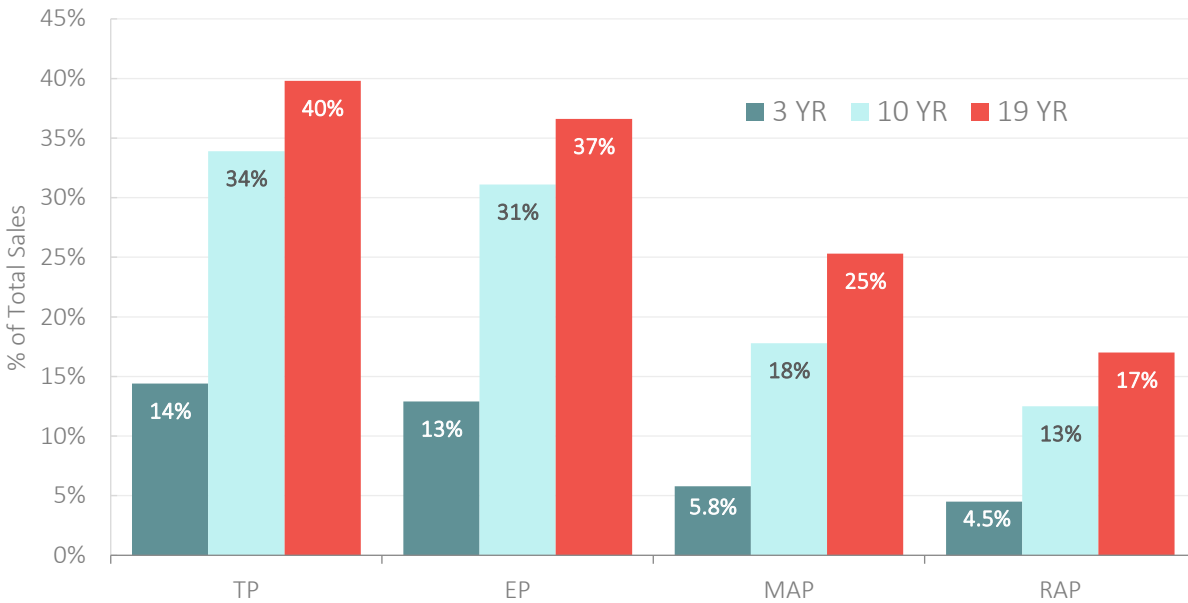


FIGURE 4-12: OVERVIEW OF BUSINESS POTENTIAL

4.3.1 Technical/Economic Potential

Table 4-6 provides cumulative annual technical and economic potential results across the 2022-2026 (Years 1-5) timeframe, as well as for 2031 (10th-year) and 2040 (19th-year). The technical potential is more than 2.1 million MWh by 2024 and rises to more than 6.3 million MWh by 2040. Economic potential rises to more than 5.8 million MWh by 2040 as well. Peak demand savings associated with technical potential reach more than 600 MW by 2024 and reach nearly 2,000 MW by 2040, and peak demand savings associated with economic potential reach nearly 1,900 MW by 2040.

TABLE 4-6 TECHNICAL & ECONOMIC BUSINESS POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Energy (MWh)							
Technical	785,124	1,477,283	2,117,569	2,757,556	3,384,695	5,231,004	6,331,307
Economic	704,274	1,323,858	1,902,820	2,480,886	3,043,960	4,799,215	5,831,873
Peak Demand (MW)							
Technical	217	426	602	779	955	1,598	1,980
Economic	205	402	570	737	902	1,520	1,887

Figure 4-13 shows a comparison of the technical and economic potential (3-year) by end use. Lighting is the leading end-use among technical and economic potential, followed by Space Cooling, Refrigeration, and Ventilation. Process – Industrial, Motors, Water Heating, Space Heating, and Water Heating also account for significant technical and economic potential.

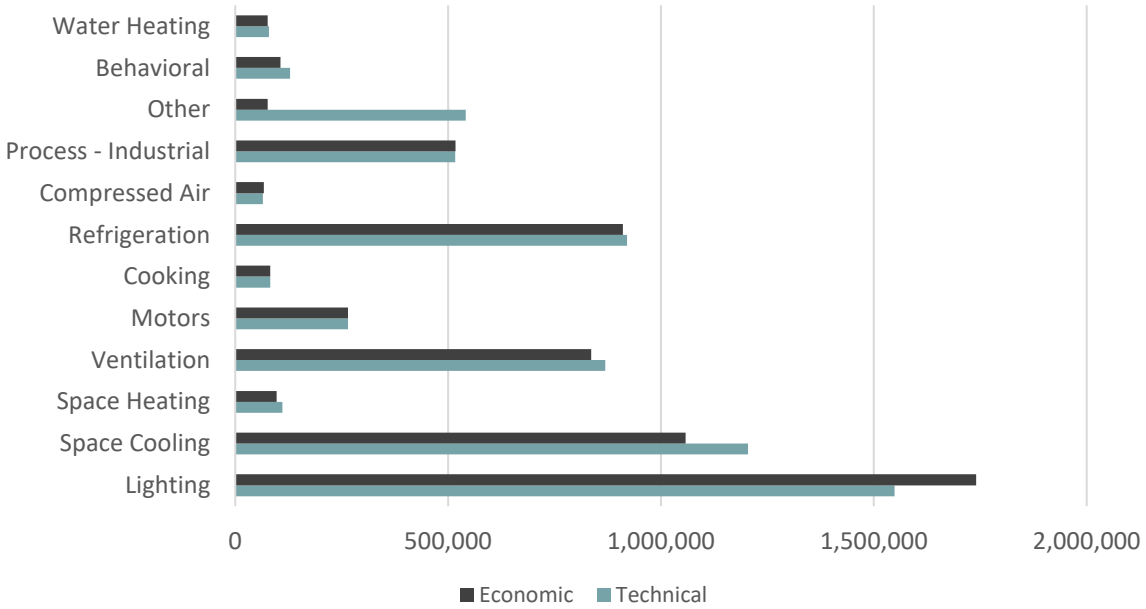


FIGURE 4-13: 19-YR BUSINESS TECHNICAL & ECONOMIC POTENTIAL, BY END-USE

4.3.2 Achievable Potential

Figure 4-14 provides the MAP and RAP across the 19-yr timeframe of the study. The green and orange bars provide the respective incremental annual MAP and RAP in MWh per year energy savings.⁵⁴ The green and red lines provide the corresponding cumulative annual MAP and RAP as a percent of forecasted annual sales. The MAP rises to 25% by 2040 and the RAP rises to 17%.

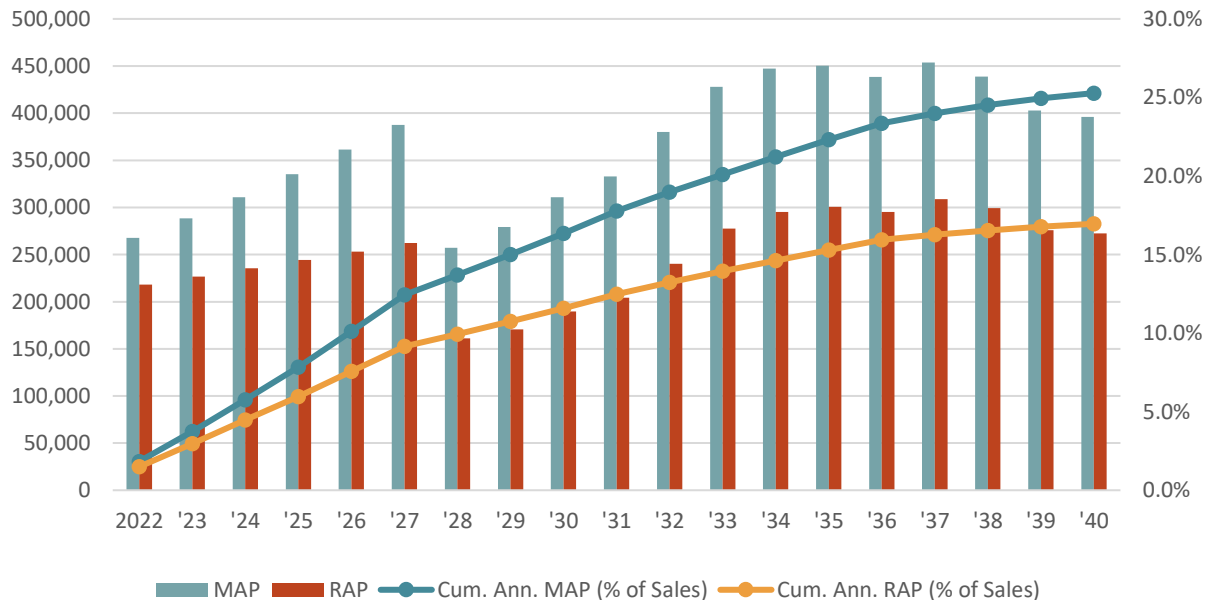


FIGURE 4-14: OVERVIEW OF BUSINESS POTENTIAL – RAP 2040

⁵⁴ The decrease in incremental MAP and RAP savings beginning in 2028 is a result of decreased lighting retrofit opportunities in the business sector after six years. As noted in Section 4.1.2.4, in an effort to calibrate initial year savings close to recent historical levels, the GDS Team had to effectively front-load lighting retrofit opportunities in the 2022-2027 timeframe.

Figure 4-15 provides a breakdown of the RAP potential in 2040 across end-uses and building type market segments. In the RAP scenario, the Process – Industrial, Lighting, Refrigeration, Space Cooling and Ventilation account for between 12% and 17% of the potential. Across building types, industrial, retail, and office buildings account for over half of the RAP. Other leading contributors among building types include education, food service, assembly and lodging, which each account for between 7% and 9% of the RAP.

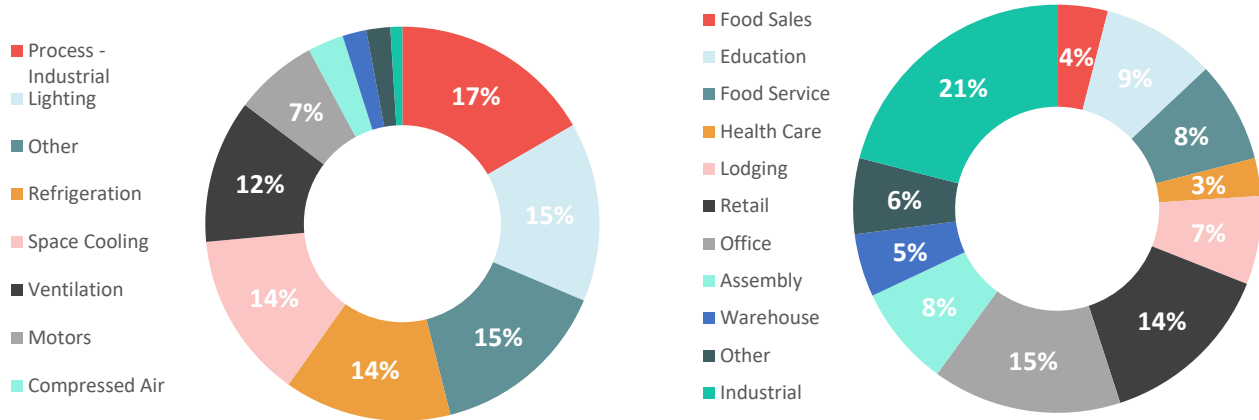


FIGURE 4-15: BUSINESS POTENTIAL BY END-USE AND BUILDING TYPE – RAP 2040

Table 4-7 provides incremental and cumulative annual energy and demand savings for MAP and RAP across the next five years as well as over the 10-yr and 19-yr time horizons. Incremental RAP energy savings range from 218,000 MWh in 2022 to 272,000 MWh by 2040, and cumulative RAP energy savings rise to nearly 2.7 million MWh by 2040.

TABLE 4-7 BUSINESS MAP & RAP POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Incremental Annual Energy (MWh)							
MAP	267,773	288,371	310,852	335,241	361,496	332,958	396,143
RAP	218,237	226,719	235,394	244,199	253,088	204,336	272,334
Incremental Annual Energy (MW)							
MAP	70.5	77.6	85.4	94.0	103.5	113.0	128.5
RAP	61.7	64.9	68.2	71.3	74.4	69.5	85.8
Cumulative Annual Energy (MWh)							
MAP	267,773	548,921	847,501	1,164,597	1,500,812	2,739,456	4,022,682
RAP	218,237	434,102	656,965	886,679	1,122,658	1,924,785	2,698,861
Cumulative Annual Energy (MW)							
MAP	70.5	147.0	229.8	319.7	416.9	854.4	1,327.3
RAP	61.7	124.8	190.7	259.3	330.3	622.8	898.4

4.3.3 Whole Building Potential

Table 4-8 below shows the business whole building potential for the MAP and RAP scenarios. The whole building MAP and RAP potential across the 11 building types reflects pie chart in Figure 4-15 with industrial, retail, and office buildings accounting for the greatest amount of MAP and RAP. Food sales, warehouse, health care, and education have the greatest savings as a percentage of sales in the RAP scenario, with savings in excess of 23% for each of these building types. Lodging, office, and assembly building types have the lowest savings as a percentage of sales in the RAP scenario, with savings at or below 13%.

TABLE 4-8: BUSINESS WHOLE BUILDING POTENTIAL – MAP AND RAP BY 2040

Building Type	Base Consumption (kWh)	MAP Potential	Percent of Sales	RAP Potential	Percent of Sales
Food Sales	214,107	34.0%	177,539	28.2%	214,107
Education	420,238	28.0%	365,943	24.4%	420,238
Food Service	344,191	26.8%	181,090	14.1%	344,191
Health Care	142,047	28.3%	125,530	25.0%	142,047
Lodging	249,838	23.6%	133,983	12.7%	249,838
Retail	704,215	31.3%	371,287	16.5%	704,215
Office	603,213	26.2%	314,749	13.7%	603,213
Assembly	292,357	24.0%	156,456	12.9%	292,357
Warehouse	224,099	29.5%	194,636	25.6%	224,099
Other	222,638	22.1%	116,361	11.5%	222,638
Industrial	605,740	17.8%	561,287	16.5%	605,740
Total	4,022,682	25.3%	2,698,861	17.0%	4,022,682

4.4 PROGRAM POTENTIAL

This section of the report provides an overview of the program potential. The cumulative annual savings are shown across the study timeframe, in aggregate as well as by program within each sector. The benefits and costs of program potential are also provided. The program potential scenarios are based off of the achievable potential scenarios and are referred to as PP MAP (based off of MAP) and PP RAP (based off of RAP).

4.4.1 Program Potential Savings

Figure 4-16 below illustrates the cumulative annual program potential by sector over the next five years as well as after 10 and 19 years. The stacked bar chart shows the contributions of the residential and business sectors to the total program potential for the PP MAP and PP RAP scenarios. The gray portion of each bar shows the gap between the program potential and achievable potential off of which the program potential scenario is based. This gap is created by estimated levels of free ridership in future programs which reduce the net-to-gross ratio to levels slightly below 100% and thereby reduce the program-level net savings estimates.

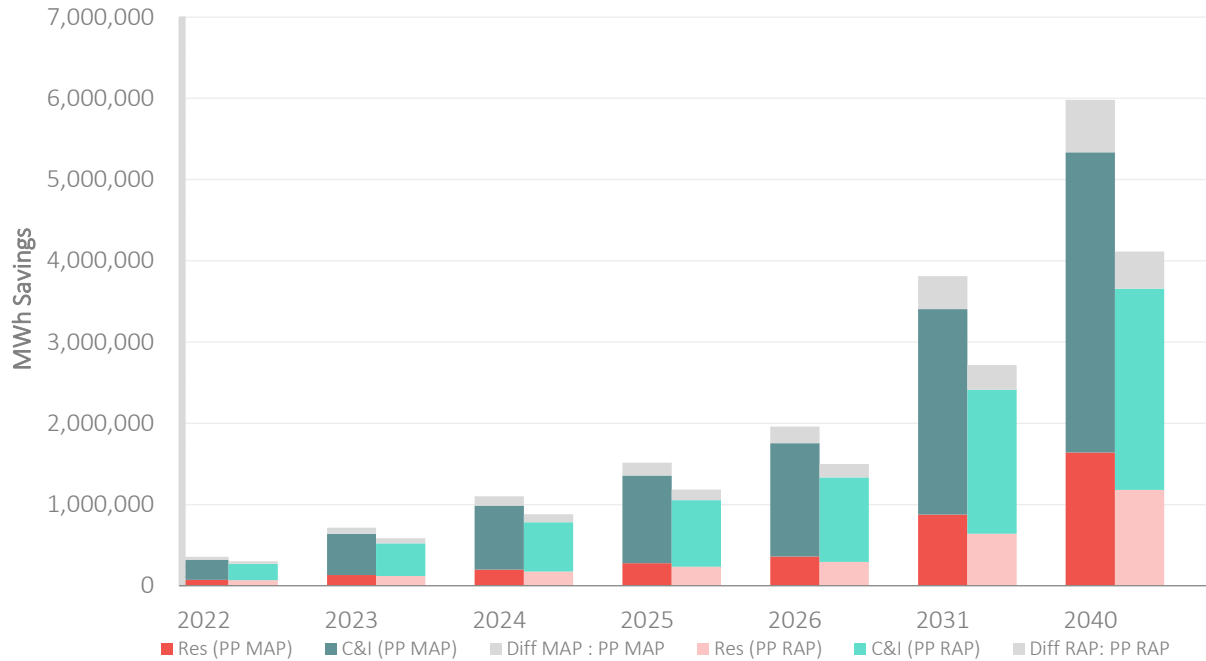


FIGURE 4-16: PROGRAM POTENTIAL BY SECTOR – PP MAP AND PP RAP

Figure 4-17 below illustrates the incremental annual energy savings in residential market-rate programs over the next five years as well as in 10 and 19 years. The HVAC program and the Home Energy Report program provide the greatest amount of savings, followed by measures that are not currently offered. The Efficient Products program provides the fourth greatest amount of savings and steadily increases to over 16,000 MWh over the course of the study timeframe.

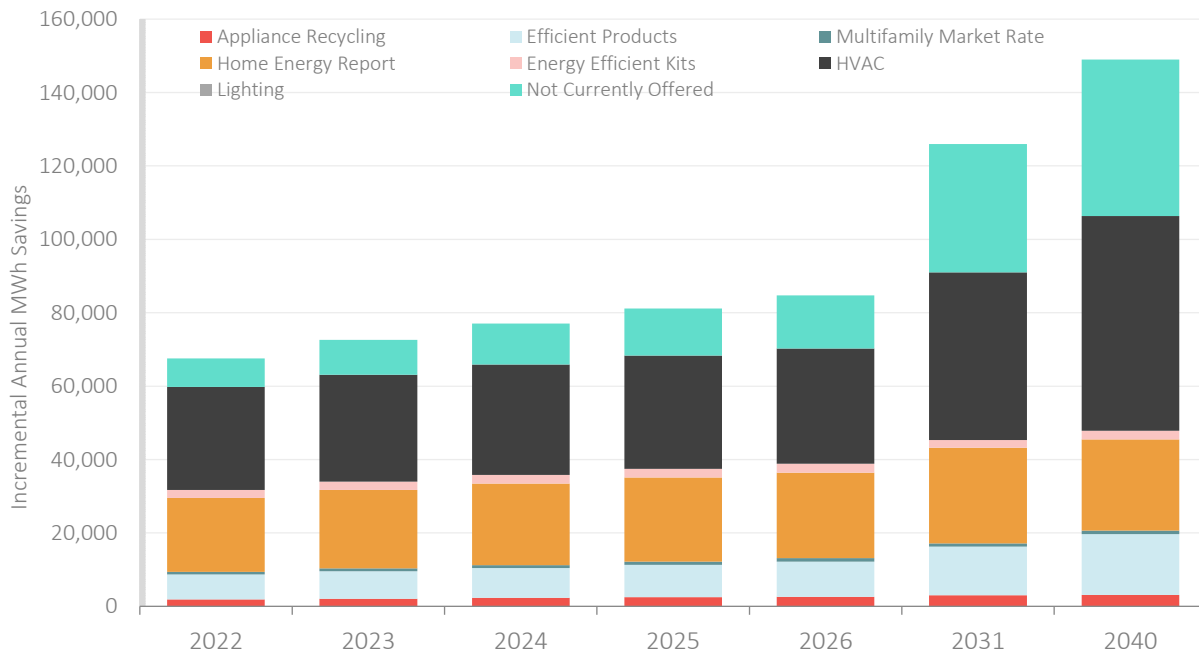


FIGURE 4-17: RESIDENTIAL MARKET-RATE PROGRAM POTENTIAL – PP RAP

Figure 4-18 below illustrates the incremental annual energy savings in business programs over the next five years as well as in 10 and 19 years. The Custom program and Standard program provide the greatest amount of savings. In early years of the timeframe the New Construction program and Small Business Direct Install (“SBDI”) programs contribute a smaller portion of savings.

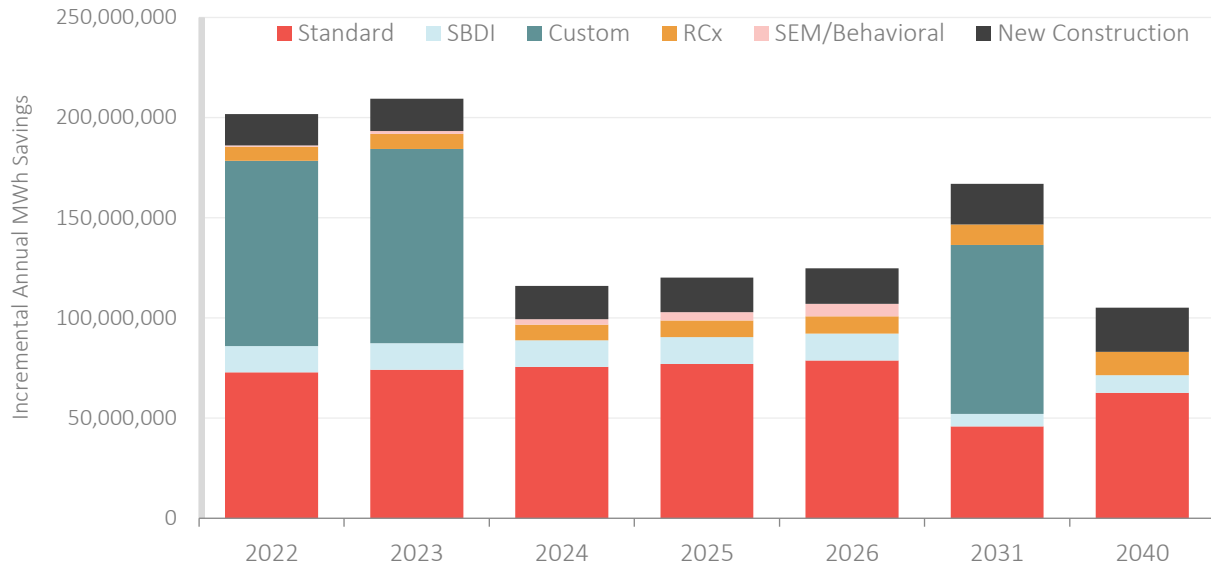


FIGURE 4-18: BUSINESS PROGRAM POTENTIAL BY SECTOR – PP RAP

4.4.2 Benefits/Costs of Program Potential

Figure 4-19 shows the annual program budgets in the residential market-rate sector for the program RAP scenario. The budgets are broken out by incentives and admin costs. Total residential market-rate budgets range from \$18 million in 2022 to more than \$52 million by 2040.

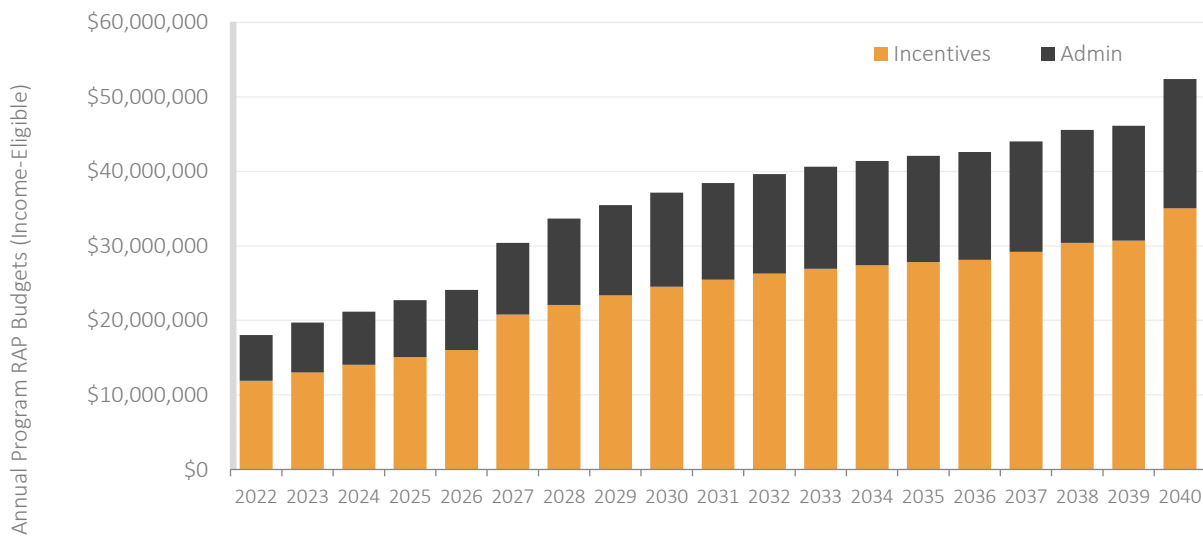


FIGURE 4-19: RESIDENTIAL MARKET-RATE PROGRAM POTENTIAL BUDGETS – INCENTIVES AND ADMIN

Figure 4-20 shows the annual program budgets in the business sector for the program RAP scenario. The budgets are broken out by incentives and admin costs. Total business sector budgets range from \$25 million in 2022 to nearly \$49 million by 2040.

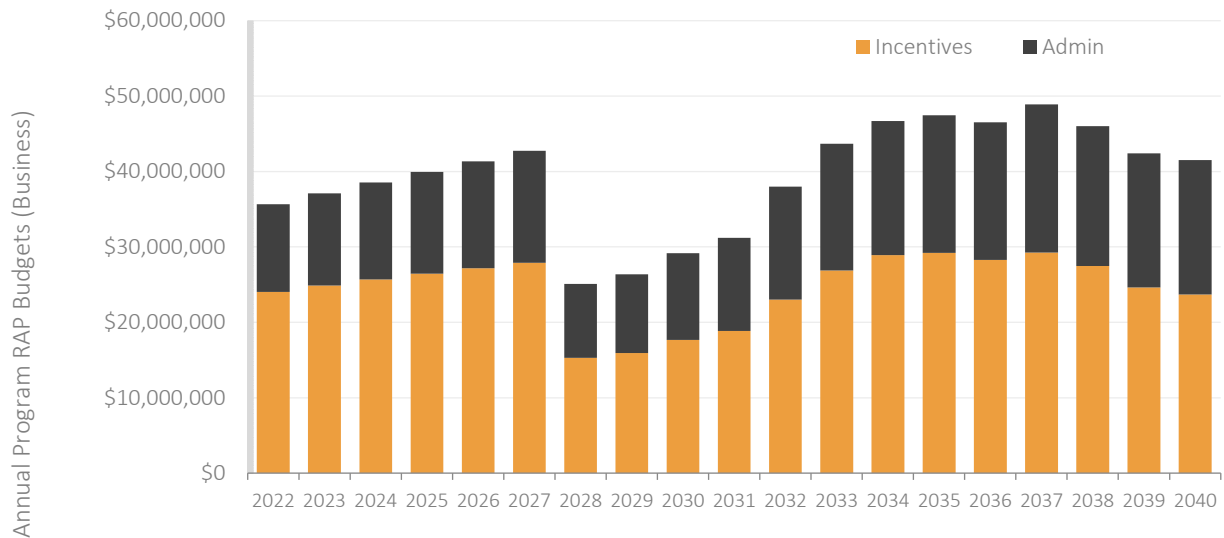


FIGURE 4-20: BUSINESS PROGRAM POTENTIAL BUDGETS – INCENTIVES AND ADMIN

Table 4-9 below provides the net-present-value (“NPV”) benefits and costs for each residential market-rate program across the study timeframe and in total across all programs according to the TRC test. The overall TRC ratio is 1.4, with an estimated total of more than \$265 million in net benefits. The HVAC program and measures that are not currently offered show the greatest amount of potential benefits, followed by the Efficient Products program.

TABLE 4-9: RESIDENTIAL MARKET-RATE PROGRAM RAP TRC NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	TRC Ratio	NPV Net Benefits
Appliance Recycling	\$16.5	\$11.6	1.4	\$4.9
Efficient Products	\$105.5	\$76.2	1.4	\$29.3
Energy Efficient Kits	\$24.3	\$5.9	4.1	\$18.3
Home Energy Report	\$31.7	\$27.6	1.1	\$4.1
HVAC	\$330.5	\$234.5	1.4	\$95.9
Multifamily Market Rate	\$11.6	\$6.0	1.9	\$5.6
Not Currently Offered	\$350.0	\$243.0	1.4	\$106.9
Total	\$870.0	\$604.8	1.4	\$265.2

Table 4-10 below provides the net-present-value (“NPV”) benefits and costs for each residential market-rate program across the study timeframe and in total across all programs according to the Utility Cost Test (“UCT”). The overall UCT ratio is 2.3, with an estimated total of more than \$490 million in net benefits.

TABLE 4-10: RESIDENTIAL MARKET-RATE PROGRAM RAP UCT NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	UCT Ratio	NPV Net Benefits
Appliance Recycling	\$16.5	\$6.6	2.5	\$10.0
Efficient Products	\$105.5	\$41.4	2.5	\$64.1
Energy Efficient Kits	\$24.3	\$4.5	5.4	\$19.8
Home Energy Report	\$31.7	\$27.6	1.1	\$4.1
HVAC	\$330.5	\$145.4	2.3	\$185.1
Multifamily Market Rate	\$11.6	\$2.6	4.5	\$9.0
Not Currently Offered	\$350.0	\$151.3	2.3	\$198.7
Total	\$870.0	\$379.3	2.3	\$490.7

Table 4-11 below provides the net-present-value (“NPV”) benefits and costs for each business program across the study timeframe and in total across all business programs. The overall TRC ratio is 1.7, with an estimated total of more than \$660 million in net benefits. The Custom and Standard programs show the greatest amount of potential benefits, and the Retrocommissioning program is the most cost-effective program. The Strategic Energy Management program fails the TRC test based on the marginal measure cost-effectiveness and inclusion of admin costs in the program-level screening.

TABLE 4-11: BUSINESS PROGRAM RAP TRC NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	TRC Ratio	NPV Net Benefits
Standard	\$445.3	\$273.0	1.6	\$172.3
Small Business Direct Install	\$74.7	\$37.6	2.0	\$37.1
Custom	\$857.4	\$526.5	1.6	\$330.9
Retrocommissioning	\$128.5	\$33.3	3.9	\$95.2
Strategic Energy Management	\$11.2	\$15.5	0.7	-\$4.3
New Construction	\$128.1	\$96.7	1.3	\$31.4
Total	\$1,645.1	\$982.5	1.7	\$662.6

Table 4-12 below provides the net-present-value (“NPV”) benefits and costs for each residential market-rate program across the study timeframe and in total across all programs according to the Utility Cost Test (“UCT”). The overall UCT ratio is 3.7, with an estimated total of more than \$1.2 billion in net benefits.

TABLE 4-12: BUSINESS PROGRAM RAP UCT NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	UCT Ratio	NPV Net Benefits
Standard	\$445.3	\$112.4	4.0	\$332.8
Small Business Direct Install	\$74.7	\$19.5	3.8	\$55.2
Custom	\$857.4	\$234.9	3.6	\$622.4
Retrocommissioning	\$128.5	\$28.4	4.5	\$100.1
Strategic Energy Management	\$11.2	\$15.5	0.7	-\$4.3
New Construction	\$128.1	\$38.5	3.3	\$89.6
Total	\$1,645.1	\$449.2	3.7	\$1,195.9

4.5 SENSITIVITIES

4.5.1 Sensitivities Overview

In addition to the development of a base case for Program RAP potential, sensitivity analyses were performed surrounding several key assumptions in the study. The GDS team, Ameren Missouri, and stakeholders discussed multiple candidates for the sensitivity analysis that could either analyze the impact of uncertainty concerning customer participation and/or cost-effectiveness.⁵⁵ The following eight were ultimately selected for the residential market-rate and/or business sector energy efficiency analysis:

Avoided Costs. Avoided costs are the primary benefit in assessing the cost-effectiveness of DSM measures. Higher avoided costs will likely result in additional measures passing the TRC cost-effectiveness screen, leading to greater savings potential; while lower avoided costs will decrease the cost-effectiveness of measures and lead to lower savings potential.

High Sensitivities: (1) Increase avoided energy and generation capacity costs by 30%; no change to avoided T&D costs, and (2) Increase avoided T&D costs by 200% ; no change to energy and capacity costs.

Low Sensitivities: (1) Decrease avoided energy and generation capacity costs by 50%; no change to avoided T&D costs, and (2) Reduce avoided T&D costs to \$0 from 2022-2031, then apply base case T&D costs in second decade; no change to energy and capacity costs.

Impacted Sectors: Residential market-rate / Business

Prolonged Economic Downturn. GDS held constant economic factors in the Ameren Missouri load forecast, resulting in a negative impact on future energy sales. Adoption rates were also reduced to reflect concern over financial barriers. Population, households, and income are held constant at 2019 levels for residential. GDP, employment, and other rate class outputs were held constant in the business sector.

High Sensitivity: n/a

Low Sensitivity: (1) Residential: 10% decrease to forecast by 2040; 10% decrease to adoption levels; (2) Commercial: 13% decrease to forecast by 2040; 13% decrease to adoption levels; (3) Industrial: 9% decrease to forecast by 2040; 9% decrease to adoption levels

Impacted Sectors: Residential market-rate / Business

Volatile Weather. Assessed impact of increasing Heating Degree Days and Cooling Degree Days, impacting measure savings and cost-effectiveness. GDS included a similar adjustment to heating and cooling load in the

⁵⁵ 4 CSR 240-22.050 (6)(C); 4 CSR 240-22.050 (6)(C)1; 4 CSR 240-22.050 (6)(C)2

sales forecast (i.e. as HDD/CDD increased, the heating and cooling portion of the sector loads was similarly increased).

High Sensitivity: Assumed heating and cooling degree days both increased by 25%.

Low Sensitivity: n/a

Impacted Sectors: Residential market-rate / Business

High Touch Marketing. Intended to explore strategy of increasing marketing/high-touch administration to improve program delivery and increase program participation.⁵⁶ The high-touch marketing scenario is applied to RAP and produces a result between the current RAP and MAP levels to provide an indication which strategy (increased incentives or increased marketing) is likely to have a larger impact on adoption.

High Sensitivity: Assume historical incentive levels but raises the program awareness threshold to the MAP level. Non-Incentive costs were estimated to be higher as well.

Low Sensitivity: n/a

Impacted Sectors: Residential market-rate / Business

Large Customer Opt-Outs. The base case excludes sales and savings from all eligible customers that currently opt-out of Ameren Missouri's energy efficiency programs. This sensitivity looks at the range of potential if no C&I customers were to opt-out, or if all eligible customers chose to opt-out.

High Sensitivity: Include currently opted-out customers in analysis of future potential.

Low Sensitivity: Exclude all eligible opt-out customers from analysis For purposes of estimating sales from all eligible customers opt-out, GDS used the existing opt-out customers and included sales from all additional customers in the 11M rate (that are not currently designated as an opt-out customer).

Impacted Sectors: Business Only

NTG Uncertainty (Attribution Case). The attribution sensitivity is relevant to Ameren in understanding the risk associated with changes in attribution that are outside the control of Ameren Missouri. In the case of DSM, attribution is the actual savings that are assigned to a program. One element in the transition from achievable potential to program potential includes the addition of the net-to-gross ratio assumed for each measure/program. The net-to-gross (NTG) ratio identifies the fraction of program participants who would not have purchased the energy efficient measures in the absence of a program. For the Program RAP reference case, the NTG ratios assigned to each measure/end-use/program were based on the latest evaluated DSM programs for MEEIA Cycle 2. However, changes to DSM measure mixes, costs, savings, program delivery methods, market forces, and other factors can significantly impact future NTG ratios.

High Sensitivity: 15% increase to current NTG ratios

Low Sensitivity: 30% decrease to current NTG ratios

Impacted Sectors: Residential market-rate / Business

Continued Residential LED Lighting Opportunities. The 2020 MPS base case views the future for residential lighting savings to be minimal, with only limited direct install opportunities in the early years of the study timeframe. This sensitivity reviews the impacts of delayed transformation of the residential lighting market given current political uncertainties.

High Sensitivity: Assume continued repeal of the EISA back-stop. Ameren Missouri pursues a continued upstream lighting program targeting sockets that do not currently have LED lighting.

Low Sensitivity: n/a

⁵⁶ 4 CSR 240-22.050 (1)(E)2

Impacted Sectors: Residential Market-Rate Only

Universal Time of Use Rate. Assess all customers are converted to a TOU Rate.⁵⁷ According to a 2017 ACEEE (Rate Design Matters), the annual energy savings associated with TOU rates is minimal (1.2%), and 2.1% across various rate design options. In a similar review of time-based rates by the Brattle Group in 2016, TOU rates impact on energy consumptions ranges from -1.0% to 1.3% (and estimated impacts were typically not significant).

High Sensitivity: Assume 1.2% impact on annual consumption across all households and small/medium businesses (after accounting for traditional EE impacts). TOU impacts are assumed to replace current behavioral offerings as a competing pathway.

Low Sensitivity: n/a

Impacted Sectors: Residential market-rate / Business

Improved Technology Savings/Costs. This sensitivity was included to assess the impact of improved technology savings and/or reduced technology costs.⁵⁸

High Sensitivity: Assume program participation focuses on higher tier technologies regardless of current market acceptance; assume a 34% decrease in emerging technology/high tier equipment costs and incentives over the study horizon.

Low Sensitivity: n/a

Impacted Sectors: Residential market-rate / Business

4.5.2 Sensitivity Results

Figure 4-21 shows the program RAP based on the results of the sensitivity analysis, with the residential market-rate results in orange and the business results in black. The Volatile Weather, High Touch Marketing, and Large-Customers Included sensitivities yield the highest program RAP increases, while the Economic Downturn, Large-Customers Excluded and NTG 30% Decrease sensitivities yield the greatest decreases in program RAP.

⁵⁷ 4 CSR 240-22.050 (1)(C)

⁵⁸ 4 CSR 240-22.050 (1)(E)1

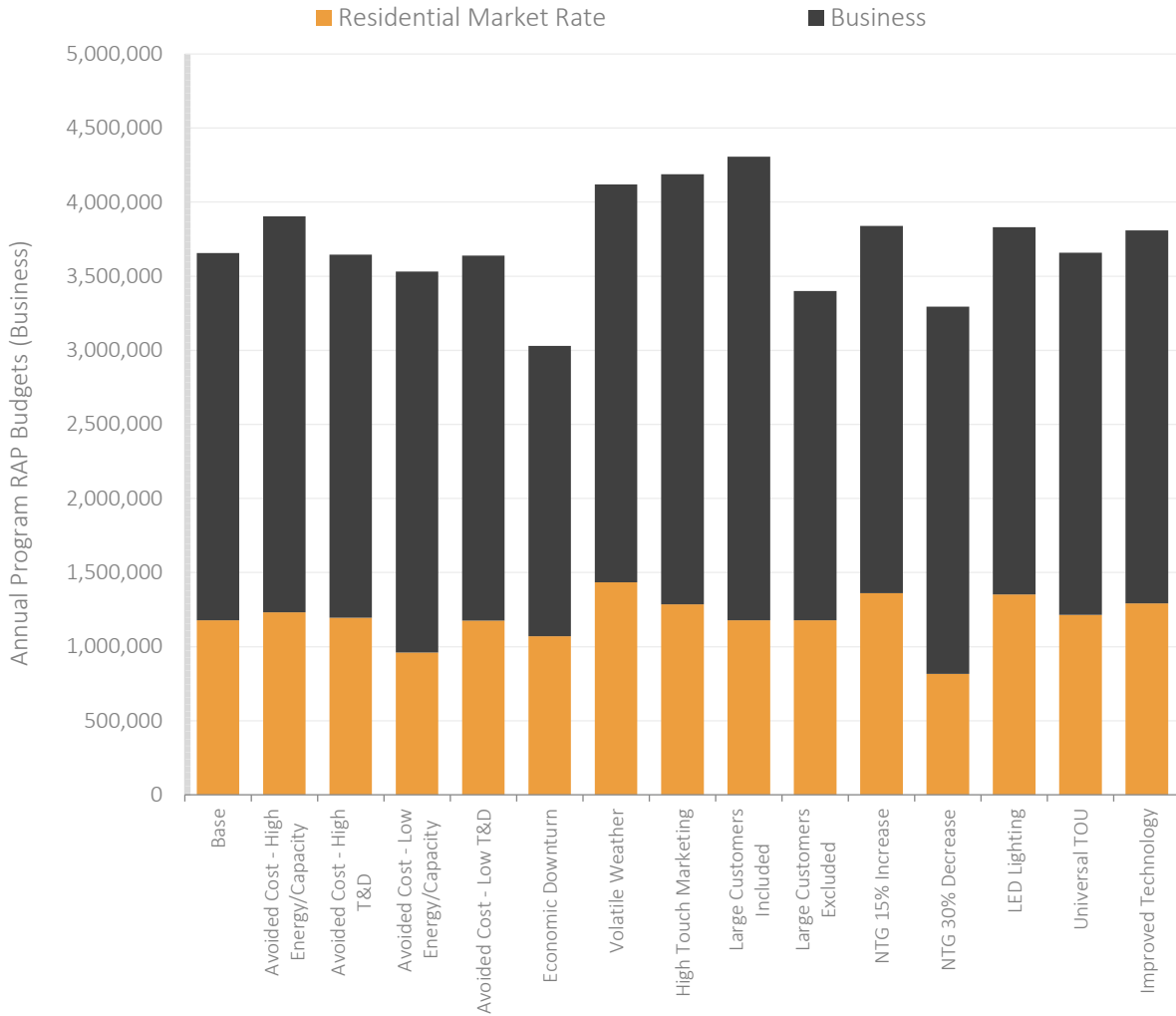


FIGURE 4-21: PROGRAM RAP – RESIDENTIAL MARKET-RATE AND BUSINESS SECTORS

Table 4-13 shows the NPV benefits and costs for the program RAP sensitivities. The sensitivity with high energy and capacity avoided costs has the highest TRC ratio of 1.80 and net benefits of close to \$1.5 billion. The NTG 30% decrease sensitivity yields the lowest TRC ratio of 1.07 and net benefits of just over \$110 million.

TABLE 4-13: SENSITIVITY PROGRAM RAP NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	TRC Ratio	NPV Net Benefits
Base	\$2,515.1	\$1,587.3	1.58	\$927.8
Avoided Cost - High Energy/Capacity	\$3,359.2	\$1,863.7	1.80	\$1,495.5
Avoided Cost - High T&D	\$2,817.7	\$1,618.0	1.74	\$1,199.7
Avoided Cost - Low Energy/Capacity	\$1,264.2	\$1,072.5	1.18	\$191.7
Avoided Cost - Low T&D	\$2,327.5	\$1,572.1	1.48	\$755.4
Economic Downturn	\$2,210.0	\$1,394.5	1.58	\$815.5
Volatile Weather	\$2,928.8	\$1,741.9	1.68	\$1,187.0
High Touch Marketing	\$2,873.7	\$1,876.0	1.53	\$997.8

Program	NPV Benefits	NPV Costs	TRC Ratio	NPV Net Benefits
Large Customers Included	\$2,951.7	\$1,820.5	1.62	\$1,131.2
Large Customers Excluded	\$2,359.3	\$1,498.1	1.57	\$861.2
NTG 15% Increase	\$2,897.4	\$1,558.7	1.86	\$1,338.7
NTG 30% Decrease	\$1,751.9	\$1,640.1	1.07	\$111.8
LED Lighting	\$2,630.0	\$1,625.6	1.62	\$1,004.4
Universal TOU	\$2,541.5	\$1,551.0	1.64	\$990.5
Improved Technology	\$2,577.7	\$1,785.6	1.44	\$792.1

INCOME-ELIGIBLE EFFICIENCY POTENTIAL ANALYSIS

5.1 ANALYSIS APPROACH⁵⁹

This section reviews some key methodological distinctions and differences in assessing the electric energy efficiency potential for income-eligible customers in the Ameren Missouri service area relative to the methodology discussed previously in Chapter 4.⁶⁰

5.1.1 Overview of Approach

The income-eligible analysis generally follows a similar approach to that of the residential market-rate and business sector potential. The residential sector utilizes a bottom-up approach to the modeling of energy efficiency potential, whereby measure-level estimates of costs, savings, and useful lives were used as the basis for developing future energy efficiency potential. One key difference, relative to residential-market rate potential, is that income-eligible specific measures do not have to screen as cost-effective using the TRC Test, and the approach for quantifying achievable potential is unique to the income-eligible sector.

The income-eligible efficiency potential analysis also includes an assessment of potential from tax-exempt customers (with a corresponding SIC code) under small general service whose primary responsibility includes providing social services to the public.

5.1.2 Market Characterization

Consistent with the market-rate analysis, the income-eligible market characterization disaggregates residential income-eligible customers by housing type and between existing and new construction, and across the same end-uses identified in Section 4.1.2. Estimates of income-eligible population size, typical household size, average annual kWh consumption all came from the primary market research conducted in 2019 by ODC to inform the 2020 MPS as well as 2018 customer billing data provided by Ameren Missouri. In addition, the primary market research provided detailed equipment penetration, saturation, and efficiency characteristics that were representative of the income-eligible residential single family and multifamily population in the Ameren Missouri service area. Table 2-4 in Section 2 provides a snapshot of key differences across building type and income type.

For business sector, roughly 1% of the sales were determined to represent business non-profit customers based on SIC codes provided in the Ameren Missouri business sector database. Based on a brief review of the information contained within this data, the GDS Team estimated that most non-profit facilities would closely map to, and have an end-use sales distribution similar to, “office” buildings.

5.1.3 Measure Characterization

5.1.3.1 Measure Lists

The measure list for the residential income-eligible potential analysis closely mirrored the measures included in the market-rate analysis. A similar measure list was a deliberate choice to ensure a thorough review of remaining potential that was not limited only to existing offerings to income-eligible customers and current program designs.⁶¹ Minor differences included slightly fewer emerging technologies on the income-eligible list.

⁵⁹ 4 CSR 240-22.050 (3)(I)

⁶⁰ Income-eligible was defined by household size and 80% of area median income.

⁶¹ 4 CSR 240-22.050 (3)(A)

5.1.3.2 Assumptions & Sources

Consistent with the market-rate analysis, GDS utilized data specific to Ameren Missouri when possible to develop modeling input assumptions associated with measure energy and demand savings, useful life, and measure cost. The Ameren Missouri Submittal Tool and recent evaluation findings were leveraged to the extent feasible; additional data sources were only used if these first two sources either did not address a certain measure or contained outdated information. Following the collection of primary market research, select fields in the Ameren Missouri Submittal Tool were updated to incorporate the latest findings.

Residential efficiency measures in this study that are currently offered to customers via Ameren Missouri's existing income-eligible portfolio were characterized as direct-install measures in the potential analysis and assumed that Ameren Missouri would provide incentives roughly equal to 100% of the total measure cost. All other measures included in the income-eligible potential analysis were characterized similar to the residential market-rate analysis, assuming a more traditional rebate-based delivery approach that typically only covers a portion of the incremental measure cost.

For non-profit buildings, eligible measures were characterized based on inputs found in the Ameren Missouri submittal tool and the Business Social Services Program, typically noting higher incentives than those in the Standard Business Program.

All measure savings, costs, and useful life assumption sources are documented in Appendix E.

5.1.4 Technical, Economic, and Achievable Potential

The primary difference between the market-rate potential analysis and the income-eligible efficiency potential analysis centers around the type and definitions of energy efficiency potential.

The definition of technical potential in the income-eligible sector, or the theoretical maximum amount of energy use that could be displaced by efficiency, disregarding all non-engineering constraints such as cost-effectiveness and the willingness of end users to adopt the efficiency measures, is broadly consistent with the market rate analysis. However, significant differences can be found in the characterization of economic, achievable, and program potential.

For economic potential, the calculation of measure benefit and costs mirrored the residential-market sector. However, any measure that was offered via Ameren Missouri's income-eligible program was not required to have a TRC benefit-cost ratio greater than 1.0 (i.e. net benefits are greater than costs).⁶²

The definitions and parameters surrounding "achievable" potential were also different between the market-rate and income-eligible analysis. In the market-rate analysis, achievable potential was defined as either (1) maximum achievable potential, where the incentive was representative of 100% of the incremental measure cost and optimal program awareness or (2) realistic achievable potential, where incentives and program awareness were aligned with current program levels. For the income-eligible sector, achievable potential was defined according to the following two scenarios:

- **Scenario 1**, as noted above, assumes residential efficiency measures that are currently offered to customers via Ameren Missouri's existing income-eligible programs were characterized as direct-install measures in the potential analysis and assumed that Ameren Missouri would provide incentives roughly equal to 100% of the total measure cost. All other measures included in the income-eligible potential analysis were characterized similar to the residential market-rate analysis, assuming a more traditional rebate-based delivery approach that typically only covers a portion of the incremental measure cost.

⁶² 4 CSR 240-22.050 (5)(D)

- **Scenario 2** assumes that all included energy efficiency measures are offered under the Ameren Missouri’s income-eligible program designation, and all measures are characterized as direct install with Ameren Missouri providing efficiency upgrade opportunities at no cost to the income-eligible customer.

These two scenarios are used to compare and contrast the total achievable potential and total costs, under two different delivery or program design channels. These scenarios are fundamentally different in terms of the incentive levels, program delivery strategy, expected program awareness and measure adoption rates. These scenarios help assess the tradeoffs between delivery method, against three sensitivities or target criteria for energy burden, energy mitigation targets, and a marginal cost supply curve. These sensitivities are described in greater detail in Section 5.4 below.

5.1.4.1 Market Adoption Rates

The income-eligible efficiency potential analysis also makes a related subtle, but important distinction in the application of the market adoption rates relative to the market-rate analysis.

In Scenario #1, the market adoption rates employed in the income-eligible potential analysis, were developed consistent with the approach described in Section 4.1.7.1 of the market-rate analysis but utilized final adoption scores from the primary market research that were based on responses from income-eligible respondents only. Table 5-1 is a copy of the information found previously in Table 2-10. Whereas a building shell/insulation improvement with an incentive equal to 50% of the measure cost assumed a long-term adoption rate of 37% in the market-rate analysis, the same measure would have received a 44% long-term adoption score in Scenario 1 of the income-eligible analysis (assuming the measure is currently offered under Ameren Missouri’s existing income-eligible program) or only 23% (if the measure was only offered with a 50% incentive level under a traditional rebate program).

TABLE 5-1: HOMEOWNER/TENANT FINAL ADOPTION SCORES BY INCENTIVE LEVEL

Homeowners / Tenants	Annual Incentive				
	0%	25%	50%	75%	100%
HVAC	26%	38%	46%	53%	59%
Water Heat	6%	11%	17%	21%	25%
Insulation	10%	22%	33%	43%	55%
Appliances	23%	30%	38%	44%	51%
Market Rate	0%	25%	50%	75%	100%
HVAC	31%	44%	53%	59%	64%
Water Heat	6%	12%	16%	21%	24%
Insulation	12%	26%	37%	48%	59%
Appliances	26%	33%	40%	46%	52%
Income-Eligible	0%	25%	50%	75%	100%
HVAC	17%	25%	33%	42%	50%
Water Heat	4%	10%	16%	22%	28%
Insulation	4%	13%	23%	32%	44%
Appliances	16%	25%	33%	40%	48%

As noted earlier for Scenario #2, all measures were assumed to be offered under the income-eligible program umbrella, with Ameren Missouri funding 100% of the measure cost. Scenario #2 also assumes the program awareness under these conditions would improve considerably, lifting current program awareness in the income-eligible sector to 85% of all customers.⁶³

All other aspect of assigning market adoption trends, including the initial-year calibration and measure curve assignment mirrored the market-rate analysis.

⁶³ Compared to a program awareness of 73% in the market-rate sector and an assumption that incentives cover 100% of the incremental cost, not full measure cost.

5.1.4.2 Program Costs

As noted throughout this Chapter, program costs are expectedly higher in the income-eligible assessment as incentives are assumed to cover 100% of total measure cost for many measures (in Scenario #1) or all measures (in Scenario #2). In addition, incentive levels in the business non-profit sector, are also assumed to be higher than market-rate programs, based on a review of incentives offered in Ameren Missouri's existing Business Social Services program.

Program non-incentive costs were also assumed to be higher in the income-eligible analysis, with an assumed cost per first-year kWh saved nearly \$0.25/kWh, relative to only \$0.087/kWh (on average), for the remainder of the Ameren Missouri residential portfolio.

5.1.5 Program Potential

Program potential includes the allocation and bundling of individual measures into specific program concepts to support Ameren Missouri's program planning process. All cost-effective measures across all end-uses were bundled into programs based on a mapping to existing Ameren Missouri programs or new programs, if necessary.⁶⁴

Program potential is distinguished from achievable potential in that the achievable potential is representative of gross potential whereas program potential is reflective of net savings. In Scenario #1, measures that mapped directly to Ameren Missouri's existing income-eligible offerings received a NTG determination of 1.0, based on Ameren Missouri's 2018 evaluation findings for the Community Savers program. All other measures were mapped to the remaining residential program offerings and NTG ratios found in Table 5-2.

TABLE 5-2: RESIDENTIAL NET-TO-GROSS ASSIGNMENTS

Residential Program	NTG Ratio
Appliance Recycling	77%
Efficient Products	73%
Multifamily Market Rate	100%
Home Energy Reports	100%
Energy Efficient Kits	65%
HVAC	73%
Lighting	88%
Income Eligible	100%
Not Currently Offered	89%

Conversely, in Scenario #2, all measures were assumed to have a NTG ratio of 1.0. As a result, Scenario #2 achievable and program potential are equivalent.

5.1.6 Whole Building Potential

The assessment of whole building potential in the income-eligible sector was completed according to the methodology described in Section 4.1.9. The only differences are due to the characteristics in the income-eligible housing stock relative to the market-rate housing stock such as electric heating and water heating saturations, average home size

⁶⁴ 4 CSR 240-22.050 (1)(B)

and associated per home baseline energy consumption. The market research didn't yield cross-tabulations to identify an estimate of the number of homes in each of the whole building combinations assessed in the study. The research provided estimates of the individual components (e.g. homes with an electric furnace, homes with electric heat, building shell efficiency, etc.). To develop population estimates by building category we treated the proportions of each estimate as independent variables and multiplied the proportions in sequence by the number of homes to develop an estimate of the applicable market size for each whole building type. In other words we don't have market research to specify, for example, the quantity of homes with \$10,000 incomes that have poor insulation and electric furnace heating, but we can use the proportion estimates of each of these data points to approximate the market size for these building/household types and identify the savings impact that the potential could have on homes of this type.

5.2 INCOME-ELIGIBLE ENERGY EFFICIENCY POTENTIAL

Figure 5-1 provides the technical, economic, and Scenario 1 and Scenario 2 results for the 3-year, 10-year, and 19-year timeframes. The 3-year technical potential is 15% of forecasted sales, and the economic potential is 11% of forecasted sales. The 3-year Scenario 1 potential is 2.0% and the Scenario 2 potential is 2.9%, as a percentage of forecasted sales. Over the duration of the study timeframe the technical and economic potential rise to 50% and 41% of forecasted sales, respectively. This indicates that a large portion of the technical potential is cost-effective. The Scenario 1 and Scenario 2 potential rise respectively to 18% and 30% of forecasted sales over the study timeframe.

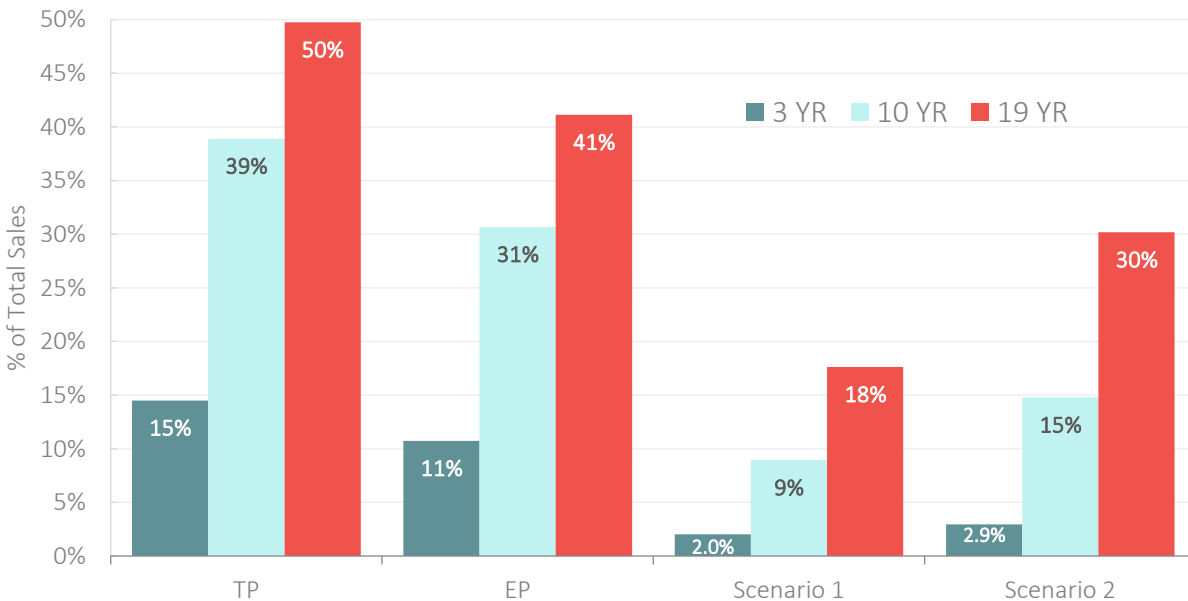


FIGURE 5-1: OVERVIEW OF INCOME-ELIGIBLE POTENTIAL

5.2.1 Technical/Economic Potential

Table 5-3 provides cumulative annual technical and economic potential results across the 2022-2026 (Years 1-5) timeframe, as well as for 2031 (10th-year) and 2040 (19th-year). The technical potential is more than 660,000 MWh by 2024 and rises to more than 2.3 million MWh by 2040. Economic potential rises to more than 1.9 million MWh by 2040 as well. Peak demand savings associated with technical potential reach nearly 170 MW by 2024 and reach more than 570 MW by 2040, and peak demand savings associated with economic potential reach more than 480 MW by 2040.

TABLE 5-3 TECHNICAL & ECONOMIC INCOME-ELIGIBLE POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Energy (MWh)							
Technical	239,832	454,745	661,915	861,412	1,053,297	1,803,861	2,380,912
Economic	175,200	334,700	489,806	640,596	786,779	1,422,212	1,968,524
Peak Demand (MW)							
Technical	64	118	169	218	264	435	577
Economic	47	87	126	163	199	345	481

Figure 5-2 shows a comparison of the technical and economic potential (3-year) by residential end use. HVAC Equipment is by far the leading end-use among technical and economic potential, followed by Building Shell. Appliances and Water Heating also provide a significant amount of technical potential. Lighting provides a small amount of potential as this end-use is transformed by changes in the market.

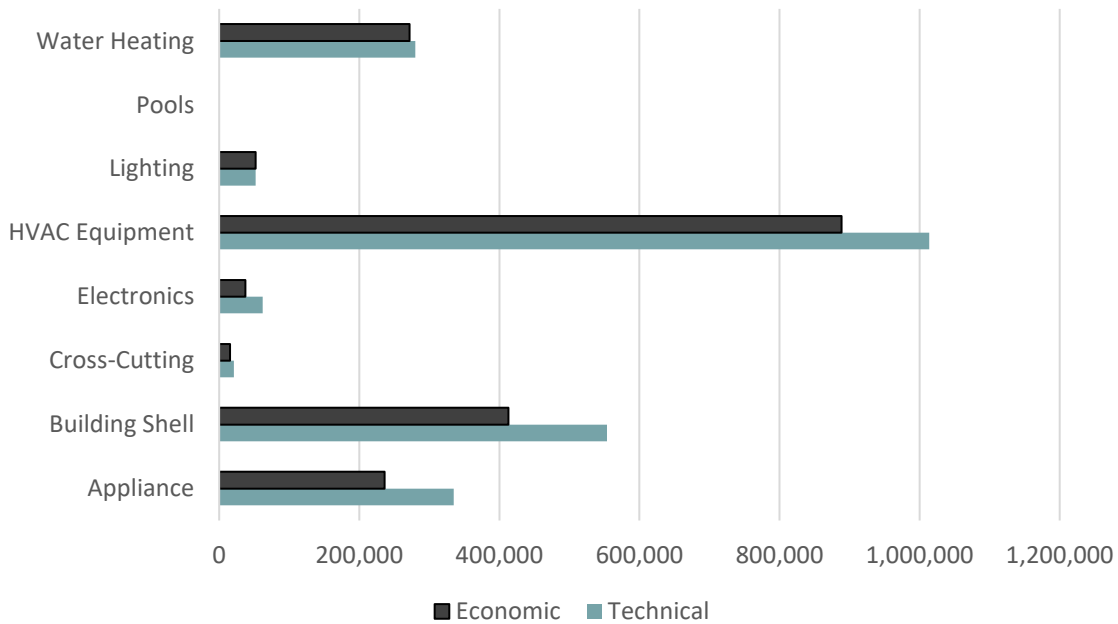


FIGURE 5-2: 19-YR RESIDENTIAL INCOME-ELIGIBLE TECHNICAL & ECONOMIC POTENTIAL, BY END-USE

5.2.2 Achievable Potential

Figure 5-3 provides the Scenario 1 and Scenario 2 potential across the 19-yr timeframe of the study. The green and orange bars provide the respective incremental annual Scenario 1 and Scenario 2 in MWh per year energy savings. The green and red lines provide the corresponding cumulative annual Scenario 1 and Scenario 2 as a percent of forecasted annual sales. The Scenario 1 rises to 18% by 2040 and the Scenario 2 rises to 30%.

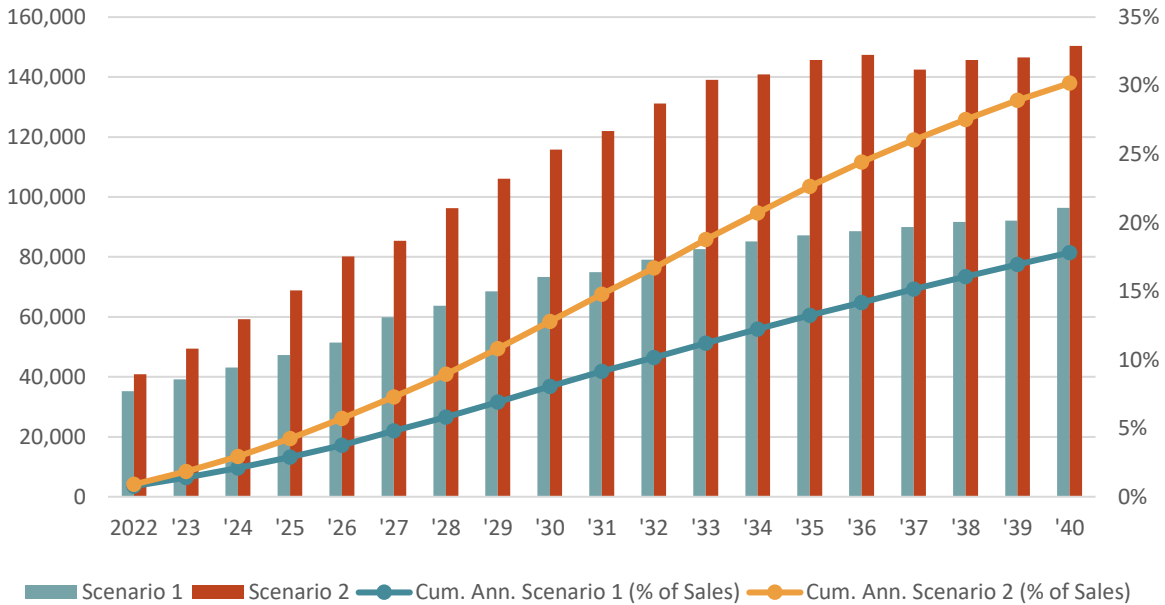


FIGURE 5-3: OVERVIEW OF INCOME-ELIGIBLE POTENTIAL – SCENARIO 1 AND SCENARIO 2 2040

Figure 5-4 provides a breakdown of the Scenario 1 potential in 2040 across residential end-uses and building type market segments. As in technical and economic potential, the HVAC Equipment is by far the leading end-use accounting for 44% of the total and Building Shell accounts for an additional 26%. Appliances and Water Heating account for 9% and 11%, respectively. Lighting accounts for 6%, and Electronics and Cross-Cutting measures each account for 2%. The single-family income-eligible housing sector represents 62% of the potential, the multifamily income-eligible sector represents 34%, and new construction accounts for the remaining 4% of potential by housing type in 2040.

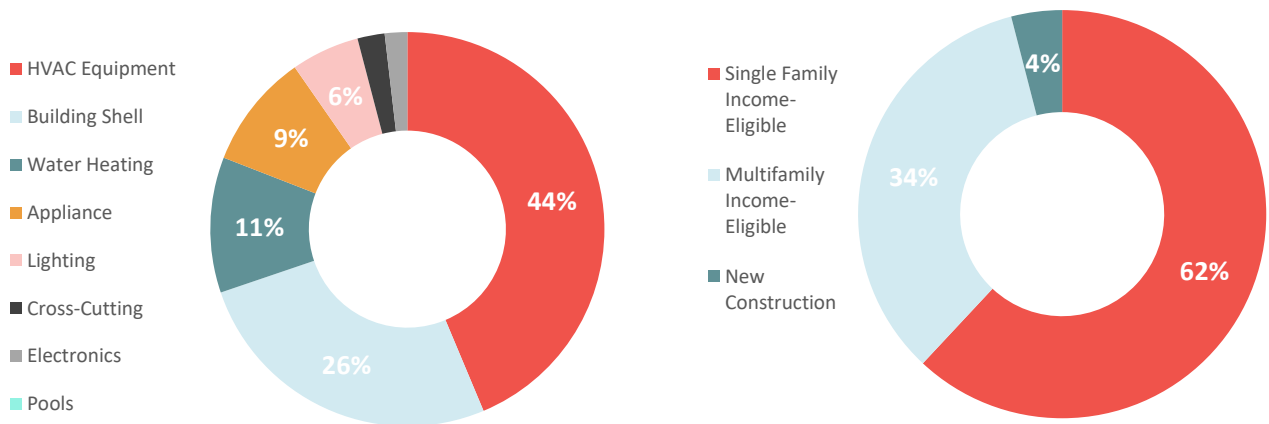


FIGURE 5-4: INCOME-ELIGIBLE POTENTIAL BY END-USE AND BUILDING TYPE – SCENARIO 1 BY 2040

Table 5-4 provides incremental and cumulative annual energy and demand savings for Scenario 1 and Scenario 2 across the next five years as well as over the 10-yr and 19-yr time horizons. Incremental Scenario 1 energy savings range from 34,000 MWh in 2022 to more than 95,000 MWh by 2040, and cumulative Scenario 1 energy savings rise to more than 840,000 MWh by 2040.

TABLE 5-4 INCOME-ELIGIBLE SCENARIO 1 AND SCENARIO 2 POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Incremental Annual Energy (MWh)							
Scenario 1	34,031	37,718	42,093	45,742	50,900	73,824	95,074
Scenario 2	40,881	49,437	59,221	68,845	80,127	122,032	150,383
Incremental Annual Energy (MW)							
Scenario 1	12.3	13.4	14.8	15.8	17.6	24.2	28.1
Scenario 2	13.0	15.6	18.7	21.6	25.2	36.4	42.6
Cumulative Annual Energy (MWh)							
Scenario 1	34,031	61,095	92,088	126,541	166,075	414,316	843,401
Scenario 2	40,881	83,710	134,504	193,197	261,388	685,260	1,444,067
Cumulative Annual Energy (MW)							
Scenario 1	12.3	20.7	30.3	40.8	53.0	123.6	238.0
Scenario 2	13.0	25.6	40.3	57.0	76.6	189.4	387.3

5.2.3 Whole Building Potential

Figure 5-5 below shows a box and whisker plot of the residential income-eligible whole building potential for the Scenario 1 and Scenario 2 scenarios. The 48 existing home types are grouped into six categories based on housing type (single-family and multifamily) and heating/cooling type (electric furnace/central AC, heat pump, gas furnace/central AC). Homes with electric furnace/central AC have the highest estimated baseline consumption and have the greatest change in consumption in the Post-Scenario 1 and Post-Scenario 2 cases. Homes with heat pumps have the second most amount of potential on a per home basis, followed by homes with gas furnaces/central AC. The variation in base consumption and the effects of the Scenario 1 and Scenario 2 potential as shown by the box and whisker plot are associated with different water heating types and assumed building shell efficiencies. Homes with electric water heating and poor building shell efficiency have greater baseline consumption and therefore more opportunity for savings than homes with either non-electric water heating and/or efficient building shell conditions.

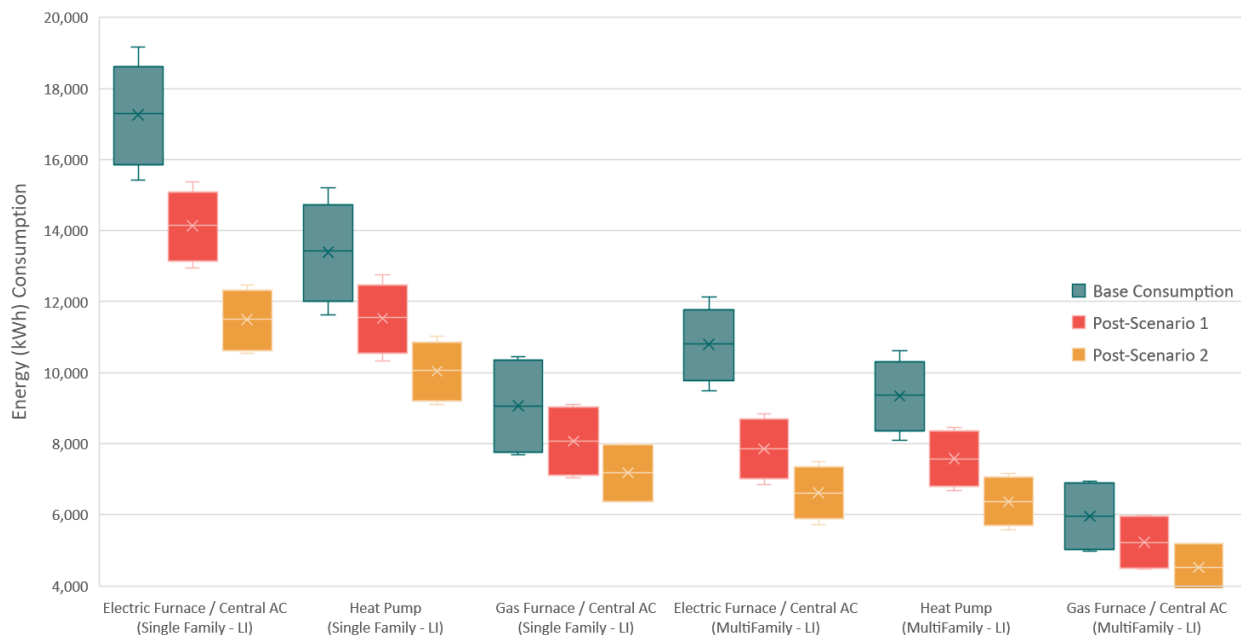


FIGURE 5-5: INCOME-ELIGIBLE WHOLE BUILDING POTENTIAL – SCENARIO 1 AND 2 BY 2040

5.3 PROGRAM POTENTIAL

This section of the report provides an overview of the income-eligible program potential. The cumulative annual savings are shown across the study timeframe, in aggregate as well as by program. The benefits and costs of are also provided. The program potential is based off of Scenario 1 and Scenario 2. Scenario 1 includes the income-eligible program component as well as the contribution of income-eligible customers to the traditional residential programs, whereas all of Scenario 2 is considered to be part of an income-eligible program.

5.3.1 Program Potential Income-Eligible Savings

Figure 5-6 below illustrates the Scenario 1 incremental annual energy savings in income-eligible programs over the next five years as well as in 10 years and 19 years. The SF Income Eligible and MF Income Eligible programs and the Home Energy Report program provide the greatest amount of savings, followed by measures that are not currently offered. The Income-Eligible programs account for between 52% and 64% of the program potential in the income-eligible sector, with the balance of the potential associated with traditional residential programs or measures that are not currently offered. A smaller portion of savings are associated with Business Social Services as well.

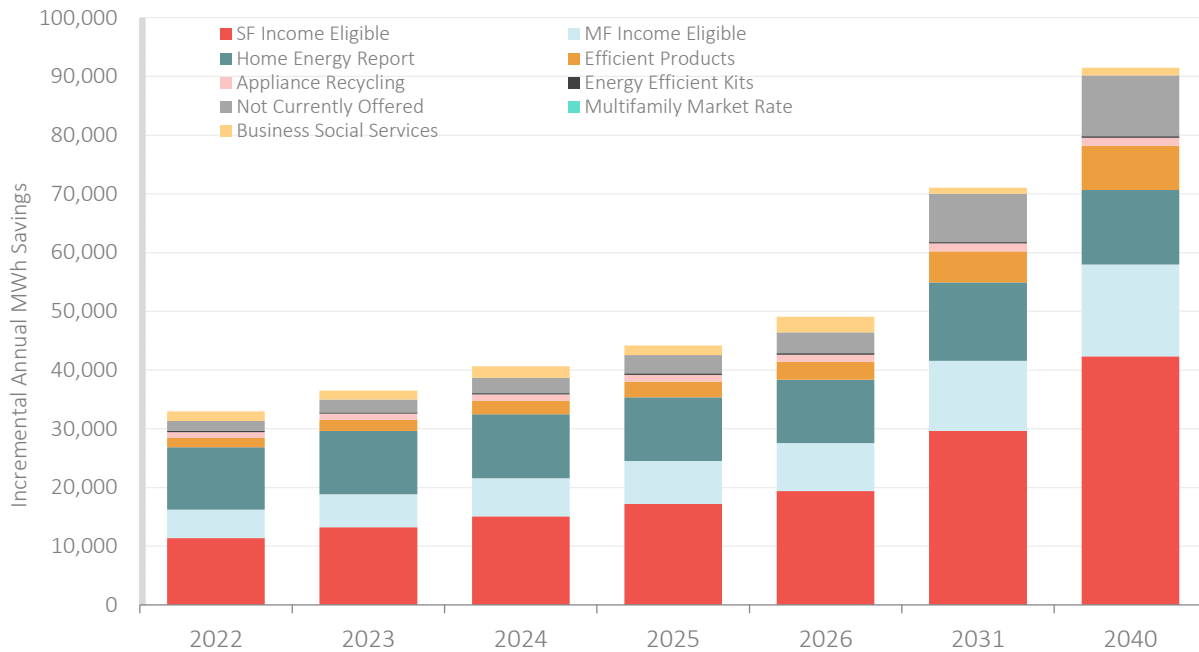


FIGURE 5-6: RESIDENTIAL INCOME-ELIGIBLE PROGRAM POTENTIAL – SCENARIO 1

Figure 5-8 below illustrates the Scenario 2 incremental annual energy savings in income-eligible programs over the next five years as well as in 10 years and 19 years. The incremental annual savings rise to nearly 149,000 MWh by 2040.

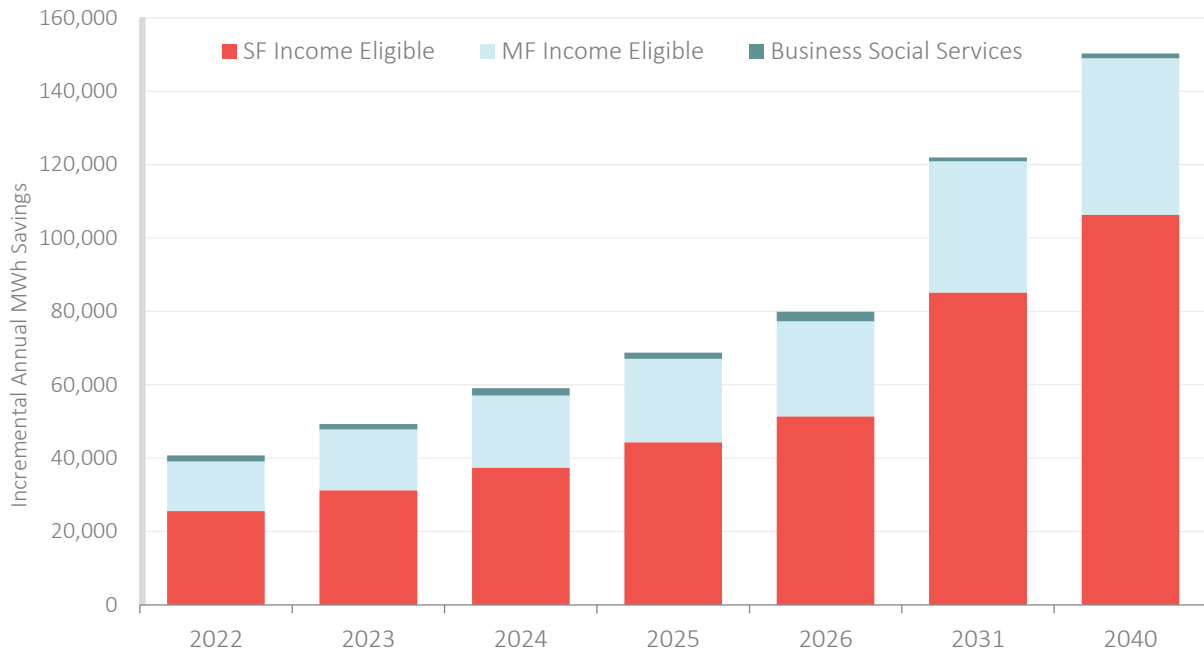


FIGURE 5-7: RESIDENTIAL INCOME-ELIGIBLE PROGRAM POTENTIAL – SCENARIO 2

5.3.2 Benefits/Costs of Achievable Potential

Figure 5-8 shows the annual program budgets in the income-eligible sector for Scenario 1. The budgets are broken out by incentives and admin costs. Total income-eligible budgets range from \$16 million in 2022 to more than \$68 million by 2040.

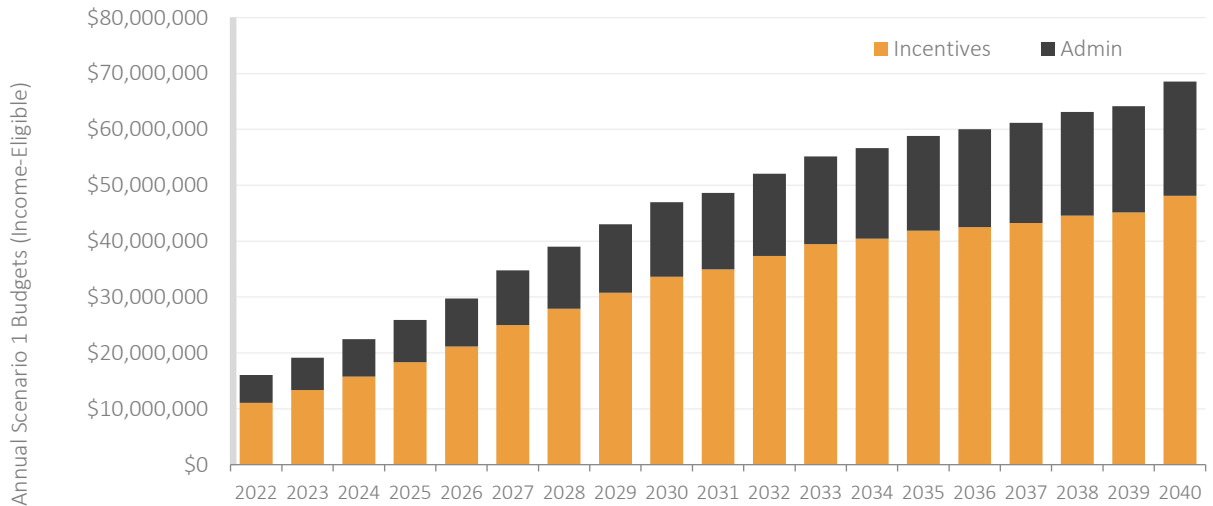


FIGURE 5-8: INCOME-ELIGIBLE SCENARIO 1 PROGRAM POTENTIAL BUDGETS – INCENTIVES AND ADMIN

Figure 5-9 shows the annual program budgets in the income-eligible sector for Scenario 2. The budgets are broken out by incentives and admin costs. Total income-eligible budgets range from \$55 million in 2022 to more than \$263 million by 2040.

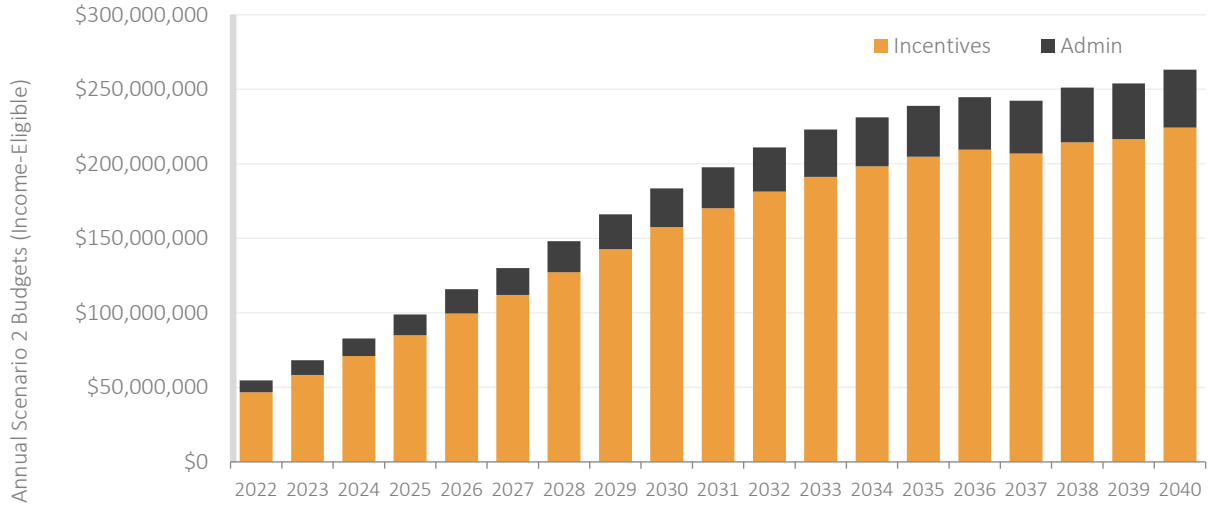


FIGURE 5-9: INCOME-ELIGIBLE SCENARIO 2 PROGRAM POTENTIAL BUDGETS – INCENTIVES AND ADMIN

Table 5-5 below provides the net-present-value (“NPV”) benefits and costs (according to the TRC test) of Scenario 1 income-eligible residential program potential, with contributions from income-eligible and market-rate programs across the study timeframe. The overall TRC ratio is 1.2, with an estimated total of more than \$76 million in net benefits.

TABLE 5-5: RESIDENTIAL INCOME-ELIGIBLE SCENARIO 1 PROGRAM POTENTIAL TRC NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	TRC Ratio	NPV Net Benefits
SF Income Eligible	\$274.8	\$260.5	1.1	\$14.3
MF Income Eligible	\$133.2	\$128.4	1.0	\$4.8
Home Energy Report	\$16.0	\$14.4	1.1	\$1.6
Efficient Products	\$33.8	\$27.5	1.2	\$6.3
Appliance Recycling	\$7.6	\$5.2	1.4	\$2.3
Energy Efficient Kits	\$1.5	\$0.4	3.4	\$1.1
Not Currently Offered	\$101.1	\$67.8	1.5	\$33.2
Multifamily Market Rate	\$0.0	\$0.0	0.0	\$0.0
Business Social Services	\$20.7	\$7.6	2.7	\$13.2
Total	\$588.6	\$511.8	1.2	\$76.8

Table 5-6 below provides the net-present-value (“NPV”) benefits and costs (according to the UCT) of Scenario 1 income-eligible residential program potential, with contributions from income-eligible and market-rate programs across the study timeframe. The overall UCT ratio is 1.2, with an estimated total of more than \$116 million in net benefits.

TABLE 5-6: RESIDENTIAL INCOME-ELIGIBLE SCENARIO 1 PROGRAM POTENTIAL UCT NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	UCT Ratio	NPV Net Benefits
SF Income Eligible	\$274.8	\$260.5	1.1	\$14.3
MF Income Eligible	\$133.2	\$128.2	1.0	\$5.0
Home Energy Report	\$16.0	\$14.4	1.1	\$1.6
Efficient Products	\$33.8	\$17.6	1.9	\$16.1
Appliance Recycling	\$7.6	\$3.0	2.5	\$4.6
Energy Efficient Kits	\$1.5	\$0.3	4.5	\$1.2
Not Currently Offered	\$101.1	\$44.2	2.3	\$56.9
Multifamily Market Rate	\$0.0	\$0.0	0.0	\$0.0
Business Social Services	\$20.7	\$3.6	5.8	\$17.2
Total	\$588.6	\$471.8	1.2	\$116.8

Table 5-7 below provides the net-present-value (“NPV”) benefits and costs (according to the TRC test) of Scenario 2 income-eligible residential program potential. For Scenario 2, all program potential is assumed to be associated with an income-eligible program. The overall TRC ratio is 0.6. The magnitude of the incentives in Scenario 2 causes the TRC ratio to fall below 1.0.

TABLE 5-7: RESIDENTIAL INCOME-ELIGIBLE SCENARIO 2 PROGRAM POTENTIAL TRC NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	TRC Ratio	NPV Net Benefits
SF Income Eligible	\$717.1	\$1,291.9	0.6	-\$574.8
MF Income Eligible	\$352.0	\$549.3	0.6	-\$197.2
Business Social Services	\$20.7	\$7.6	2.7	\$13.2
Total	\$1,089.8	\$1,848.7	0.6	-\$758.9

Table 5-8 below provides the net-present-value (“NPV”) benefits and costs (according to the UCT) of Scenario 2 income-eligible residential program potential. The overall UCT ratio is 0.6, The magnitude of the incentives in Scenario 2 causes the UCT ratio to fall below 1.0.

TABLE 5-8: RESIDENTIAL INCOME-ELIGIBLE SCENARIO 2 PROGRAM POTENTIAL UCT NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Program	NPV Benefits	NPV Costs	UCT Ratio	NPV Net Benefits
SF Income Eligible	\$717.1	\$1,290.1	0.6	-\$573.0
MF Income Eligible	\$352.0	\$549.1	0.6	-\$197.0
Business Social Services	\$20.7	\$3.6	5.8	\$17.2
Total	\$1,089.8	\$1,842.7	0.6	-\$752.9

5.4 SENSITIVITIES

In addition to Scenario 1 and Scenario 2, the GDS Team also conducted a set of sensitivities based on these two scenarios in order to develop a deeper understanding of the implications of the income-eligible potential. While Scenarios 1 and 2 are fundamentally different in terms of the incentive levels, program delivery strategy,

expected program awareness and measure adoption rates, Scenarios 3, 4, and 5 are fundamentally the same as Scenarios 1 and 2 in terms of the inputs and methodological approaches. The results of these three sensitivities provides different vantage points and ways of interpreting the results of Scenarios 1 and 2. The sensitivities only look at residential income-eligible measures (business non-profit customers are not part of the sensitivity analysis).

5.4.1 Supply Curve Outlook

This sensitivity establishes a measure-level cost per kWh threshold. This vantage point provides a way of understanding the most efficient way to achieve the greatest amount of savings. This sensitivity is a subset of Scenario 1 and 2. The first step was to calculate a lifetime cost per kWh saved for every measure. Then the lifetime cost per kWh was plotted as a supply curve with the x-axis being represented by the proportion of cumulative annual potential achieved as the cost per kWh increases. The goal was to identify a point on the curve at which the cost per kWh begins to increase at an increasing rate. This point could help identify which measures should be pursued first in the income-eligible sector, and which measures may be cost prohibitive. Figure 5-10 provides the results of the supply curve calculations for Scenario 1 and Scenario 2, presented as the marginal cost per lifetime kWh saved in each case.

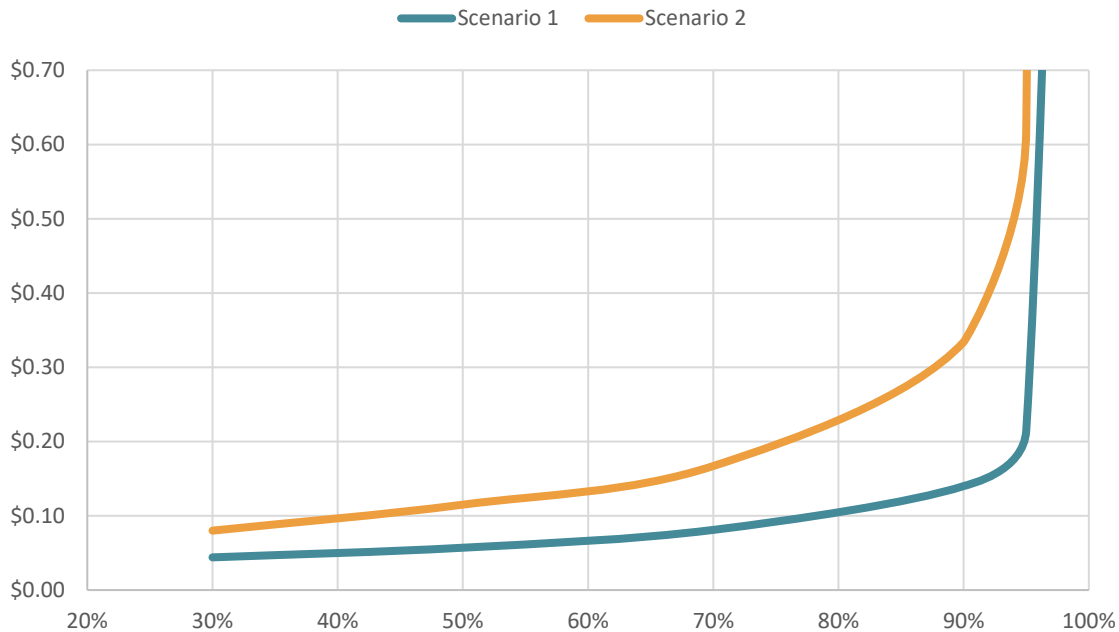


FIGURE 5-10: MARGINAL COST PER LIFETIME KWH SAVED VS % OF CUMULATIVE ANNUAL POTENTIAL

Based on a visual inspection of the two curves, it appears that costs being increasing at an increasing rate at about the 90% of cumulative annual potential threshold. The cost of acquiring savings beyond this point becomes exceedingly high, and we therefore view the results of the supply curve sensitivity through the lens of reaching 90% of cumulative annual potential.

There is an average cost of \$0.063 per lifetime kWh saved for Scenario 1 to reach 90% of the cumulative annual potential, and this cost goes up to \$0.118 per lifetime kWh saved for Scenario 2. These average costs rise to \$0.286 per lifetime kWh saved and \$0.866 per lifetime kWh saved for Scenarios 1 and 2 respectively in order to capture the last 10% of cumulative annual potential.⁶⁵

⁶⁵ The marginal cost per lifetime kWh at 90% of the potential is about \$0.13, but the average cost of all measures under than 90% threshold \$0.063.

Table 5-9 below shows the cumulative annual savings potential for each scenario at 90% of the total, 100% of the total, as well as the marginal 10% to go from 90% to 100% of potential. For Scenario 1, the cumulative annual potential reaches 90% of the total MWh at cost of \$0.84 per first year kWh but increases to \$1.09 per first year kWh to reach 100% of the total due to the marginal cost of \$3.48 per first year kWh to achieve the final 10% of savings. For Scenario 2, the cumulative annual potential reaches 90% of the total MWh at cost of \$1.53 per first year kWh but increases to \$2.40 per first year kWh to reach 100% of the total due to the marginal cost of \$9.87 per first year kWh to achieve the final 10% of savings.

TABLE 5-9: RESIDENTIAL INCOME-ELIGIBLE SCENARIO 1 PROGRAM POTENTIAL TRC NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Scenario Costs/Savings Level	Cumulative Annual Savings Potential (19-yr)	Cumulative Cost per 1 st -yr kWh saved
90% of Scenario 1	709,869	\$0.84
100% of Scenario 1	786,389	\$1.09
Marginal Costs/Savings (90% to 100%) Scenario 1	76,520	\$3.48
90% of Scenario 2	1,270,246	\$1.53
100% of Scenario 2	1,417,739	\$2.40
Marginal Costs/Savings (90% to 100%) Scenario 2	147,493	\$9.87

Figure 5-11 provides an example of the cost per home to reach 90% of the Scenario 1 potential and associated annual energy savings for a select whole building type. The example shown is a single-family home with an electric furnace, electric water heating, and a building shell efficiency level characterized as always drafty. The use of electric heating and electric water heating combined with the inefficient nature of this home type (drafty and using an electric furnace instead of a heat pump) create significant opportunity for homes of this type. For an estimated average cost per home of \$2,452 an annual energy savings of 3,358 kWh could be achieved. The red lines indicate the measures which are associated the achieving 90% of the total Scenario 1 potential – the data points above and to the rights of the intersecting red lines are associated with achieving the remaining 10% of total Scenario 1 potential.

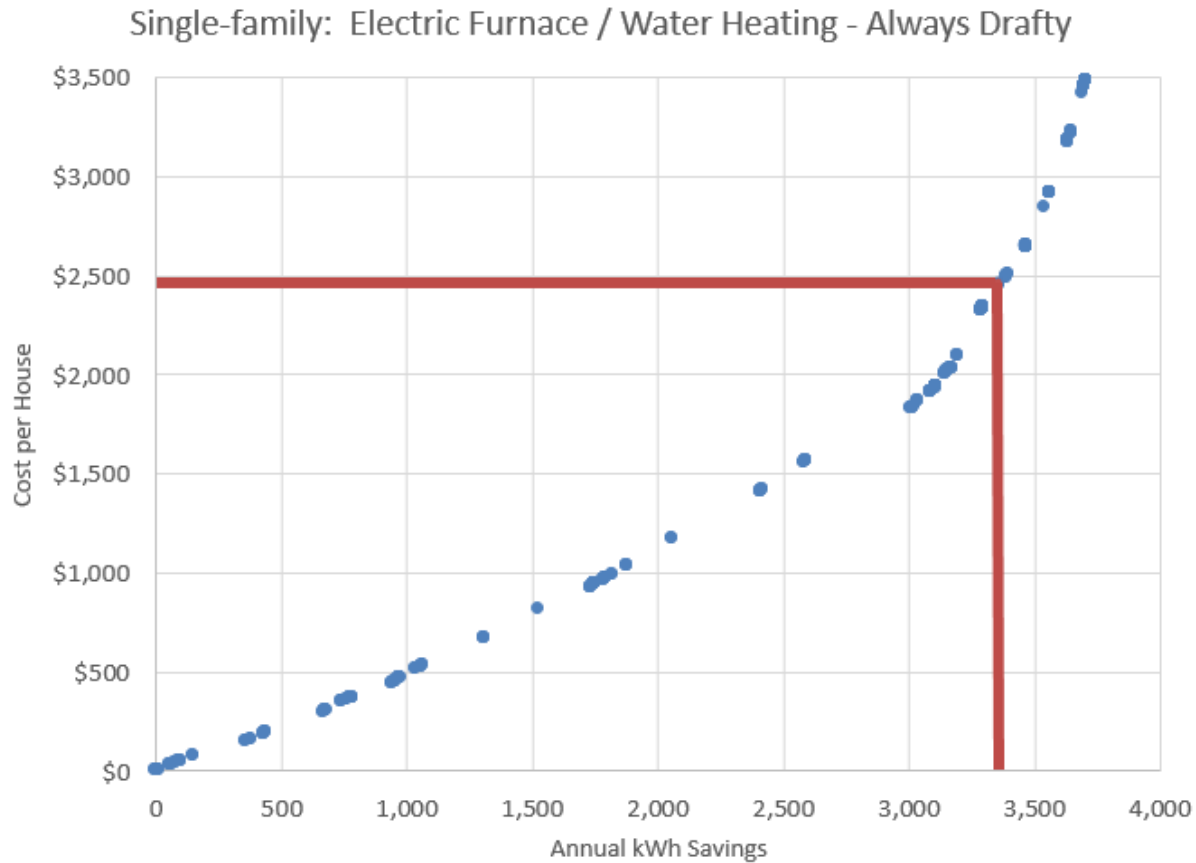


FIGURE 5-11: WHOLE BUILDING SUPPLY CURVE EXAMPLE – SCENARIO 1

5.4.2 Energy Burden Mitigation

This sensitivity establishes a targeted energy consumption reduction for a range of baseline conditions. The targets are based on energy burden reduction goals. This vantage point shows how effectively the measures could help customers achieve an affordable energy burden. This sensitivity is a subset of Scenario 1 and 2. Figure 5-12 shows the energy burden by housing type and primary electric heating type, as a percentage of household income across four different income categories. The legend of the figure notes the percentage of the income-eligible population falling in the respective income categories. The target line of 6% is based on classification by the U.S. Department of Health and Human Services that an energy burden of above 6% is unaffordable.⁶⁶ All households with an average income of \$10,000 have an excessive energy burden and single-family homes with an average income of \$20,000 have an excessive energy burden. Most homes with an income of more than \$30,000 do not have an excessive energy burden, with a few exceptions among single-family homes with electric furnaces.

⁶⁶ http://www.energy.gatech.edu/sites/default/files/documents/04_energy_equity_intersect2018.pdf

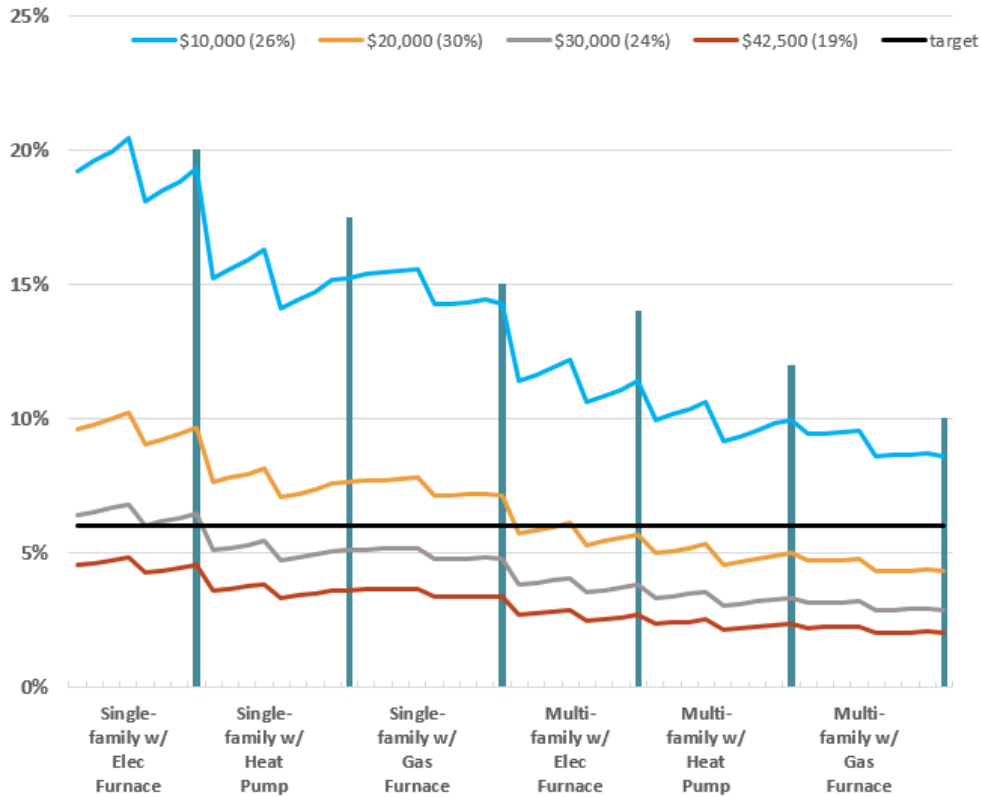


FIGURE 5-12: ENERGY BURDEN BEFORE APPLYING SCENARIO 1 POTENTIAL

Figure 5-13 shows how the energy burden is affected by applying the Scenario 1 potential to homes with an excessive energy burden. The savings shown are applied to the extent that homes with excessive energy burdens reach the target line of 6%. In the post-Scenario 1 case, all homes with incomes of \$30,000 or greater have affordable energy burdens, single-family homes with energy burdens of those with \$20,000 incomes have their energy burden reduced to levels near the 6% target but are still in excess of the target. Homes with \$10,000 incomes are still well above the 6% target.

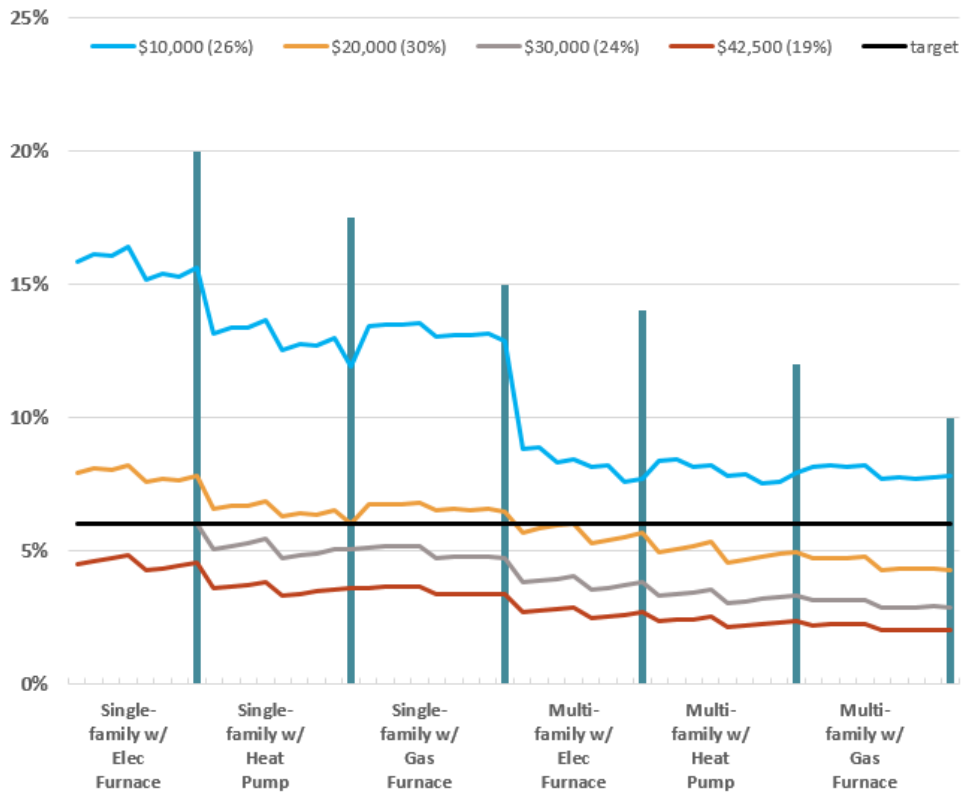


FIGURE 5-13: ENERGY BURDEN AFTER APPLYING SCENARIO 1 POTENTIAL

Figure 5-14 shows how the energy burden is affected by applying the Scenario 2 potential to homes with an excessive energy burden. The savings shown are applied to the extent that homes with excessive energy burdens reach the target line of 6%. In the post-Scenario 2 case, almost all homes with incomes of \$20,000 or greater have affordable energy burdens.

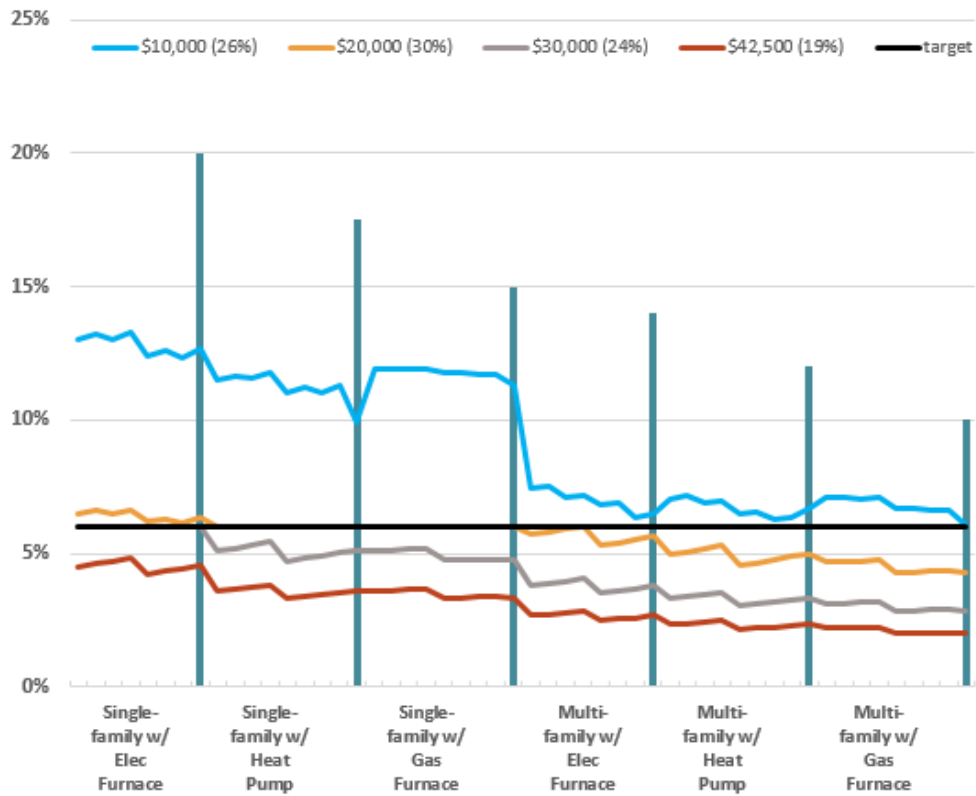


FIGURE 5-14: ENERGY BURDEN AFTER APPLYING SCENARIO 2 POTENTIAL

Table 5-10 provides the energy burdens by income category and overall income-eligible average as currently estimated as well as after the application of Scenario 1 and Scenario 2 savings. In this case, the full extent of the savings is shown (not just to reach the energy burden). In Scenario 1 the average energy burden is reduced to 4.7%. In Scenario 2, the energy burden is reduced below 6% for all income categories except the \$10,000 per year group. The total 19-yr budgets for Scenario 1 and Scenario 2 are \$860 million and \$3.4 billion, respectively.

TABLE 5-10: ENERGY BURDENS ACROSS INCOME CATEGORIES BEFORE AND AFTER APPLYING SCENARIOS 1 AND 2

Scenario	Energy Burden - Average	Energy Burden - \$10,000	Energy Burden - \$20,000	Energy Burden - \$30,000	Energy Burden - \$42,500	19-yr Budget
Existing	5.6%	13.6%	7.3%	5.0%	3.6%	-
Scenario 1	4.7%	11.2%	6.1%	4.2%	3.1%	\$859,442,282
Scenario 2	4.0%	9.5%	5.2%	3.6%	2.6%	\$3,399,528,313

5.4.3 Energy Use Intensity Mitigation

This sensitivity establishes an energy use intensity (“EUI”) target in terms of kWh per square foot of conditioned space to recognize the higher energy use intensity generally found in income-eligible homes. This vantage point shows how effectively the measures could help customers achieve an average energy use intensity. This sensitivity is a subset of Scenario 1 and 2. Figure 5-15 shows the energy use intensity by housing type and primary electric heating type. The target lines are based on are housing type averages for the West North Central census region. Most households have an EUI in excess of the targets, with some home types with heat pumps currently below the targets.

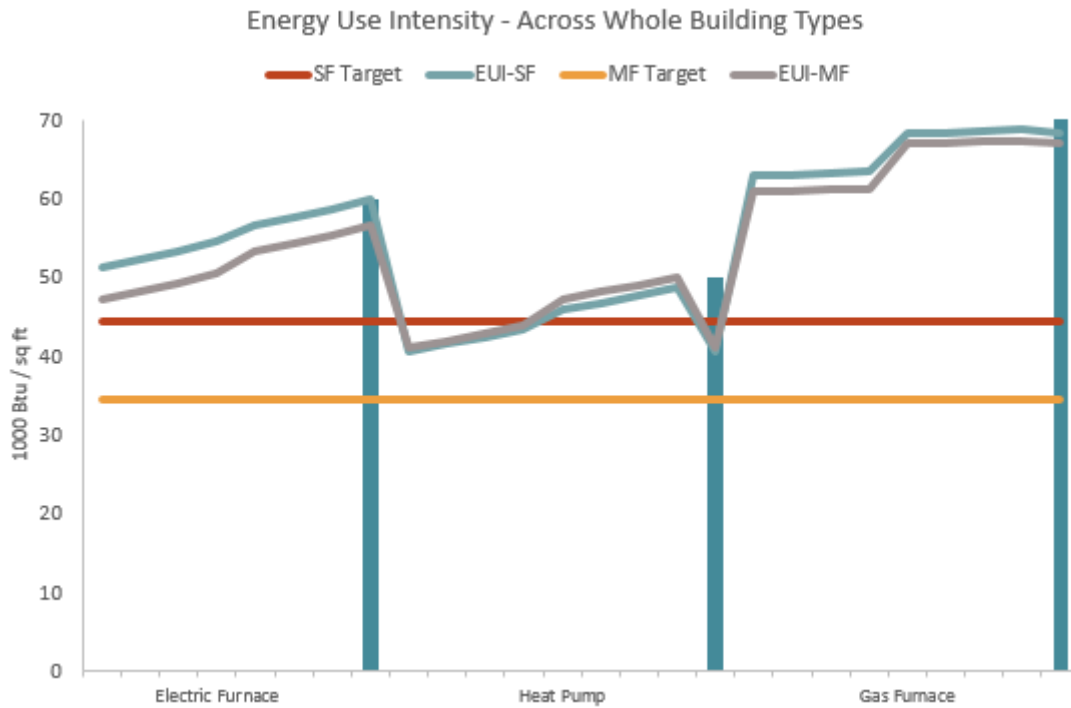


FIGURE 5-15: ENERGY USE INTENSITY BEFORE APPLYING SCENARIO 1 POTENTIAL

Figure 5-16 shows how the EUI is affected by applying the Scenario 1 potential to homes with an EUI that exceeds the target. The savings shown are applied to the extent that homes with excessive EUI's reach the target lines. In the post-Scenario 1 case, most single-family homes and some multifamily homes with electric heating reach the target while gas heated homes remain well above the target lines.

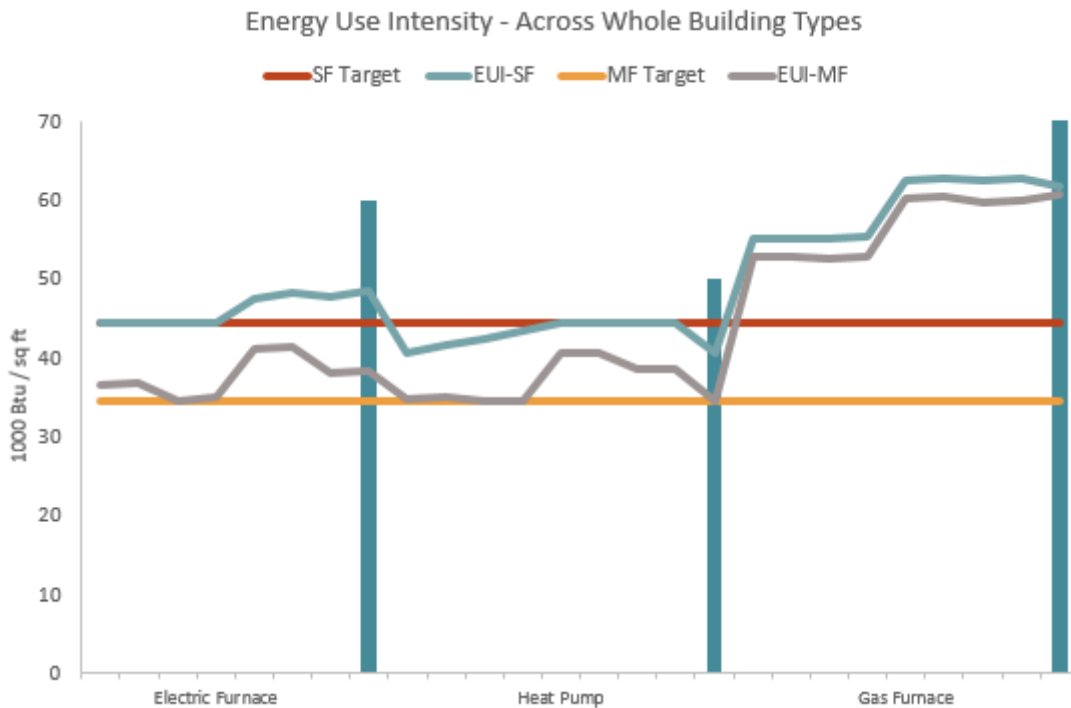


FIGURE 5-16: ENERGY USE INTENSITY AFTER APPLYING SCENARIO 1 POTENTIAL

Figure 5-14 shows how the EUI is affected by applying the Scenario 2 potential to homes with an EUI that exceeds the target. The savings shown are applied to the extent that homes with excessive EUI's reach the target lines. In the post-Scenario 2 case, all single-family homes and most multifamily homes with electric heating reach the target while single-family gas heated homes approach the target lines.

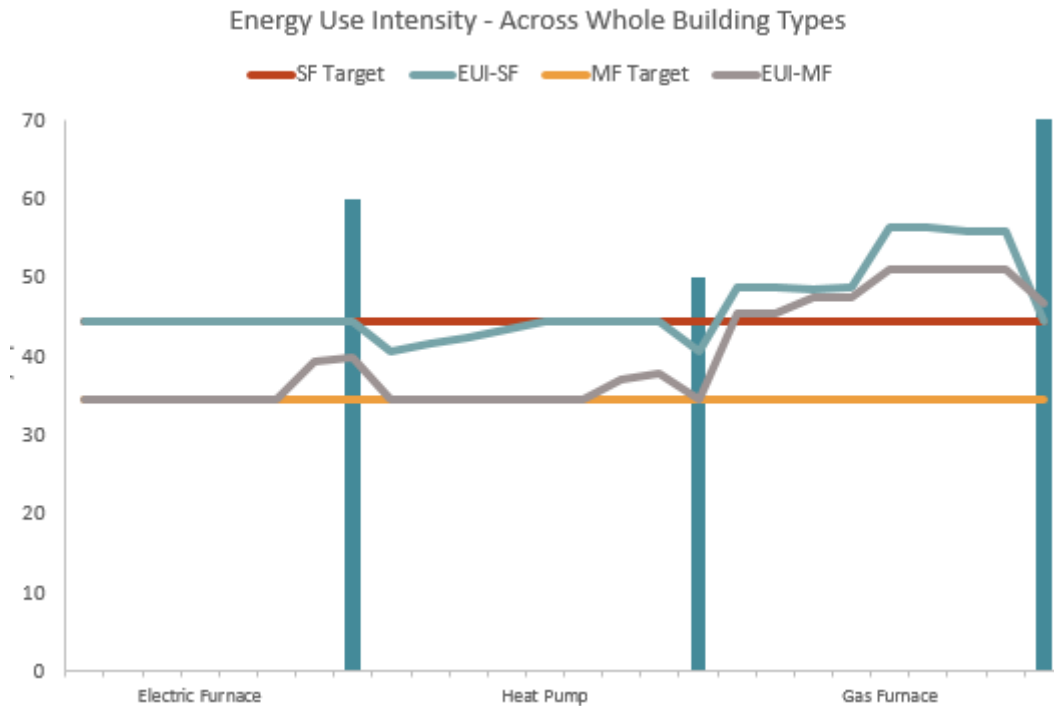


FIGURE 5-17: ENERGY USE INTENSITY AFTER APPLYING SCENARIO 2 POTENTIAL

Table 5-11 provides the energy use intensities and targets by housing type as currently estimated as well as after the application of Scenario 1 and Scenario 2 savings. In this case, the full extent of the savings is shown (not just to reach the energy burden). In Scenario 1 the average energy use intensity is reduced to 52.0 in single-family homes and 43.0 in multifamily homes. In Scenario 2 the average energy use intensity is reduced to 44.6 in single-family homes and 37.2 in multifamily homes, and the average EUI approaches the targets for both housing types.

TABLE 5-11: ENERGY USE INTENSITIES ACROSS INCOME CATEGORIES BEFORE AND AFTER APPLYING SCENARIOS 1 AND 2

Scenario	Single-family Average EUI	Single-family Cost	Multifamily Average EUI	Multifamily Cost
Target	44.3	-	34.5	-
Existing	60.1	-	55.0	-
Scenario 1	52.0	\$561,139,213	43.0	\$298,303,070
Scenario 2	44.6	\$2,412,313,342	37.2	\$987,215,971

DR POTENTIAL RESULTS

6.1 ANALYSIS APPROACH⁶⁷

This section provides an overview of the demand response potential methodology. Summary results of the demand response analysis are provided in Section 6.2. Additional results details are provided in Appendix F.

6.1.1 Definition of Demand Response⁶⁸

According to the Federal Energy Regulatory Commission (FERC), demand response is defined as changes in electric usage by demand-side resources from their normal consumption patterns in response to changes in the price of electricity over time, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized. FERC's definition of demand response conforms to the North American Electric Reliability Corporation (NERC) definition developed by a consortium of utilities and end users – of which Ameren Missouri had a leadership role.

The Midwest Independent System Operator (MISO) defines demand response as the ability of a Market Participant to reduce its electric consumption in response to an instruction received from MISO. Market Participants can provide such demand response either with discretely interruptible or continuously controllable loads or with behind-the-meter generation. In short, resources must be dispatchable and measurable. Demand response rate options such as TOU or CPP don't meet these requirements. However, these rates can provide value for Ameren Missouri if they lower their peak demand requirements. That reduction in peak load can translate into lower capacity requirements. Utilities in MISO must demonstrate that they have enough capacity on a forward basis.⁶⁹

This study uses the broader FERC definition of demand response so that all potential DR, including rate options, are identified. Ameren Missouri's integrated resource planning team will analyze and adjust as necessary the identified DR potential for what can be counted in the MISO market and/or how DR potential will be used to construct alternative resource plans.

6.1.2 Demand Response Program Options

Table 6-1 provides a brief description of the demand response (DR) program options that were considered as part of the base analysis and identifies the eligible customer segment for each demand response program to be considered in this study. The list of DR options was determined based on a review of the 2016 Ameren MPS, Ameren's current and/or planned offerings, as well as DR programs run by other utilities in the region. The base case analysis includes direct load control (DLC), rate design, and aggregator options. Additional demand response rate options were included as a sensitivity to the base case analysis.⁷⁰

TABLE 6-1 DEMAND RESPONSE BASE CASE PROGRAM OPTIONS AND ELIGIBLE MARKETS

DR Program Option	Program Description	Eligible Markets
DLC AC (Switch)	The compressor of the air conditioner is remotely shut off (cycled) by the system operator for periods that may range from 7 ½ to 15 minutes during every 30-minute period (i.e., 25%-50% duty cycle)	Residential and Business Class Customers

⁶⁷ 4 CSR 240-22.050 (3)(I)

⁶⁸ Ameren Missouri Demand-Side Management Market Potential Study. 2016. Pg. 98.

⁶⁹ 4 CSR 240-22.050 (4)(F)

⁷⁰ 4 CSR 240-22.050 (3)(A)

DR Program Option	Program Description	Eligible Markets
DLC AC (Thermostat)	The system operator can remotely raise the AC's thermostat set point during peak load conditions, lowering AC load.	Residential and Business Class Customers
DLC Pool Pumps	The swimming pool pump is remotely shut off by the system operator for periods normally ranging from 2 to 4 hours.	Residential and Business Class Customers
DLC Water Heaters	The water heater is remotely shut off by the system operator for periods normally ranging from 2 to 8 hours.	Residential and Business Class Customers
DLC Room AC	The compressor of the air conditioner is remotely shut off (cycled) by the system operator for periods that may range from 7 ½ to 15 minutes during every 30-minute period (i.e., 25%-50% duty cycle)	Residential
DLC Lighting	A portion of the lighting load is remotely shut off by the system operator for periods normally ranging from 2 to 4 hours.	Business Class Customers
DLC Agricultural Irrigation Pump Control	The irrigation pump is remotely shut off by the system operator for periods normally ranging from 2 to 4 hours.	Agricultural Farms
Peak Time Rebates	A program where customers are rewarded if they reduce electricity consumption during peak times with monetary rebates.	Residential and Business Class Customers
Capacity Bidding Programs (Large C&I Aggregator)	CBP is a flexible bidding program offering qualified businesses payments for agreeing to reduce when a CBP event is called. Businesses make monthly nominations and receive capacity payments based on the amount of capacity reduction nominated each month, plus energy payments based on your actual kilowatt-hour (kWh) energy reduction when an event is called. The amount of capacity nomination can be adjusted on a monthly basis. Penalties occur if load nominations are not met.	Business Class Customers
Demand Bidding Programs (Small C&I Aggregator)	DBP is a year-round, flexible, Internet-based bidding program that offers business customers credits for voluntarily reducing power when a DBP event is called.	Business Class Customers

Double-counting savings from demand response programs that affect the same end uses is a common issue that must be addressed when calculating the demand response savings potential. For example, a direct load control (DLC) program of air conditioning and a rate program both assume load reduction of the customers' air conditioners. For this reason, it is typically assumed that customers cannot participate in programs that affect the same end uses.

6.1.3 Demand Response Potential Assessment Approach Overview

The analysis of DR, where possible, closely follows the approach outlined for energy efficiency. The framework for assessing the cost-effectiveness of demand response programs is based on *A Framework for Evaluating the Cost-Effectiveness of Demand Response, prepared for the National Forum on the National Action Plan (NAPA) on Demand Response*.⁷¹ Additionally, GDS reviewed the May 2017 National Standard Practice Manual published by the National Efficiency Screening Project.⁷² GDS utilized this guide to define avoided ancillary services and energy and/or capacity price suppression benefits.

⁷¹ Study was prepared by Synapse Energy Economics and the Regulatory Assistance Project, February 2013.

⁷² [National Standard Practice Manual for Assessing Cost-Effectiveness of Energy Efficiency Resources](#), May 18, 2017, Prepared by The National Efficiency Screening Project

The demand response analysis was conducted using the GDS Demand Response Model. The DR Model determines the estimated savings for each demand response program by performing a review of all benefits and cost associated with each program. GDS developed the model such that the value of future programs could be determined and will help facilitate demand response program planning strategies. The model contains approximately 50 required inputs for each program including: expected life, coincident peak (“CP”) kW load reductions, proposed rebate levels, program related expenses such as vendor service fees, marketing and evaluation cost and on-going O&M expenses. This model and future program planning features can be used to standardize the cost-effectiveness screening process between Ameren Missouri departments interested in the deployment of demand response resources.

The TRC Test was used to determine the cost-effectiveness of each demand response program. Benefits are based on avoided generation capacity, energy (including load shifting) and T&D infrastructure costs. Costs include incremental program equipment costs (such as control switches or smart thermostats), fixed program capital costs (such as the cost of a central controller), program administrative, marketing and evaluation costs. Incremental equipment program costs are included for both new and replacement units (such as control switches) to account for units that are replaced at the end of their useful life.⁷³

The demand response analysis includes estimates of technical, economic, achievable, and program potential. Achievable potential is broken into maximum and realistic potential in this study:

MAP represents an estimate of the maximum cost-effective demand response potential that can be achieved over the study period. For this study, this will be defined as customer participation in demand response program options that reflect a “best practices” estimate of what could eventually be achieved. MAP assumes no barriers to effective delivery of programs.

RAP represents an estimate of the amount of demand response potential that can be realistically achieved over the study period. For this study, this will be defined as achieving customer participation in demand response program options that reflect a realistic estimate of what could eventually be achieved assuming typical or “average” industry experience. RAP is a discounted MAP, by considering program barriers that limit participation, therefore reducing savings that could be achieved.

Both MAP and RAP include the impact of energy efficiency gains realized in the Energy Efficiency Potential study. These gains include the changes that occur when old equipment is replaced with high efficiency equipment. Yearly impacts were developed for space cooling (used for DLC of AC programs) and whole building (used for rate programs that affect multiple measures). Table 6-2 shows the energy efficiency savings impacts reflected in the final year of the 2019 study (2040). The space cooling efficiency gains were used for the direct load control of air conditioning programs, and the general sector efficiency gains were used for all other programs included in MAP and RAP potential.

TABLE 6-2 ENERGY EFFICIENCY SAVINGS IMPACTS IN 2040

	MAP	RAP
Residential (MR)	19.5%	16.5%
Residential (MR) - Space Cooling	33.1%	27.7%
Residential (IE)	24.3%	19.2%
Residential (IE) - Space Cooling	35.2%	27.1%
Business Class	49.3%	25.8%

⁷³ 4 CSR 240-22.050 (5)

	MAP	RAP
Business Class - Space Cooling	12.3%	10.5%

6.1.4 Avoided Costs

Demand response avoided costs are consistent with those utilized in the energy efficiency potential analysis and were provided by Ameren Missouri. The primary benefit of demand response is avoided generation capacity, resulting from a reduction in the need for new peaking generation capacity. Demand response can also produce energy related benefits. Demand response programs can also potentially delay the construction of new transmission and distribution lines and facilities, which is reflected in avoided T&D costs. If the demand response option is considered “load shifting”, such as direct load control of electric water heating, the consumption of energy is shifted from the control period to the period immediately following the period of control. If the program is not considered to be “load shifting” the measure is turned off during peak control hours, and the energy is saved altogether. The number of annual control hours for all direct load control programs was determined by GDS in collaboration with Ameren Missouri.

6.1.5 Demand Response Program Assumptions

This section briefly discusses the general assumptions and sources that will be used to complete the demand response potential analysis.

Load Reduction⁷⁴: Demand reductions were based on various secondary data sources including the FERC and other industry reports, including demand response potential studies. Direct load control options are typically calculated based on a per-unit kW demand reduction whereas rate-based DR options and aggregator programs are typically assumed to reduce a percentage of the total facility peak load.

TABLE 6-3 DEMAND RESPONSE LOAD REDUCTION IMPACTS

Program	Residential Load Reduction (kW)	Business Class Load Reduction (kW)
DLC Central AC	1.06	1.60
DLC Room AC	0.50	N/A
DLC Water Heating	0.41	0.90
DLC Pool Pumps	1.36	2.00
DLC Lighting	N/A	8.9%
DLC Agricultural Irrigation	N/A	44.00
Peak Time Rebates	12.9% of CP Billing Demand	0.7% of CP Billing Demand
Capacity Bidding	N/A	19.5% of CP Billing Demand
Demand Bidding	N/A	7% of CP Billing Demand

Eligible Control Units: The number of control units (or demand response equipment) per participant were calculated based on the average number of units in homes in the Ameren Missouri territory. This was used to determine the total equipment cost.

Useful Life: The useful life of equipment used in demand response programs, such as load control switches, smart thermostats, or AMI equipment, was determined using TRMs, and data from manufacturers. This useful life was used

⁷⁴ 4 CSR 240-22.050 (3)(G)1

to determine when equipment needs to be re-installed in the study after the device has failed, therefore adding a second equipment cost for some participants in the study. GDS used a useful life of 20 years for AMI meters⁷⁵, 11 years for smart thermostats⁷⁶, 10 years for level 2 EV chargers⁷⁷, and 10 years for load switches.⁷⁸

Equipment and Incentive Costs: Equipment costs were included for each new participant. Incentives were included for all programs in the Base Case. These costs were either on a per participant, per kW or per kWh basis (noted in table).⁷⁹

TABLE 6-4. ASSUMED BASE CASE EQUIPMENT AND INCENTIVE COSTS

Sector	Program	Equipment & Installation Cost	Incentive Cost
Residential	DLC Central AC	\$250 for thermostat, \$50 rebate	\$25/participant-year
	DLC Room AC	\$270	\$25/participant-year
	DLC Water Heating	\$592	\$25/participant-year
	DLC Pool Pumps	\$146	\$25/participant-year
	Peak Time Rebates	N/A	\$0.75/kWh-year
Business	DLC Central AC	\$250 for thermostat, \$50 rebate	\$25/participant-year
	DLC Water Heating	\$592	\$50/participant-year
	DLC Pool Pumps	\$146	\$50/participant-year
	DLC Lighting	\$1,900	\$50/participant-year
	DLC Agricultural Irrigation	\$1,804	\$42/kW-year
	Peak Time Rebates	N/A	\$0.75/kWh-year
	Capacity Bidding	\$0	\$25/kW-year
	Demand Bidding	\$0	\$0.50/kWh-year

Program Costs: One-time program development costs of \$400,000 were included in the first year of the analysis for new programs⁸⁰. This cost was split between similar programs. No program development costs are assumed for programs that already exist. Each program includes an evaluation cost, marketing cost (higher for MAP than RAP), and administration cost. All program costs were escalated each year by the general rate of inflation assumed for this study.

Eligible Market Size: For direct load control programs, the size of the eligible market was determined by multiplying the forecast of Ameren Missouri's customers by the saturation of the end use to be controlled. End use saturations were obtained from the 2019 primary research conducted by ODC in the Ameren Missouri service area to help inform the 2020 MPS.

Ameren Missouri expects AMI infrastructure to be fully deployed in 2025. A forecast of AMI deployment rates for years 2022-2025 was provided by Ameren Missouri and applied to the eligible customers for those rate programs that require smart meters.⁸¹ Two-way communication is fundamental for these pricing programs and AMI meters allow for hourly load data to be read and transmitted to the utility. Since it is imperative that

⁷⁵ Ameren Illinois AMI Cost/Benefit Analysis, 2012

⁷⁶ Illinois Technical Reference Manual 2018

⁷⁷ US DOE, Costs Associated with Non-Residential EV Supply Equipment, 2015

⁷⁸ Freeman, Sullivan & Co Cost Effectiveness of CECONY Demand Response Programs 2013; PA Act 129 Order 2013

⁷⁹ 4 CSR 240-22.050 (3)(G)5A; 4 CSR 240-22.050 (3)(G)5B

⁸⁰ Tennessee Valley Authority Potential Study Vol. 3: Demand Response Potential Study, Global Energy partners, December 2011

⁸¹ 4 CSR 240-22.050 (4)(C)

hourly data must be read for rate programs, GDS assumed AMI meters were required to participate in the Peak Time Rebate program. No other programs in the Base Case required AMI.

6.1.6 DR Program Adoption Levels

Long-term program adoption levels (or “steady state” participation) represent the enrollment rate once the fully achievable participation has been reached. GDS has reviewed industry data and program adoption levels from several utilities’ DR programs.

Customer participation in new demand response programs is assumed to reach the steady state adoption rate over a five-year period. The path to steady state customer participation follows an “S-shaped” curve, in which participation growth accelerates over the first half of the five-year period, and then slows over the second half of the period (see Figure 6-1). GDS reflected the planned participation in DR programs during MEEIA Cycle 3 in the assessment of future potential in MEEIA Cycle 4 and beyond.

GDS used ODC research to determine steady state adoption rates when possible. For the residential sector, ODC had data for direct load control of air conditioning, direct load control of water heating, and rate programs. For the business sector, ODC had data for capacity bidding, direct load control of air conditioning, direct load control of water heating, and rate programs. For rate programs, the ODC survey did not ask about specific rates, and only if a customer would be willing to participate in a rate program in general. GDS split this rate program adoption rate between Peak Time Rebates, Time of Use, and Critical Peak Pricing programs. The proportions of each rate program were based upon secondary research. The sources of this secondary research are included in Appendix F. For programs where GDS did not have ODC data, other research or potential studies were used. Table 6-5 provides the Base Case long-term adoption rates for MAP and RAP. Annual adoption rates, sources, and specific assumptions for each program are in Appendix F.

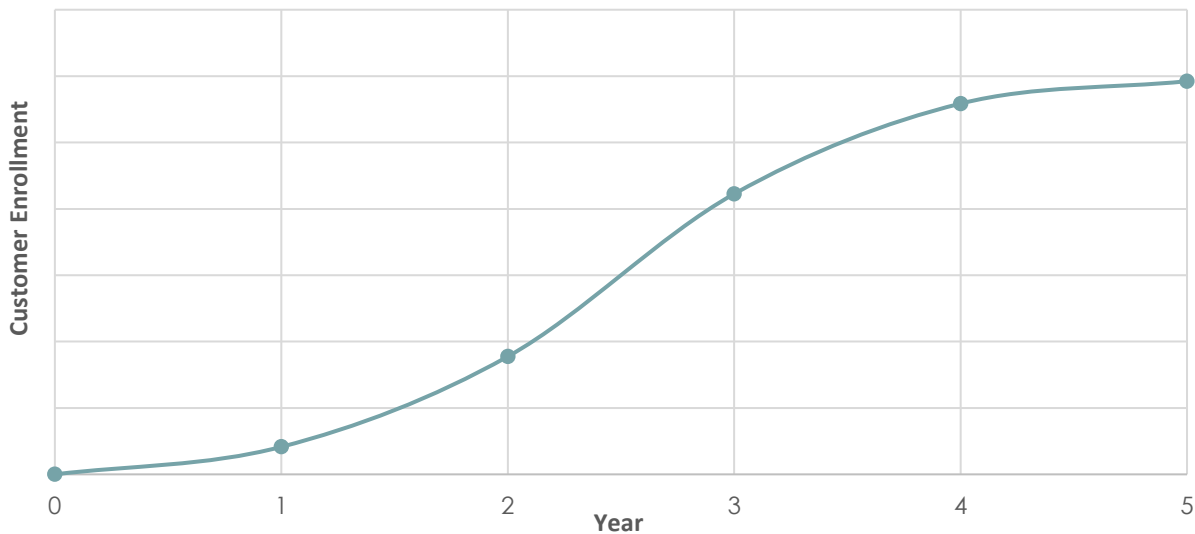


FIGURE 6-1 ILLUSTRATION OF S-SHAPED MARKET ADOPTION CURVE

TABLE 6-5. BASE CASE ADOPTION RATES

Sector	Program	Steady State MAP Adoption Rate	Steady State RAP Adoption Rate
Residential (MR)	DLC Central AC	35%	20%
	DLC Room AC	31%	20%
	DLC Water Heating	27%	15%

Sector	Program	Steady State MAP Adoption Rate	Steady State RAP Adoption Rate
	DLC Pool Pumps	38%	19%
	Peak Time Rebates	15%	8%
Residential (IE)	Peak Time Rebates	4%	3%
	DLC Central AC	33%	15%
	DLC Water Heating	33%	14%
Business	DLC Central AC	26%	9%
	DLC Water Heating	30%	10%
	DLC Pool Pumps	16%	7%
	DLC Lighting	14%	3%
	DLC Agricultural Irrigation	30%	15%
	Peak Time Rebates	63%	21%
	Capacity Bidding	50%	18%
	Demand Bidding	8%	1%

Double-counting savings from demand response programs that affect the same end uses is a common issue that must be addressed when calculating the demand response savings potential. For example, a customer cannot elect to participate in both DLC programs and rate programs and claim savings from both programs for curtailing the same end use. One cannot save a kW of load in a specific hour more than once. In general, the hierarchy of demand response programs is accounted for by subtracting the number participants in a higher priority program from the eligible market for a lower priority program.⁸² Table 6-6 shows the hierarchy for each sector, with 1 being the top priority.

TABLE 6-6 BASE CASE DR HIERARCHY FOR EACH SECTOR

Order	Residential (MR) Hierarchy	Residential (IE) Hierarchy	Small Business Hierarchy	Large Business Hierarchy
1	Direct Load Control	Peak Time Rebates	Peak Time Rebates	Capacity Bidding
2	Peak Time Rebates	Direct Load Control	Direct Load Control	
3			Demand Bidding	

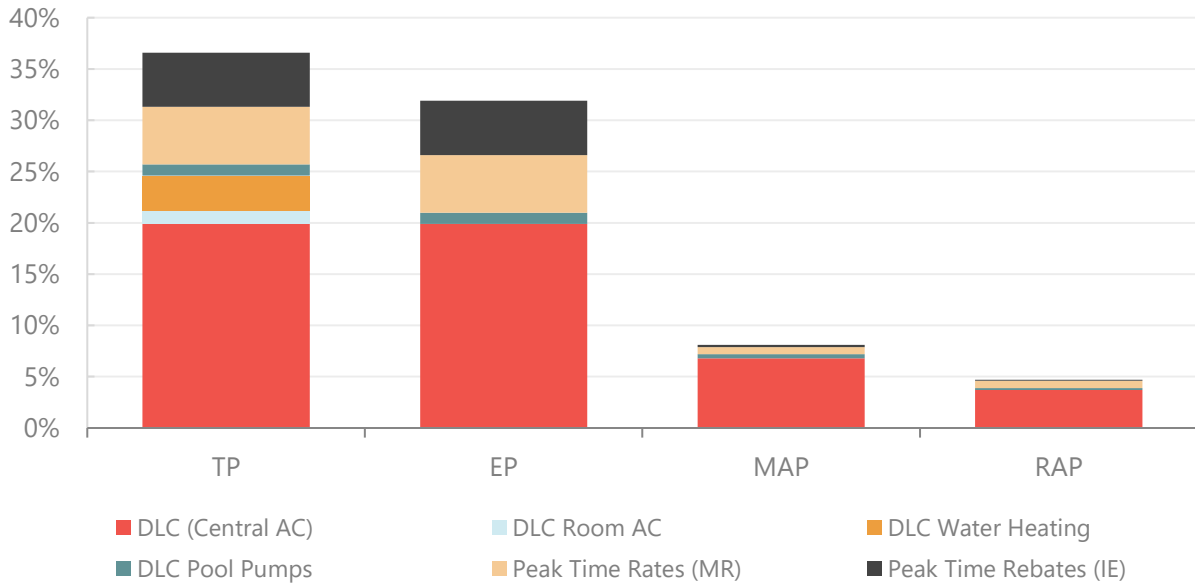
6.2 DEMAND RESPONSE POTENTIAL

6.2.1 Residential Potential

Figure 6-2 shows the 2040 residential market rate and income-eligible technical, economic, MAP and RAP demand response potential. These demand reduction values are presented at the customer meter level of the Ameren Missouri grid.

⁸² 4 CSR 240-22.050 (3)(G)2

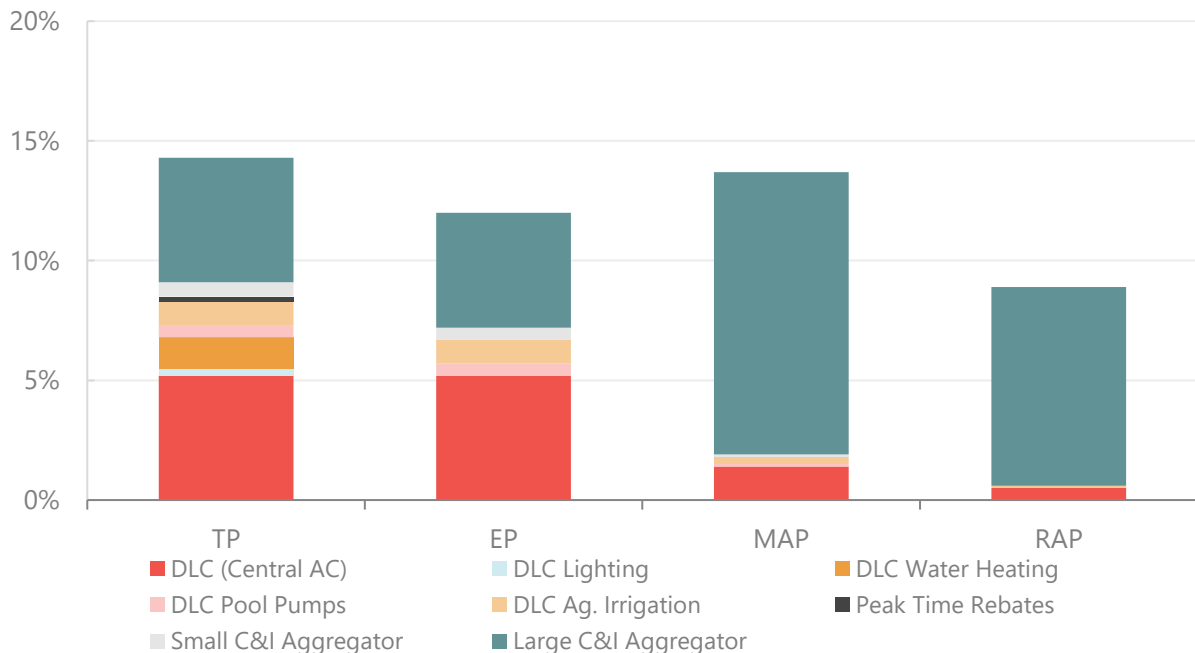
FIGURE 6-2. SUMMER PEAK MW RESIDENTIAL SECTOR BASE CASE RESULTS AS % OF 2040 BUSINESS CLASS LOAD



6.2.2 Business Sector Potential

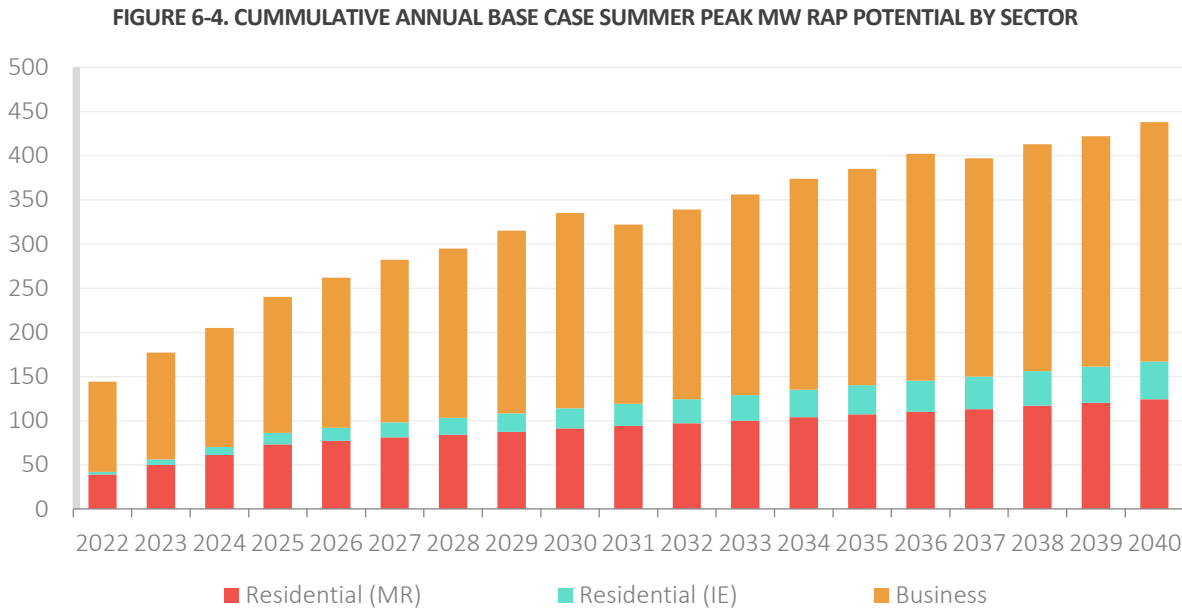
Figure 6-3 shows the 2040 business sector technical, economic, MAP and RAP demand response potential. These demand reduction values are present at the customer meter level of the Ameren Missouri grid. Note that for the Capacity Bidding program, MAP and RAP are larger than Technical and Economic potentials towards the end of the study timeframe. This is due to the interactive effects of efficiency trends from the energy efficiency study. The larger peak demand impacts from energy efficiency measures in technical and economic potential created reduced impacts attributed to capacity bidding/C&I aggregator programs. As the impacts of energy efficiency on the system peak are smaller for MAP and RAP, there is additional opportunity for capacity bidding programs.

FIGURE 6-3. SUMMER PEAK MW BUSINESS SECTOR BASE CASE RESULTS AS % OF 2040 BUSINESS CLASS LOAD



6.2.3 Total Potential

Figure 6-4 shows the annual demand response RAP potential for the Base Case by sector. These demand reduction values are present at the customer meter level of the Ameren Missouri grid. Additional annual detail can be found in Appendix F.⁸³



6.2.4 Benefits/Costs of Program Potential

Cost-effectiveness of demand response measures was determined based on screening with the TRC test. Table 6-6 and Table 6-7 shows the residential and business benefits, costs, and TRC ratios for each program for MAP and RAP in the Base Case.

TABLE 6-7. BASE CASE MAP BENEFITS, COSTS, AND TRC RATIOS

Sector	Program	NPV Benefits	NPV Costs	TRC Ratio
Residential (MR)	DLC Central AC	\$135,040,815	\$96,772,668	1.40
	DLC Room AC	\$18,930,282	\$24,807,581	0.76
	DLC Pool Pumps	\$19,489,852	\$7,829,369	2.49
	DLC Water Heating	\$24,610,989	\$66,477,188	0.37
	Peak Time Rebate	\$38,305,443	\$24,669,205	1.55
Residential (IE)	Peak Time Rebate	\$9,123,919	\$6,102,503	1.50
	DLC Central AC	\$63,249,074	\$50,948,927	1.24
	DLC Water Heating	\$23,535,120	\$63,303,198	0.37
Business	Peak Time Rebate	\$3,696,584	\$9,302,561	0.40
	DLC Central AC	\$56,565,549	\$28,343,774	2.00
	DLC Pool Pumps	\$3,205,448	\$2,482,309	1.29
	DLC Water Heating	\$16,680,016	\$24,319,598	0.69
	DLC Lighting	\$1,738,432	\$13,279,028	0.13

⁸³ 4 CSR 240-22.050 (4)(E)

Sector	Program	NPV Benefits	NPV Costs	TRC Ratio
	DLC Agricultural Irrigation	\$12,643,659	\$6,201,051	2.04
	Capacity Bidding	\$363,562,768	\$295,600,943	1.23
	Demand Bidding	\$3,867,911	\$2,258,103	1.71

TABLE 6-8. BASE CASE RAP BENEFITS, COSTS, AND TRC RATIOS

Sector	Program	NPV Benefits	NPV Costs	TRC Ratio
Residential (MR)	DLC Central AC	\$84,621,698	\$44,004,745	1.92
	DLC Room AC	\$12,171,713	\$16,297,198	0.75
	DLC Pool Pumps	\$9,711,915	\$4,626,749	2.10
	DLC Water Heating	\$13,883,558	\$37,648,394	0.37
	Peak Time Rebate	\$39,738,250	\$24,092,498	1.65
Residential (IE)	Peak Time Rebate	\$5,103,261	\$3,483,278	1.47
	DLC Central AC	\$30,331,096	\$19,220,826	1.58
	DLC Water Heating	\$10,591,909	\$28,568,121	0.37
Business	Peak Time Rebate	\$1,365,905	\$3,580,866	0.38
	DLC Central AC	\$19,200,140	\$8,476,370	2.27
	DLC Pool Pumps	\$1,402,384	\$1,923,098	0.73
	DLC Water Heating	\$5,486,847	\$7,923,076	0.69
	DLC Lighting	\$373,786	\$4,016,880	0.09
	DLC Agricultural Irrigation	\$6,343,332	\$3,849,994	1.65
	Capacity Bidding	\$136,029,782	\$29,588,328	4.60
	Demand Bidding	\$582,839	\$1,652,230	0.35

6.3 SENSITIVITIES

As with the market-rate and business sector energy efficiency potential analysis, several sensitivities on the RAP base case were analyzed to determine the impact of uncertain conditions surrounding customer participation and/or cost-effectiveness.⁸⁴ While many of the sensitivities are similar to those discussion in Section 4.5.1, there are some distinct differences. Notably, demand response includes a sensitivity that examines various demand response rate options on future peak savings potential.

6.3.1 Sensitivities Overview

Volatile Weather. The GDS Team analyzed the impacts of varied avoided costs on the MAP and RAP potential.

High Sensitivities

- Avoided energy and generation capacity costs were increased by 30%, with no change to T&D costs.
- Avoided T&D costs were doubled, with no change to energy and capacity costs.

Low Sensitivities

- Avoided energy and generation capacity costs were decreased by 50%, with no change to T&D costs.

⁸⁴ 4 CSR 240-22.050 (6)(C)1; 4 CSR 240-22.050 (6)(C)2

- Avoided T&D costs were eliminated for the first ten years (then returned to the base case T&D costs after year ten), with no change to energy and capacity costs.

Prolonged Economic Downturn. The economic factors were held constant in the Ameren Missouri load forecast, resulting in a negative impact on future energy sales. Adoption rates were also reduced to reflect concern over financial barriers. This sensitivity was only applied to the DLC AC program, because this is the only program in the Base Case where the customer is expected to buy their own equipment.

Low Sensitivity

- Residential: 10% decrease to forecast and adoption levels; Commercial: 13% decrease to forecast and adoption levels; Industrial: 9% decrease to forecast and adoption levels

High Touch Marketing. A RAP-only sensitivity intended to explore strategy of increasing marketing/high-touch administration to increase participation.⁸⁵

High Sensitivity

- Assume historical incentive levels but raises the program awareness threshold to the MAP level. Non-incentive costs were estimated to be higher as well.

Large Customer Opt-Outs. The base case excludes sales and savings from all eligible customers that currently opt out of Ameren Missouri’s energy efficiency programs. This sensitivity looks at the range of potential if no C&I customers were to opt out.

High Sensitivity

- Includes currently opted-out customers in analysis.

Additional Demand Response Rate Options.⁸⁶ The rates sensitivity includes rate programs that were not already included in the Base Case analysis (in addition to the programs in the Base Case). Table 6-8 lists the rate programs and eligible markets that were included in this sensitivity.⁸⁷ This list of rate programs included in the potential study was determined from common rate programs offered by utilities in the US and additional secondary research on rate design.^{88, 89}

TABLE 6-9. DEMAND RESPONSE RATE SENSITIVITY PROGRAM OPTIONS AND ELIGIBLE MARKETS⁹⁰

DR Program Option	Program Description	Eligible Markets
Time of Use Rates with Enabling Technology	A retail rate with different prices for usage during different blocks of time. Daily pricing blocks could include on-peak, mid-peak, and off-peak periods. Pricing is pre-defined, and once established do not vary with actual cost conditions. Includes enabling technology that connects technologies within building. The enabling technology is assumed to be a smart thermostat to control AC units. Only customers with Central AC are considered eligible.	Residential and Business Customers

⁸⁵ 4 CSR 240-22.050 (1)(E)2

⁸⁶ 4 CSR 240-22.050 (4); 4 CSR 240-22.050 (4)(G); In addition, the EE sensitivity (Chapter 4) also included a sensitivity where all market-rate customers were assumed to be on a TOU rate.

⁸⁷ 4 CSR 240-22.050 (1)(C)

⁸⁸ 4 CSR 240-22.050 (4)(A)

⁸⁹ Rate Design Matters: The Intersection of Residential Rate Design and Energy Efficiency. ACEEE (Brendon Baatz). March 2017. Report U1703

⁹⁰ 4 CSR 240-22.050 (4)(B)

DR Program Option	Program Description	Eligible Markets
Time of Use Rates without Enabling Technology	A retail rate with different prices for usage during different blocks of time. Daily pricing blocks could include on-peak, mid-peak, and off-peak periods. Pricing is pre-defined, and once established do not vary with actual cost conditions.	Residential and Business Customers
Critical Peak Pricing with Enabling Technology	A retail rate in which an extra-high price for electricity is provided during a limited number of critical periods (e.g. 100 hours) of the year. Market-based prices are typically provided on a day-ahead basis, or an hour-ahead basis. Includes enabling technology that connects technologies within building. The enabling technology is assumed to be a smart thermostat to control AC units. Only customers with Central AC are considered eligible.	Residential and Business Customers
Critical Peak Pricing without Enabling Technology	A retail rate in which an extra-high price for electricity is provided during a limited number of critical periods (e.g. 100 hours) of the year. Market-based prices are typically provided on a day-ahead basis, or an hour-ahead basis.	Residential and Business Customers
Inclining Block Rate	A retail rate in which the utility charges a higher rate for each incremental block of consumption.	Residential Customers
Interruptible Rate	A discounted rate is offered to the customer for agreeing to interrupt or curtail load during peak period. The interruption is mandatory. No buy-through options are available.	Business Customers
Electric Thermal Storage Rate	The use of a cold storage medium such as ice, chilled water, or other liquids. Off-peak energy is used to produce chilled water or ice for use in cooling during peak hours. The cool storage process is limited to off-peak periods.	Business Customers
Electric Vehicle Charging Station Off Peak	Special rate service for electric vehicles that charge off-peak.	Residential and Business Customers
Golf Cart Charging Off Peak	Special rate service for golf courses that charge their golf carts off-peak.	Golf Courses

As mentioned earlier, a hierarchy was put in place to avoid double-counting savings.⁹¹ For the Rates Sensitivity, Table 6-10 shows the hierarchy of all programs in both the Base Case in addition to the extra rates.⁹²

TABLE 6-10. DR HIERARCHY FOR EACH SECTOR INCLUDING RATE PROGRAMS

Order	Residential (MR) Hierarchy	Residential (IE) Hierarchy	Small Business Class Hierarchy	Large Business Class Hierarchy
1	Direct Load Control	Peak Time Rebates	Peak Time Rebates	Capacity Bidding
2	Peak Time Rebates	Direct Load Control	Direct Load Control	Interruptible Rate
3	Time of Use	Time of Use	Demand Bidding	Critical Peak Pricing
4	Critical Peak Pricing	Critical Peak Pricing	Time of Use	
5	Inclining Block Rate	Inclining Block Rate	Critical Peak Pricing	

Demand reductions were based on various secondary data sources including the FERC and other industry reports, including demand response potential studies. Rate-based DR options and are typically assumed to reduce a percentage of the total facility peak load. Table 6-11 shows the assumed load reductions.⁹³

⁹¹ 4 CSR 240-22.050 (3)(G)2

⁹² 4 CSR 240-22.050 (4)(D)2; 4 CSR 240-22.050 (4)(D)3

⁹³ 4 CSR 240-22.050 (4)(D); 4 CSR 240-22.050 (4)(D)1;

TABLE 6-11. DEMAND RESPONSE LOAD REDUCTION IMPACTS FOR RATE SENSITIVITY PROGRAMS

Program	Residential Load Reduction	Business Load Reduction
Time of Use with Enabling Technology	8.0%	3.8%
Time of Use without Enabling Technology	6.2%	2.0%
Critical Peak Pricing with Enabling Technology	23.4%	21.5%
Critical Peak Pricing without Enabling Technology	13.0%	11.3%
Inclining Block Rate	0.1%	N/A
Electric Vehicle Charging Rate	0.62 kW Level 1 Charger; 0.66 kW Level 2 Charger	N/A
Thermal Electric Storage Cooling Rate	N/A	19.4 kW
Golf Cart Charging Rate	N/A	42.75 kW
Utility Fleet Vehicle Charging Rate	N/A	1.7 kW
Interruptible Rate	N/A	41.3 kW

Ameren Missouri expects AMI infrastructure to be fully deployed in 2025. A forecast of AMI deployment rates for years 2022-2025 was provided by Ameren Missouri and applied to the eligible customers for those rate programs that require smart meters.⁹⁴ For example, the AMI forecast in the first year of the study is 44%. Therefore, only 44% of the customers in the eligible rate classes will be considered eligible. Two-way communication is fundamental for these pricing programs and AMI meters allow for hourly load data to be read and transmitted to the utility. Since it is imperative that hourly data must be read for each of these rate programs, GDS assumed AMI meters were required to participate in the program.

Table 6-12 provides the Rate Sensitivity long-term adoption rates for MAP and RAP. Annual adoption rates, sources, and specific assumptions for each program are in Appendix F.

TABLE 6-12 RATE SENSITIVITY ADOPTION RATES

Sector	Program	Steady State MAP Adoption Rate	Steady State RAP Adoption Rate
Residential (MR)	Time of Use with Enabling Technology	38%	14%
	Time of Use without Enabling Technology	8%	4%
	Critical Peak Pricing with Enabling Technology	16%	8%
	Critical Peak Pricing without Enabling Technology	12%	6%
	Inclining Block Rate	100% of remaining customers not on DR rate	100% of remaining customers not on DR rate
	Electric Vehicle Charging Rate	94%	57%
Residential (IE)	Time of Use with Enabling Technology	12%	5%
	Time of Use without Enabling Technology	2%	1%

⁹⁴ 4 CSR 240-22.050 (4)(C)

Sector	Program	Steady State MAP Adoption Rate	Steady State RAP Adoption Rate
	Critical Peak Pricing with Enabling Technology	5%	3%
	Critical Peak Pricing without Enabling Technology	4%	2%
	Inclining Block Rate	100% of remaining customers not on DR rate	100% of remaining customers not on DR rate
Business	Interruptible Rate	21%	3%
	Time of Use with Enabling Technology	20%	7%
	Time of Use without Enabling Technology	6%	5%
	Critical Peak Pricing with Enabling Technology	17%	7%
	Critical Peak Pricing with Enabling Technology	15%	6%
	Thermal Electric Storage Cooling Rate	20%	7%
	Golf Cart Charging Rate	20%	7%
	Utility Fleet Vehicle Charging Rate	20%	7%

6.3.2 Sensitivity Results

Figure 6-5 shows the results of each sensitivity compared to the Base Case for each sector. Sensitivities that led to a higher total RAP potential include the High Touch Marketing and Opt-Out sensitivities. Sensitivities that led to a lower total RAP potential include the Avoided Cost Scenario #2 (50% decrease in energy and capacity avoided costs) and the Economic Downturn sensitivities. Increased avoided costs did not create any new cost-effective opportunities. The Rate Sensitivity details are included in following figures.

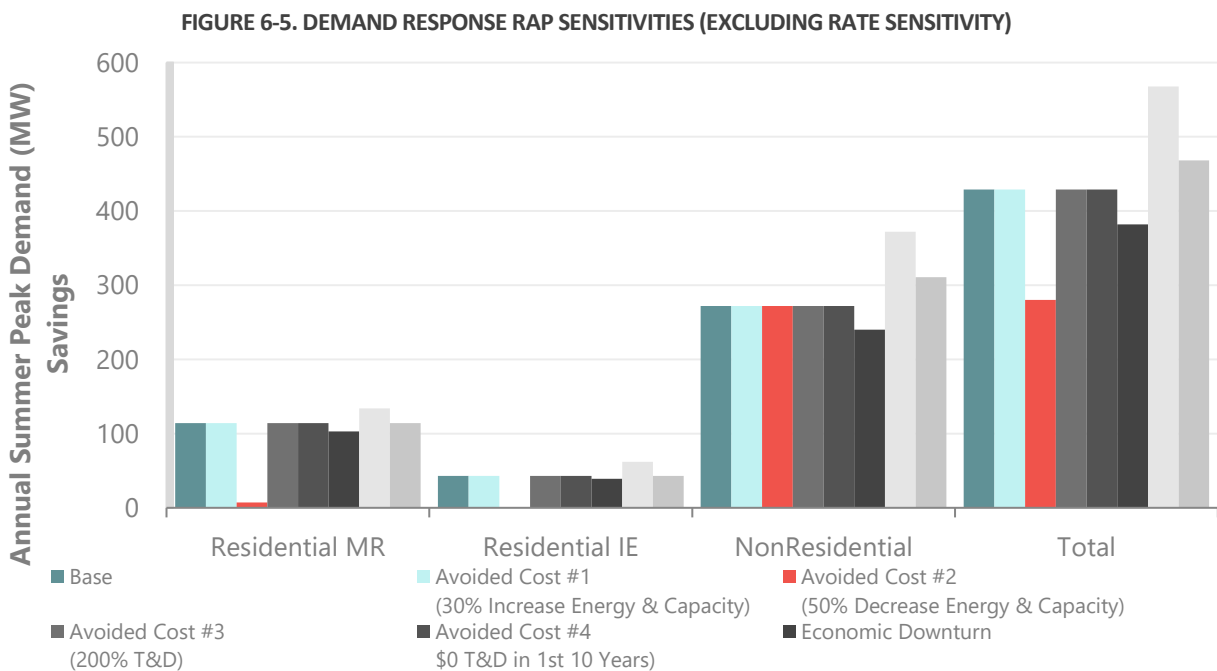


Figure 6-6 compares the Residential Base Case to the Rate Sensitivity. An additional 98 MW of RAP potential was added in the Rate Sensitivity. Additional annual impacts and costs associated with each DR ratio options is included in Appendix F.⁹⁵

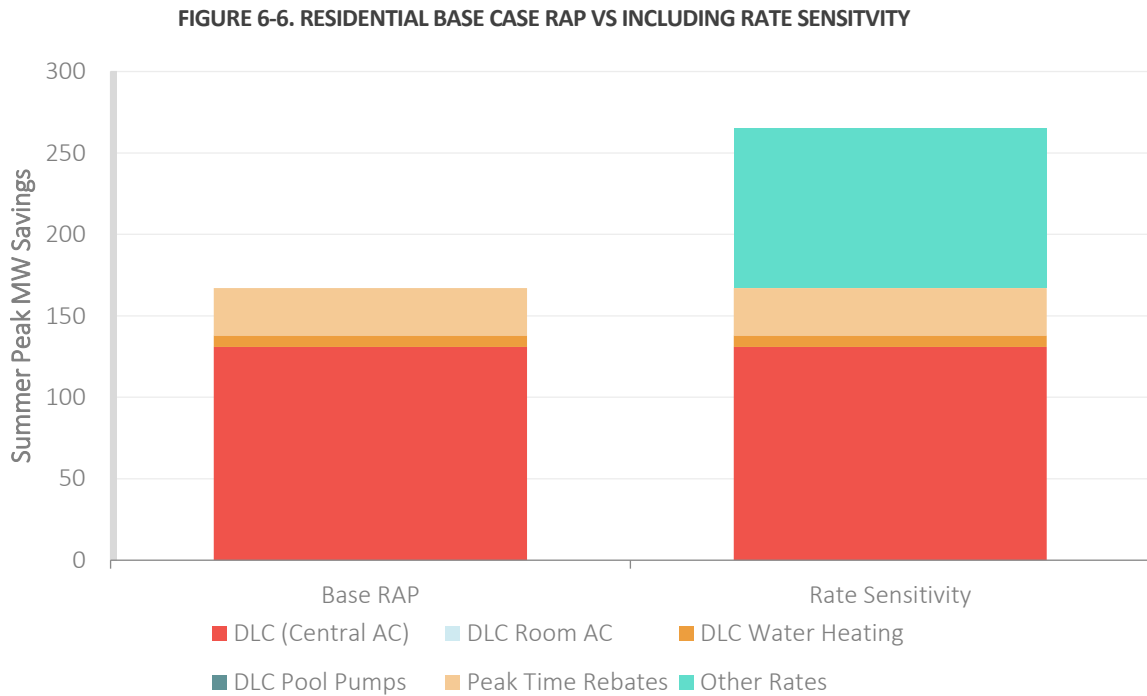


Figure 6-7 shows a breakdown of the cost-effective rate programs contributing to the total potential. The biggest contributing program is the TOU rate of EV Charging.

FIGURE 6-7. BREAKDOWN OF ADDITIONAL RATE DR FOR RESIDENTIAL SECTOR

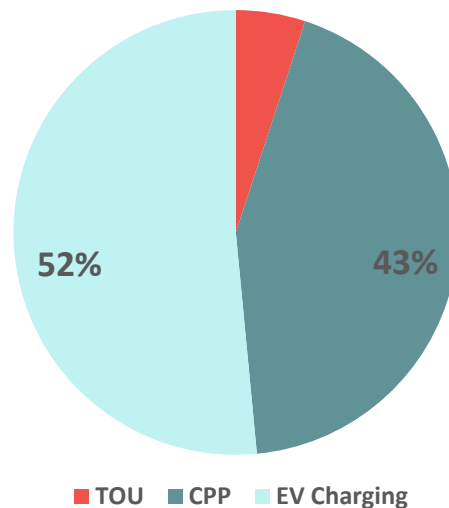


Figure 6-8 compares the business sector Base Case to the Rate Sensitivity. An additional 58 MW of RAP potential was added in the Rate Sensitivity.

⁹⁵ 4 CSR 240-22.050 (4)(D)4; 4 CSR 240-22.050 (4)(D)5A through D

FIGURE 6-8. BUSINESS SECTOR BASE CASE RAP VS INCLUDING RATE SENSIVITY

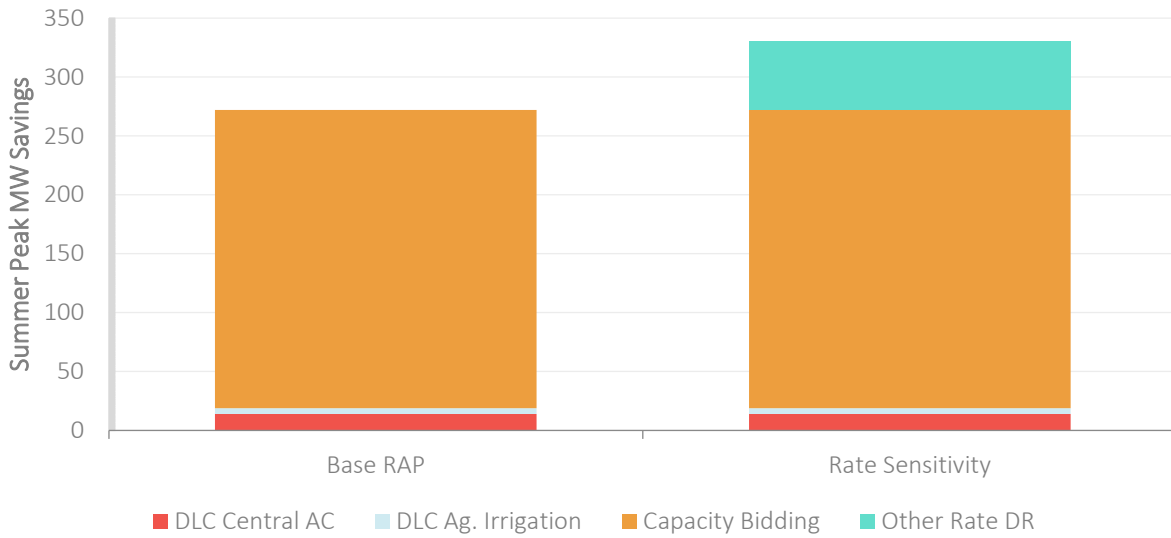
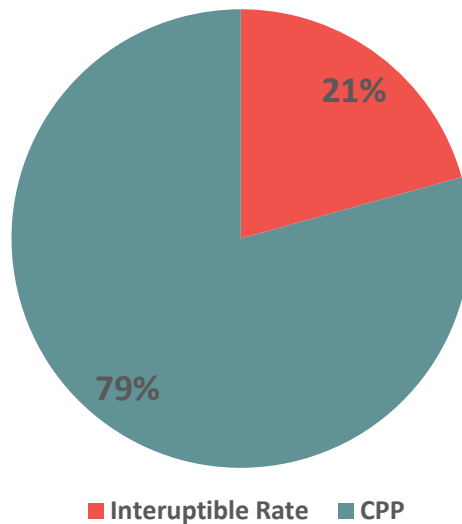


Figure 6-9 shows a breakdown of the cost-effective rate programs contributing to the total potential. The biggest contributing program is the Critical Peak Pricing program.

FIGURE 6-9. BREAKDOWN OF ADDITIONAL RATE DR FOR BUSINESS SECTOR



Cost-effectiveness of demand response measures was determined based on screening with the TRC test. Table 6-13 and Table 6-14 shows the residential and business sector benefits, costs, and TRC ratios for each program for MAP and RAP in the Rate Sensitivity.

TABLE 6-13. RATE SENSIVITY MAP BENEFITS, COSTS, AND TRC RATIOS

Sector	Program	NPV Benefits	NPV Costs	TRC Ratio
Residential (MR)	Time of Use with Enabling Tech	\$25,138,844	\$42,489,003	0.59
	Time of Use without Enabling Tech	\$5,767,255	\$2,199,413	2.62
	Critical Peak Pricing with Enabling Tech	\$59,480,537	\$29,441,192	2.02

Sector	Program	NPV Benefits	NPV Costs	TRC Ratio
	Critical Peak Pricing without Enabling Tech	\$30,637,823	\$4,450,891	6.88
	Inclining Block Rate	\$1,541,830	\$18,619,781	0.08
	Electric Vehicle Charging Rate - Level 1 Chargers	\$1,071,586	\$3,114,554	0.34
	Electric Vehicle Charging Rate - Level 2 Chargers	\$56,940,965	\$6,590,836	8.64
Residential (IE)	Time of Use with Enabling Tech	\$7,009,012	\$13,842,548	0.51
	Time of Use without Enabling Tech	\$1,298,090	\$752,680	1.72
	Critical Peak Pricing with Enabling Tech	\$13,525,174	\$6,700,482	2.02
	Critical Peak Pricing without Enabling Tech	\$6,711,199	\$1,282,577	5.23
	Inclining Block Rate	\$1,750,004	\$20,137,907	0.09
Business	Interruptible Rate	\$98,423,023	\$8,589,734	11.46
	Time of Use with Enabling Tech	\$3,510,999	\$6,543,308	0.54
	Time of Use without Enabling Tech	\$1,003,949	\$1,167,366	0.86
	Critical Peak Pricing with Enabling Tech	\$70,357,281	\$7,864,164	8.95
	Critical Peak Pricing without Enabling Tech	\$38,001,593	\$2,260,415	16.81
	Thermal Electric Storage Cooling Rate	\$20,338,889	\$181,260,970	0.11
	Golf Cart Charging	\$1,624,323	\$1,474,239	1.1
	Utility Fleet Vehicle Charging	\$785,251	\$4,901,267	0.16

TABLE 6-14. RATE SENSITIVITY RAP BENEFITS, COSTS, AND TRC RATIOS

Sector	Program	NPV Benefits	NPV Costs	TRC Ratio
Residential (MR)	Time of Use with Enabling Tech	\$9,744,875	\$18,858,495	0.52
	Time of Use without Enabling Tech	\$2,799,333	\$1,277,544	2.19
	Critical Peak Pricing with Enabling Tech	\$33,894,548	\$15,668,604	2.16
	Critical Peak Pricing without Enabling Tech	\$17,037,658	\$2,189,196	7.78
	Inclining Block Rate	\$2,282,279	\$19,495,200	0.12
	Electric Vehicle Charging Rate - Level 1 Chargers	\$649,792	\$2,314,209	0.28
	Electric Vehicle Charging Rate - Level 2 Chargers	\$34,528,032	\$3,631,102	9.51
Residential (IE)	Time of Use with Enabling Tech	\$2,896,124	\$6,567,503	0.44
	Time of Use without Enabling Tech	\$632,551	\$544,467	1.16
	Critical Peak Pricing with Enabling Tech	\$8,767,624	\$4,153,699	2.11
	Critical Peak Pricing without Enabling Tech	\$4,042,831	\$822,176	4.92
	Inclining Block Rate	\$2,027,012	\$16,757,840	0.12
Business	Interruptible Rate	\$16,839,317	\$2,357,144	7.14
	Time of Use with Enabling Tech	\$1,789,834	\$3,280,552	0.55
	Time of Use without Enabling Tech	\$1,227,716	\$1,164,403	1.05
	Critical Peak Pricing with Enabling Tech	\$38,663,640	\$4,689,307	8.25
	Critical Peak Pricing without Enabling Tech	\$21,058,208	\$1,519,014	13.86
	Thermal Electric Storage Cooling Rate	\$6,347,981	\$61,487,011	0.1
	Golf Cart Charging	\$561,645	\$1,263,891	0.44
	Utility Fleet Vehicle Charging	\$232,427	\$2,460,973	0.09

7 DISTRIBUTED ENERGY RESOURCES POTENTIAL

This chapter begins with a brief characterization of Electric Vehicles (EVs), with additional context surrounding their applications to DR and DER programs. Following this brief discussion, the chapter focuses on additional DER technologies including CHP and Solar Photovoltaics (PV), and their potential in the Ameren Missouri service area under the current MEEIA cost-effectiveness framework.

7.1 ELECTRIC VEHICLE DETAILS

Electric vehicles were largely considered as a demand response resource within this potential assessment using an intentional intervention that shifts the customer charging period to the late evening/early morning hours. This utility intervention could include either a specific TOU rate or a direct load control event. Either method would utilize an EV smart charger technology which is a Type II vehicle charger⁹⁶ that has an integrated capability to control at a specific time period, such as an Enel Juice Box[®] or Charge Point[®]. Smart charger technologies are usually installed at a residence or commercial fleet charging premise, where the responsible end-user interacts with the utility intervention. Public charging stations were not considered. Table 7-1 summarizes several of the key parameters utilized within the analysis.

TABLE 7-1: KEY ASSUMPTIONS IN ELECTRIC VEHICLE ANALYSIS⁹⁷

Parameter	Assumptions
Average Annual Miles Driven	12,000
Average Annual Electric Energy Consumption	4,106 kWh
Average Demand impact	0.66 kW ⁹⁸
Installed Type II Residential Smart Charger Cost	\$600
Share of EV Charging at Residential Premise	85%

As shown in Figure 7-1, the typical residential charging daily load profile has its peak charging period from hour 18 (6 pm) until hour 22 (10 pm), largely the result of users charging the electric vehicle upon returning home from work or school. Consequently, the EV peak charging period slightly trails behind the Ameren Missouri system peak period (summer: 4 – 6 pm). It also worth noting that for most EVs, charging is likely not occur every day of the week, so participation rates may not 100% of the eligible population. Whereas, plug-in hybrids (PHEVs) are likely to be charged every day, due to the smaller battery capacity. As the prevalence of EVs is likely to increase, Ameren Missouri should monitor the alignment of the system peak and the EV charging load profile and its impacts to the peak capacity.

One important outcome of shifting the charging period back 3 to 4 hours is that significant economic benefits are generated with avoided electric energy costs. This is unique in comparison to the many other residential and commercial load shifting programs, as their control period window is relatively short and thus, the recovery period window often has a marginal difference in the avoided energy costs. A significant piece of the total benefits of a shifted EV load profile are from avoided energy costs, because the controlled charging period occurs at the lowest avoided energy cost period. With these benefits included, EV smart chargers were found to pass the TRC cost-effectiveness threshold.

⁹⁶For certain vehicle types, charging controls are integrated with the vehicle and/or vehicle digital platform. In these cases, the technologies capabilities are the same without the incremental cost of the smart charging device.

⁹⁷ 4 CSR 240-22.050 (3)(G)1

⁹⁸ Average demand impact and average daily charging load shape assumptions are based on industry measurement data and testimony contained within Ameren Missouri Charge Ahead Docket from Mr. Stephen Willis of Ameren and Mr. David Pickles of ICF International File No. ET-2018-132.

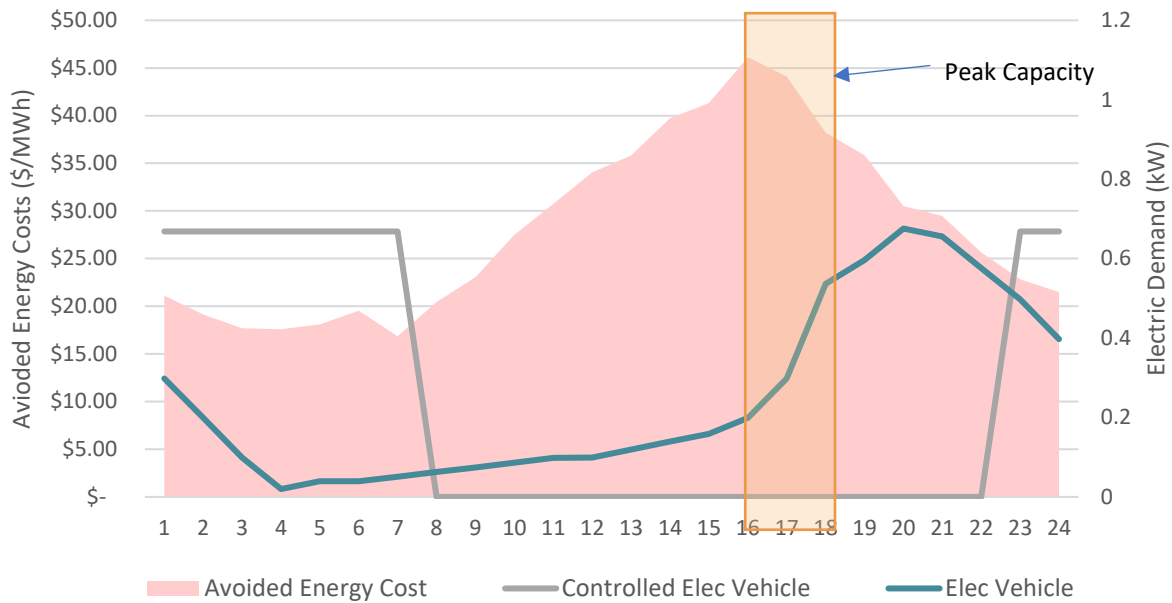


FIGURE 7-1 CHP ENERGY FLOW DIAGRAM

Electric vehicle smarter charger demand response TOU and/or load control programs was not included in the base program design for Ameren Missouri because the population of eligible electric vehicles and PHEVs is expected to be limited within much of the assessment horizon. In the study start year, the eligible population is expected to be around 10,000 vehicles. The study considered an average compound annual growth rate (CAGR) of 15.5%, resulting in an estimated number of eligible vehicles of 125,000 by the end of the study horizon. Demand response rate sensitivity includes 51MW of realistic achievable potential in 2040.⁹⁹ Ameren Missouri should continue to monitor the prevalence of electric vehicles in future market potential studies and other research activities. At some moment in the future, the number of eligible EVs may cause the need for a program intervention specifically for EVs.

As this study is focused as a component of MEEIA and the Integration Resource Plan (IRP), the benefits of electrification including economic impacts of increased energy consumption and revenue from EVs were not considered with this potential assessment. This assessment considers the potential once the customer has elected to purchase an EV and is not focused on the potential for additional EVs through a program which would influence the customer to purchase and EV over an internal combustion engine (IEC) vehicle. Ameren Missouri currently has an EV program, Charge Ahead, that is outside of the MEEIA DSM framework focused on public EV infrastructure.

7.1.1 Vehicle-to-Grid Considerations

As part of this assessment of relevant measures and technologies considered for inclusion in the market potential study, the GDS team reviewed the applicability of electric vehicles’ technical ability to provide vehicle-to-grid (V2G) services within Ameren Missouri’s territory. Data on V2G technology, policy, and economics is limited with only a few pilot programs initiated at the time of this report. However, information from previous and current pilots have indicated a lack of “of the shelf” available technologies and the need for new policy and standards that better allows for the inclusion of V2G to serve as a grid resource that may compete economically with other resources. Based on our review, we concluded there is insufficient information available to accurately support inclusion of V2G in the current Ameren potential study. Specific areas of concern the GDS team identified include the following findings:

- V2G currently exists only as pilots in specific applications and is not currently available as a service option for owners of electric vehicles.
- Limited technologies are currently available on the market that satisfy utility requirements for permitting V2G.

⁹⁹ 43% of the additional 98MW of RAP within the DR rate sensitivity = 51 MW. This includes a maximum adoption of 57% of the eligible EV residential customers.

- This includes both requirements for the vehicle which requires specific inverter technology and communication protocols as well as specific charging infrastructure technology.
- Vehicle manufacturers have raised concerns regarding the invalidation of battery warranty for vehicles that are used as a grid capacity source rather than for the intended use of vehicle transportation.
- Current market economics may not support participation by vehicle owners.
 - Individual vehicle owners may be limited to frequency regulation markets due to the relatively small capacity resource individual electric vehicles can provide and lack of a market aggregator.
 - Fleet owners may encounter market regulatory costs that outweigh revenue generation.

7.2 DISTRIBUTED ENERGY RESOURCES

The market potential assessment for electric distributed energy resources (DER) included combined heat and power (CHP) and solar photovoltaic (PV) systems within Ameren Missouri service area for the period 2022 to 2040. Resources for this potential assessment study were limited to technologies that are behind-the-meter and owned by the customer. Market potential for supply-side resources were not considered within this assessment.

CHP systems generate electric power and useful thermal energy in a single, integrated system. Heat that is normally wasted in conventional power generation is recovered as useful thermal energy. Due to the integration of both power and thermal generation, CHP systems are more efficient than separate sources for electric power generation and thermal energy production. This provides environmental, economic, and energy system infrastructure benefits. Solar PV is a system that uses solar panels mounted on a rooftop of a home or business to generate electricity.

7.2.1 Analysis Approach¹⁰⁰

This section describes the overall methodology proposed to assess the electrical DER potential in the Ameren Missouri service area. The approach utilizes a bottom-up approach to estimate distributed energy resource potential by:

- Characterizing the applicable premises within each market sector, along with the premise-level energy consumption for average premise;
- Researching DER technology performance, including hourly profiles, along with installed and operating costs¹⁰¹;
- Analysis of cost-effectiveness for each technology for each unique capacity and application;
 - The TRC test, consistent with energy efficiency and demand response potential analysis along with the statute framework¹⁰² was applied to consider as a DSM resource on equal footing with energy efficiency and demand response. No additional benefits for reliability or resilience were included in the analysis. It is GDS' understanding that reliability or resilience benefits are already included within the avoided electricity costs.
- Forecast achievable potential and program potential through application of customer adoption curve(s) for technologies that are cost-effective; and,
- Consider sensitivities through alternative scenarios with different unique inputs.

Many methodological activities and steps are similar to those performed in the energy efficiency potential study conducted within this report and are therefore not repeated.

¹⁰⁰ 4 CSR 240-22.050 (3)(I)

¹⁰¹ 4 CSR 240-22.050 (6)(B)

¹⁰² 4 CSR 240-22.050 (5); The State of Missouri Revised Statutes, Chapter 393, Section 393.1075.1, states that "The commission shall consider the total resource cost test a preferred cost-effectiveness test."

7.2.1.1 Ameren Service Territory Characterization

The Ameren Missouri market sector and premise characterization within the DER potential assessment is aligned with the end-use energy consumption in Chapter 3, but the end-use properties are not as relevant. However, it is important to characterize premise type by annual energy consumption, as is this an important parameter to align with the technology generation capacity. While it is technically plausible, most end-users will not select technology capacities that are greater than annual electric energy consumption, as exporting electricity is not often cost-effective from the customer perspective. Table 7-2 and Table 7-3 summarize the energy consumption, percent of customers, and energy consumption shares for each cohort. Ameren Missouri customers with annual energy consumption less than 1,000 kWh were not considered for DER market potential.

TABLE 7-2 BUSINESS SECTOR COHORT CHARACTERIZATION

Business Thresholds	High End Energy (kwh) Threshold	Percent of Market Sector Customers	Percent of 2018 Energy Consumption by Market Sector
Petite	15,000	52.3%	1.7%
Very Small	100,000	33.2%	8.9%
Small	200,000	5.8%	5.5%
Small-Medium	500,000	4.7%	10.2%
Medium	750,000	1.4%	5.6%
Medium-Large	1,500,000	1.3%	9.4%
Large	4,000,000	1.0%	15.7%
Very Large	999,999,999	0.4%	43.1%

TABLE 7-3 RESIDENTIAL COHORT CHARACTERIZATION

Residential Thresholds	High End Energy (kwh) Threshold	Percent of Market Sector Customers	Percent of 2018 Energy Consumption by Market Sector
Small	4,500	9.8%	2.3%
Medium	10,000	32.4%	18.0%
Large	25,000	48.0%	55.3%
Very Large	9,999,999	9.8%	24.5%

For the combined heat and power technologies potential estimate, only a portion of the business sector population will be included. That is, only those customer segments whose electric and thermal load profiles allow for the application of CHP should be considered. Business customers in the Petite cohort are not expected to have the consistent electric and thermal loads necessary to support CHP.

7.2.1.2 Combined Heat & Power Technology

Estimates for each DER technology are unique, so the following narratives discuss the general methodology for each. In most CHP applications, a heat engine creates shaft power that drives an electrical generator (fuel cells can produce electrical power directly from electrochemical reactions). The waste heat from the engine is then recovered to provide steam or hot water to meet on-site needs. By combining the thermal and electrical energy generation in one process, the total efficiency of a CHP application far exceeds that of a separate plant and boiler system. Overall, the efficiency of CHP technologies can reach 75% or more, while simple-cycle electricity generation reaches only 40% and combined cycle generation typically achieves 50%. When

considering both thermal and electric energy generation, CHP may require 25% less energy input to achieve the same energy output as a separate plant and boiler system. Figure 7-2 illustrates this point.

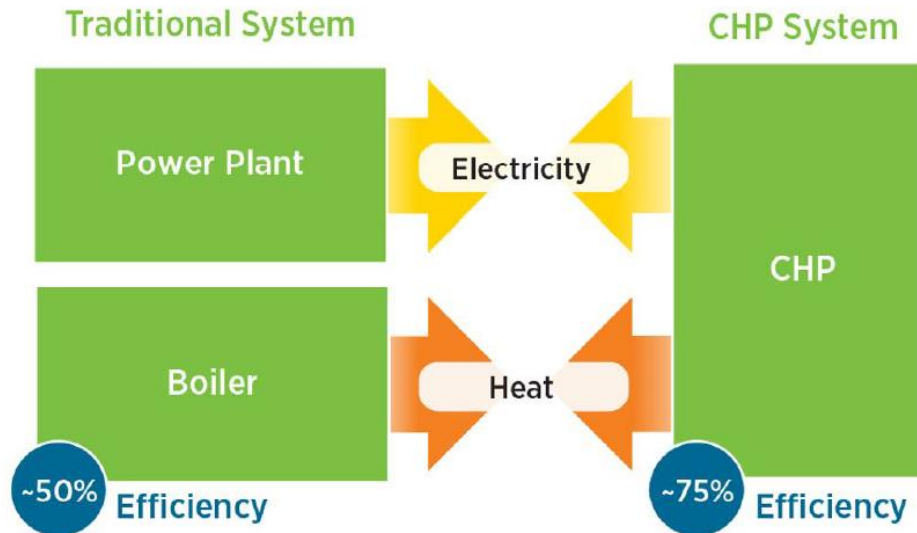


FIGURE 7-2 CHP ENERGY FLOW DIAGRAM

Common technologies used in CHP applications and explored in this study include:

- Steam turbines
- Gas turbines
- Micro turbines
- Fuel Cells
- Internal combustion engines

In a topping cycle system, fuel is first combusted to generate electricity. A portion of the heat left over from the electricity generation process is then converted into useful thermal energy (e.g. heating, hot water, or steam for industrial processes). A bottoming-cycle CHP system uses the reverse process. Fuel is first combusted to provide thermal input to industrial process equipment like a kiln or furnace, and the heat rejected from the process is then captured and used for power production.¹⁰³

Applications with steady demand for electricity and thermal energy are potentially good economic targets for CHP deployment. Industrial applications, particularly in industries with continuous processing and high steam requirements, are very economic and represent a large share of existing CHP capacity today. Commercial applications such as hospitals, nursing homes, laundries, and hotels with large hot water needs are well suited for CHP. Institutional applications such as colleges and schools, prisons, and residential and recreational facilities are also excellent prospects for CHP.

There are only 4 existing operable CHP sites within the in Ameren Missouri service area, representing a total installed capacity of 57.3 MW.¹⁰⁴ CHP is generally dependent on natural gas availability, including pipeline capacity availability, and customer steam usage. Ameren Missouri assumes almost all electric customers also have access to natural gas either via the distribution system or the wholesale pipeline system. Ameren Missouri does not currently have predetermined financial incentives for CHP projects. However, Ameren Missouri can consider CHP projects submitted

¹⁰³ U.S. Department of Energy, Combined Heat and Power (CHP) Technical Potential in the United States, March 2016, p. ii.

¹⁰⁴ U.S. DOE Combined Heat and Power Installation Database, <https://doe.icfwebsiteservices.com/chpdb/state/MO> and discussions with Ameren Missouri.

by business customers under the current Business Custom program. If a CHP project was submitted for consideration to receive an incentive via the Business Custom program, Ameren Missouri would then determine an appropriate incentive.

Selecting a specific CHP technology depends on several factors, which include but are not limited to power requirements, the duty cycle, space constraints, thermal energy needs, emission regulations, fuel availability, utility prices, and interconnection issues. Table 7-4 summarizes the CHP technologies evaluated in this study and their assumed operating parameters.

TABLE 7-4: CHP TECHNOLOGY COMPARISON¹⁰⁵

Parameter	Internal Combustion Engine	Gas Turbine	Steam Turbine	Micro-Turbine	Fuel Cell
Size (kW)	50-5,000	500-50,000	10-100,000	30-250	200-2,000
Electric Efficiency	28-39%	25-40% (simple) 40-60% (combined)	5-15%	25-28%	36-42%
Overall Efficiency	73-79%	64-72%	~80%	67-72%	62%-67%
Fuels	Natural gas, biogas, propane, liquid fuels	Natural gas, biogas, propane, distillate oil	All	Natural gas, biogas, propane, distillate oil	Hydrogen, natural gas, propane
NOx Emissions (lb/MWh)	0.15-2.17	0.55-0.68	Function of boiler emissions	0.14-0.17	0.01-0.04
Uses for Heat Recovery	Hot water, low pressure steam, district heating	Direct heat, hot water, low- or high-pressure steam, district heating	Low- or high-pressure steam, district heating	Direct heat, hot water, low pressure steam	Hot water, low- or high-pressure steam
Thermal Output (Btu/kWh)	3,000-6,100	3,200-5,000	n/a	4,800-6,300	1,500-3,000
Useable Temp (°F)	200-500	500-1,100	n/a	400-650	140-700

Table 7-5 summarizes detailed CHP cost considerations and assumptions utilized in this analysis.

TABLE 7-5: DETAILED CHP COST CONSIDERATION SUMMARY¹⁰⁶

Technology Type	Size (kW)	Installed System Cost (\$/W) ¹⁰⁷	Waste Heat Utilization (kBtu/kWh)	Capacity Factor	System Lifetime (years)	O&M Costs (\$/kWh)
Fuel Cell	175	\$15.50	2.6	0.76	20.0	\$0.05
	500	\$6.76				\$0.04
	800	\$6.04				\$0.06
	1,125	\$5.26				\$0.04

¹⁰⁵ Combined Heat and Power Market Assessment. ICF International for the California Energy Commission, April 2010.

¹⁰⁶ Natural gas fuel costs were assumed to be \$4.61/dekatherm; 2019 EIA Energy Outlook Assessment average industrial sector retail costs for years 2020 through 2030 in nominal dollars.

¹⁰⁷ Environmental and/or siting costs are not explicitly considered. For certain locations, these costs can be considerable and in addition to the installation costs estimated.

Technology Type	Size (kW)	Installed System Cost (\$/W) ¹⁰⁷	Waste Heat Utilization (kBtu/kWh)	Capacity Factor	System Lifetime (years)	O&M Costs (\$/kWh)
Gas Turbine	2,500	\$3.32	6.0	0.78	20.0	\$0.01
	3,000	\$3.23	5.5			
	3,500	\$3.09	5.2			
	5,000	\$2.66	4.6			
	10,000	\$1.82	3.7			
	15,000	\$1.72	3.3			
	30,000	\$1.45	2.8			
Micro Turbine	25	\$3.63	5.9	0.42	10.0	\$0.01
	100	\$3.30	4.7			
	200	\$2.92	4.3			
Reciprocating Engine	125	\$2.88	5.0	0.36	20.0	\$0.02
	350	\$2.80	3.9			\$0.02
	1,250	\$2.49	3.0			\$0.02
	3,000	\$1.88	2.6			\$0.02
	4,500	\$1.73	2.5			\$0.01
Steam Turbine	1,500	\$5.00	32.4	0.45	20.0	\$0.05
	3,500	\$5.00	32.4			\$0.05
	5,500	\$5.00	32.4			\$0.05

To estimate technical potential for CHP, the GDS Team first developed a screening process to identify probable CHP candidate premises. To effectively utilize CHP, a facility must have coincident electric and thermal energy requirements for a large load factor of the year. A continuous process industry with nearly constant steam or hot water demand electric load is an excellent target, such as a chemicals manufacturer or a hospital. Facilities with intermittent electric and thermal loads are progressively less attractive as the number of hours of coincident load diminishes. Hence our screening process will identify a minimum threshold kW level which represents feasible CHP opportunities.

A thermal factor was applied to potential candidate customer loads to reflect thermal load considerations in CHP sizing. In most cases, on-site thermal energy demand is smaller than electrical demand. Thus, CHP size is usually dictated by the thermal load in order to achieve proper efficiencies and adequate returns on investment. Using electric and thermal intensity data from prior studies, the SWE used power to heat ratios for the prime mover CHP technology for different market segments to calculate the thermal factor as shown in following equation.

EQUATION 7-1: THERMAL FACTOR CALCULATION

$$Thermal\ Factor = \frac{P/H\ (CHP\ System)}{P/H\ (Customer\ Segment)}$$

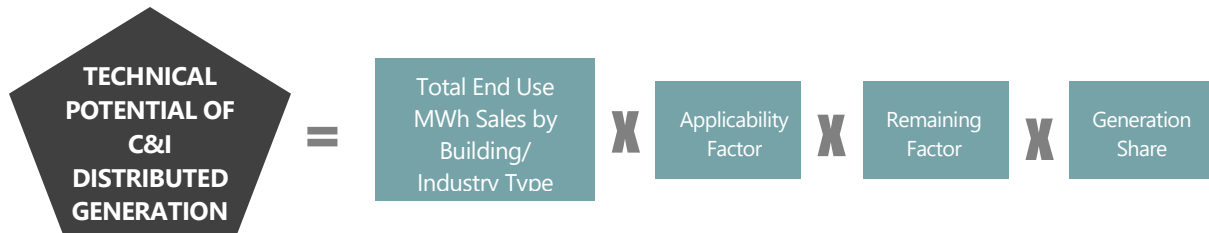
A thermal factor of one (1.0) would result in the CHP system capacity being equal to the electric demand of the facility. A thermal factor of less than one would indicate that the application is thermally limited, and the resulting CHP system size would be below the electric demand of the facility. A thermal factor greater than one indicates that a CHP system sized to the thermal load would produce more electricity than can be used on-site, resulting in excess power that could be exported to the grid. Any customer premises with an annual kWh consumption below an established threshold was removed from the analysis. The thermal factors and thresholds are intended to be reasonable values representative of the average building in each commercial segment that would be eligible to have a CHP technology installed onsite. A summary of the utilized thermal factors is listed in Table 7-6, as sourced from the DOE EPA CHP potential study.

TABLE 7-6: DETAILED CHP COST CONSIDERATION SUMMARY

Industrial Segment	Heat to Power Ratio	Commercial Segment	Heat to Power Ratio
Chemicals	1.29	Education	0.75
Electrical Equipment Manufacturing	0.26	Health	0.94
Food Manufacturing	1.10	Public service	0.62
Primary Metals	0.33	Institutional	0.62
Paper	2.37	Grocery	0.20
Plastics Rubber	0.31	Lodging	0.84
Misc	1.34	Office	0.62
NonMetallic Mineral	0.25	Restaurant	0.48
General Equipment	0.25	Retail	0.37
Petroleum	3.83	Warehouse	0.68
Fabricated Metals	0.50	Misc.	0.68

After developing the screening method our team will calculate the average building consumption for each commercial and industrial segment. Next, we will estimate a building energy savings share percentage for each CHP technology based on its generation capacity. We will apply those savings shares to the applicable share of the sector load to estimate technical potential. The core equation utilized in the technical potential analysis for each individual CHP technology is shown the equation below.

EQUATION 7-2: THERMAL FACTOR CALCULATION



Applicability Factor = the share of the premises where it is technically feasible to add CHP technology from an engineering perspective (e.g., it may not be possible to install exhaust flues or obtain necessary emission permits for premises).

Remaining Factor = the fraction of equipment that does not have existing CHP technologies (or other similar competing DER resource). This can be removed from the technical and economic potential, as there are a limited number of sites where CHP is viable and had not already been considered.

Generation Factor = the share of electric consumption resulting from CHP technology. This percentage is closely related to power-to-heat ratios that are unique for each CHP technology and premise type, based on expectations of thermal loads for processes and occupants. Additionally, care must be taken align the potential CHP technology capacity with a similar premise thermal and electric consumption. In order to accomplish this, multiple cohorts for applicable premise types will be developed based on standard CHP capacity ranges (i.e., 500kw, 1000 Kw, etc)

7.2.1.3 Solar Photovoltaics

Photovoltaic systems utilize solar panels, a packaged collection of photovoltaic cells, to convert sunlight into electricity. A system is constructed with multiple solar panels, a DC/AC inverter, a racking system to hold the panels, and electrical system interconnections. These systems are often roof-mounted systems that face south-west, south, and/or, south-east. This study analyzed the potential associated with roof-mounted systems installed on residential and business

sector buildings. Additionally, for the business market segment, the team estimated potential for ground mounted (or covered parking) systems for a few specific business types, such as municipal facilities, parking enclosures, and some high-end hospitality facilities. Integrated battery storage was analyzed as an additional configuration with each with solar PV system type. This study did not explore the market potential associated utility-scale solar PV installations.

The assessment of the market potential from distributed solar PV was estimated through the following steps:

- Characterize the existing and new residential, commercial, and industrial building stocks, including relevant parameters such as number of facilities, average number of floors, and average premise square footage by utility.
- Calculate the total available roof area feasible for installing solar PV systems from the forecast disaggregation analysis to characterize the existing and new residential, commercial, and industrial building stocks. Relevant characterized parameters include share of pitched/flat roofs and unusable area due to other rooftop equipment.
 - Premises with existing solar PV will be removed.
- Align the premise energy consumption using the premise cohorts in Table 7-2 and Table 7-3 with analyzed standard system sizes.
 - Residential: System size is limited by 100% of the average energy consumption of the cohort.
 - Non-Residential: System size is limited by the available roof area and expected power density (kW per square foot of roof area).
- Develop standardized solar PV system configurations to characterize performance and system costs.
 - System sizes for residential premises range from 3 to 20 kW (DC) and 10 to 2,000 kW (DC) for business premises.
 - Battery system sizes for each solar PV system size were selected to dispatch energy for 2-4 hours during low and/or non-generation time periods.
- Analyze the energy generation output, capacity factors, and hourly load shapes using proven calculation tools, such as PVWatts¹⁰⁸ and System Advisor Model (SAM)¹⁰⁹ simulations. System models were generated for St. Louis City, St. Louis County, Cape Girardeau, and Jefferson City and determined an average rooftop suitability present for 81% of buildings across the territory. The GDS team applied this suitability factor to each building segment.

Our approach to calculate technical potential estimates the total number of buildings in Ameren’s territory with rooftops suitable for siting solar PV systems and calculating the solar PV system generation based on building characteristics. This calculation is computed using following equation:

EQUATION 7-3: SOLAR PV TECHNICAL POTENTIAL CALCULATION

$$PV \text{ Technical Potential} = \Sigma(\text{Homes with Suitable Rooftop} \times PV \text{ System Generation})$$

The two key parameters in the equation were from multiple data sources relevant to Ameren’s territory. We discuss our methods for defining these parameters below. To estimate the total number of buildings containing rooftop area suitable to host solar PV within Ameren’s territory, the GDS team leveraged multiple data sources including the National Renewable Energy’s (NREL) National Solar Radiation Database (NSRDB), Google’s Project Sunroof, and customer account information provided by Ameren Missouri. We defined suitable rooftop based on NREL and Google models with the following key screening parameters:

- **Contiguous rooftop area size:** 4 contiguous panels
- **Rooftop orientation (tilt and azimuth):** All orientations permitted
- **Minimum solar exposure:** 75% of optimal orientation
- **Shading:** Accounts for trees, buildings, and other obstructions within 100-150 meters as well as obstructions on the roof
- **Existing solar PV:** Estimated based on aerial imagery

¹⁰⁸ PVWatts estimates solar PV energy production and costs. Developed by the National Renewable Energy Laboratory. (NREL) <http://pvwatts.nrel.gov/>

¹⁰⁹ SAM estimates hourly solar PV energy production and costs with more detailed inputs and outputs than PVwatts. Developed by the National Renewable Energy Laboratory. (NREL) [http:// https://sam.nrel.gov/](http://https://sam.nrel.gov/)



FIGURE 7-3: EXAMPLE OF GOOGLE PROJECT SUNROOF DETAIL

Our team relied on NREL’s PVWatts (Version 6) and SAM tools to estimate system generation for both residential and commercial sited systems. PVWatts models PV power density based on site specific resource data sourced from NREL’s LIDAR-based NSRDB to estimate total solar irradiance in conjunction with PV system specifications. For this analysis the following assumptions are summarized in Table 7-7:

TABLE 7-7: KEY ASSUMPTIONS IN SOLAR PV ANALYSIS¹¹⁰

Parameter	Assumptions
Module Type	Standard (300-330 watts/panel)
Residential System Sizes (Nominal DC Capacity)	3 kW, 5 kW, 7.5 kW, 10 kW, 15 kW, 20 kW
Non-Residential System Sizes (Nominal DC Capacity)	10 kW, 15 kW, 20 kW, 25 kW, 50 kW, 100 kW, 250 kW, 500 kW, 1,000 kW, 2,000 kW
System losses	14.1%
Tilt	40 degrees
Azimuth:	Various
Capacity Factor	15.7%
DC to AC size ratio	1.2
Inverter efficiency	96% (micro-inverter)
Battery Round-Trip Efficiency	85%
Technology Useful Life	20 years

As part of the analysis, our team calculated capacity factors for both residential and commercial buildings. Using rooftop orientation data from Google for various locations within Ameren’s territory, the GDS team estimated an average residential system capacity factor weighted by varying rooftop orientations. The commercial capacity factor was based on an assumed flat-roof building. We applied the capacity factor to the system size and multiplied by 8,760 to estimate annual electricity generation.

¹¹⁰ 4 CSR 240-22.050 (3)(G)1

To estimate economic potential for solar PV, pertinent data on system costs were gathered along with calculated generation benefits to use in the benefit-cost analysis which was conducted at the measure level. The GDS team relied on multiple data sources to determine the solar PV system costs for varying system sizes and configurations. We assessed system component costs based on data included the National Renewable Energy Laboratory's (NREL) Q1 2018 Benchmarking report¹¹¹ which provided detailed cost information on modules, inverters (by technology), structural and electrical balance of system, supply chain, permitting-inspection-interconnection, marketing, overhead, and profit. Cost parameters were adjusted these from a national level to Missouri-specific values by using various market data provided by Energy Sage¹¹². This analysis produced an estimated installation cost per watt installed which was applied to various system sizes to estimate total installed cost. Additionally, O&M costs were included that scale with system size. Finally, we assumed the impact of the federal investment tax credit (ITC) to follow the existing schedule at the time of this report which equates to a 10% tax credit for commercial systems by 2022 and a 0% tax credit for residential systems by 2022.¹¹³

In addition to modeling solar PV system costs, the GDS team also estimated cost impacts for solar PV systems coupled with battery storage. As these systems are far less prevalent in both residential and commercial systems at the time of reporting, fewer published data on battery costs, balance of system costs, and maintenance were available. Moreover, the battery capacity is also variable based on the service need. Ultimately, on multiple data sources were used to assume an overall capital cost per kWh based on a 3- or 4-hour battery for various measure permutations. O&M costs were largely defined by a ten-year amortized battery replacement cost.

TABLE 7-8: ASSUMED SOLAR PV INSTALLATION COST (2022)

Sector	System Cost (\$/ DC Watt)
Residential	\$2.50
Residential (Battery)	\$3.05
Business	\$1.70
Business (Battery)	\$2.04
Operations & Maintenance	\$5/kw/yr

7.2.2 DER Potential Findings

This section of the report presents the Technical, Economic, Achievable (MAP and RAP) for CHP and Solar PV.

7.2.2.1 Combined Heat & Power

Table 7-9 summarizes the CHP cumulative annual potential estimates for electric demand and Table 7-10 for electric energy. 2040 technical market potential for CHP represents 26.7% of the 2040 business sector sales forecast and economic potential represents 1.2% of the 2040 business sector sales forecast.

TABLE 7-9: SUMMARY OF CHP ELECTRIC DEMAND MARKET POTENTIAL

Year	Technical (MW)	Economic (MW)	MAP (MW)	RAP (MW)
2023	128	0	0	0
2030	513	15	15	8

¹¹¹ Fu, R, et. al., U.S. Solar Photovoltaic System Cost Benchmark: Q1 2018. NREL, November 2018.

¹¹² Energysage Solar Marketplace Intel Report, H2 2018 – H1 2019.

¹¹³ 4 CSR 240-22.050 (3)(G)5C

2040	1,218	30	30	15
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TABLE 7-10: SUMMARY OF CHP ELECTRIC ENERGY MARKET POTENTIAL

Year	Technical (MWh)	Economic (MWh)	MAP (MWh)	RAP (MWh)
2030	2,150,159	95,789	95,789	47,895
2040	5,101,722	227,431	227,431	113,715

Figure 7-4 summarizes the shares of technical potential by CHP technology type.

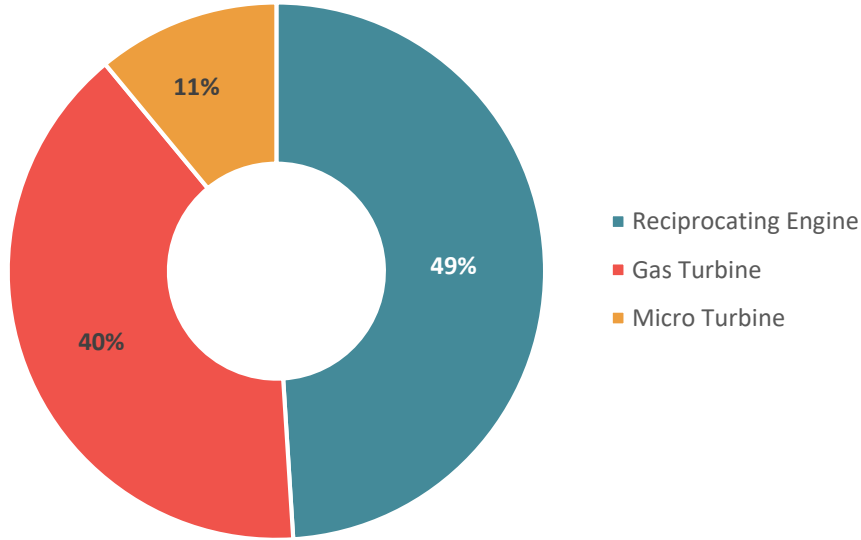


FIGURE 7-4: CHP 2040 TECHNICAL POTENTIAL TECHNOLOGY SHARES

Table 7-11 summarizes the cost effectiveness results for each technology and for each cost-effectiveness perspective. Costs included in the Utility Cost test (UCT) and Rate Impact Measure (RIM) test include incentives to the customer at a 30% share of the technology incremental cost. The Participant Test does not include the consideration of the customer incentive as representation of the customer decision-making process absent program intervention.¹¹⁴

TABLE 7-11: SUMMARY OF CHP COST-EFFECTIVENESS¹¹⁵

CHP Technologies	TRC Test Range	UCT Range	Participant Test Range	RIM Ratio Range
Fuel Cell (175 - 1,125KW)	0.2 – 0.4	0.4 – 0.5	0.4 – 1.0	0.3 – 0.4
Gas Turbine (2,500 – 10,000KW)	0.5 – 1.1	3.5 – 5.8	1.6 – 3.5	0.2 – 0.4
Micro-Turbine (Gas) (25 – 200KW)	0.3	3.4 – 3.6	1.6 – 1.7	0.4
Reciprocating Engine (125 – 4,500KW)	0.4 – 0.6	2.1 – 3.2	1.0 – 1.7	0.4
Steam Turbine (1500 – 5,000KW)	0.1	1.6	0.3	0.4

¹¹⁴The retail energy and demand rates included in the benefit-cost screening were calculated utilizing applicable 2018 tariffs for small and large non-residential customers. Future retail rates were escalated utilizing a 2% inflation rate.

¹¹⁵ 4 CSR 240-22.050 (5)(E); 4 CSR 240-22.050 (5)(F)

Large gas turbines, with capacity greater than 15MW, are the technologies that are passing TRC cost-effectiveness. For all CHP technologies, the systems with the larger capacity are the most cost-effective with economies of scale.

It is notable that many most of the CHP technologies do not pass cost-effectiveness screening under the TRC test following the MEEIA framework. This test is the primary cost-effectiveness criteria used to determine whether a utility sponsored program intervention is prudent. However, it may be the case that certain site location conditions have important performance parameters that allow for a favorable cost-effectiveness assessment for that specific site, even if the average system and facility is not cost-effective as analyzed. Additionally, it is notable that for the many of the technologies are cost-effective from the participant cost test while failing the TRC test.

This analysis assumes that Ameren Missouri will continue to offer CHP technologies through the Business Custom program for upcoming years. Table 7-12 summarizes that expected budget that would need to be included within the Custom program to cover the CHP market achievable potential.

TABLE 7-12: CHP PROGRAM BUDGETS (\$ IN MILLIONS)

Year	Program MAP Budget (Millions)	Program RAP Budget (Millions)
2030	\$2.2	\$1.1
2040	\$4.4	\$2.2

Program budgets reflect the following assumptions regarding CHP:

- There is an assumed installation incentive of \$200/kw up to \$25,000 (or 50% of installed cost) and a performance rebate of \$.07/kWh, both until a project hit a \$2M total rebate.
- Program administrative cost of 8% of the total incentive costs was assumed.

7.2.2.2 Solar Photovoltaics

Table 7-13 summarizes the Solar PV cumulative annual potential estimates for electric demand and Table 7-14 for electric energy. 2040 technical market potential for Solar PV represents 51.6% of the 2040 residential and business sector sales forecast. Additionally, 43.9% of the technical market potential exists in the residential sector.

TABLE 7-13: SUMMARY OF SOLAR PV ELECTRIC DEMAND MARKET POTENTIAL

Year	Technical DC Capacity (MW)	Technical Peak Capacity (MW) ¹¹⁶	Economic (MW)	MAP (MW)	RAP (MW)
2023	595	262	0	0	0
2030	4,767	2,101	0	0	0
2040	11,319	4,989	0	0	0

TABLE 7-14: SUMMARY OF SOLAR ELECTRIC ENERGY MARKET POTENTIAL

Year	Technical (MWh)	Economic (MWh)	MAP (MWh)	RAP (MWh)
2030	7,067,211	0	0	0
2040	16,779,461	0	0	0

¹¹⁶ This peak capacity represents the alternating current (AC) production between the hours of 16 and 18 and may not align with MISO Resource Adequacy models.

Table 7-15 summarizes the cost effectiveness results for each technology and for each cost-effectiveness perspective. Costs included in the Utility Cost Test (UCT) and Rate Impact Measure (RIM) test include incentives to the customer at a 30% share of the technology incremental cost. The participant cost test does not include incentive payments. This is a necessary assumption to identify likely participant decision-making, in the absence of a utility funded program intervention. The participant cost test also assumes that all energy produced is consumed on site.

TABLE 7-15: SUMMARY OF SOLAR PV COST-EFFECTIVENESS¹¹⁷

Solar PV Technologies	TRC Test Range	UCT Range	Participant Test Range	RIM Ratio Range
Residential Roof-mounted (3 - 15KW)	0.4 – 0.5	1.2	0.8	0.4
Residential Roof-mounted with Batteries (3-15KW)	0.2 – 0.4	0.6 – 1.0	0.3 – 0.6	0.2 – 0.4
Business Roof mounted (10 - 50KW)	0.5 – 0.6	1.6 – 1.8	1.0 - 1.1	0.4
Business Roof mounted with Batteries (5-50KW)	0	1.1 – 1.4	0.6 – 0.8	0.3 – 0.4
Business Ground mounted (100 KW-2MW)	0.6 – 0.7	1.8 – 2.0	1.2 – 1.3	0.4
Business Ground mounted with Batteries (100 KW-2MW)	0.5 – 0.65	1.6 – 1.8	0.9 – 1.1	0.4
Business Ground mounted Tracking (100 KW-2MW)	0.6 – 0.9	1.7 – 2.3	1.1 – 1.9	0.4
Business Ground mounted Tracking with Batteries (5-50KW)	0.5 – 0.8	1.6 – 2.0	1.1 – 1.4	0.4

It is notable that no Solar PV technologies pass cost-effectiveness screening under the TRC test following the MEEIA framework. This test is the primary cost-effectiveness criteria used to determine whether a utility sponsored program intervention is prudent. For all technologies, the systems with the larger capacity are more cost-effective largely because of the economies of scale. As systems approach small utility/neighborhood scale, over 1,000 KW, systems become marginally cost-effective. Consequently, while these customer-owned, behind-the-meter systems do not pass cost-effectiveness, readers should not conclude that solar PV is a resource where Ameren should not consider investment as there are alternative cost-effectiveness perspectives outside of the MEEIA framework.

Additionally, it is notable that for the many of the technologies are cost-effective from the participant cost test perspective while failing the TRC test as shown in Figure 7-5. While the participant cost is not an exact replica of a customer choice criteria, like a pay-back period, it is a reasonable proxy for customer decision making. With many technologies passing the participant cost test, this is congruent with industry interest and adoption of solar PV systems, in particular for large business sector customers.

One key performance issue is that Solar PV production does not exactly align with the peak avoided energy cost periods. As shown in Figure 7-6, peak solar PV load production occurs between hours 10 to 14; whereas, the highest avoided energy costs occur between hours 14 and 18 and avoided capacity benefits occurs between hours 16 and 18.

¹¹⁷ 4 CSR 240-22.050 (5)(E); 4 CSR 240-22.050 (5)(F)

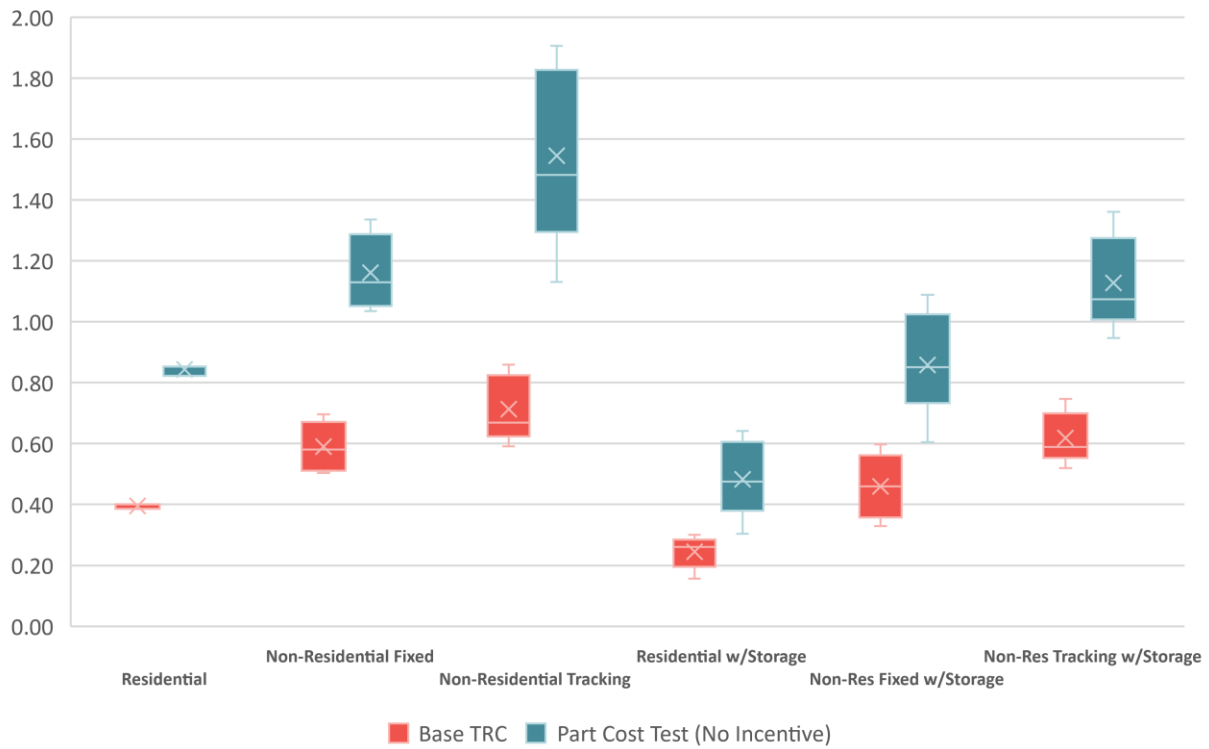


FIGURE 7-5: COMPARISON OF TRC AND PARTICIPANT COST TEST – SOLAR PV

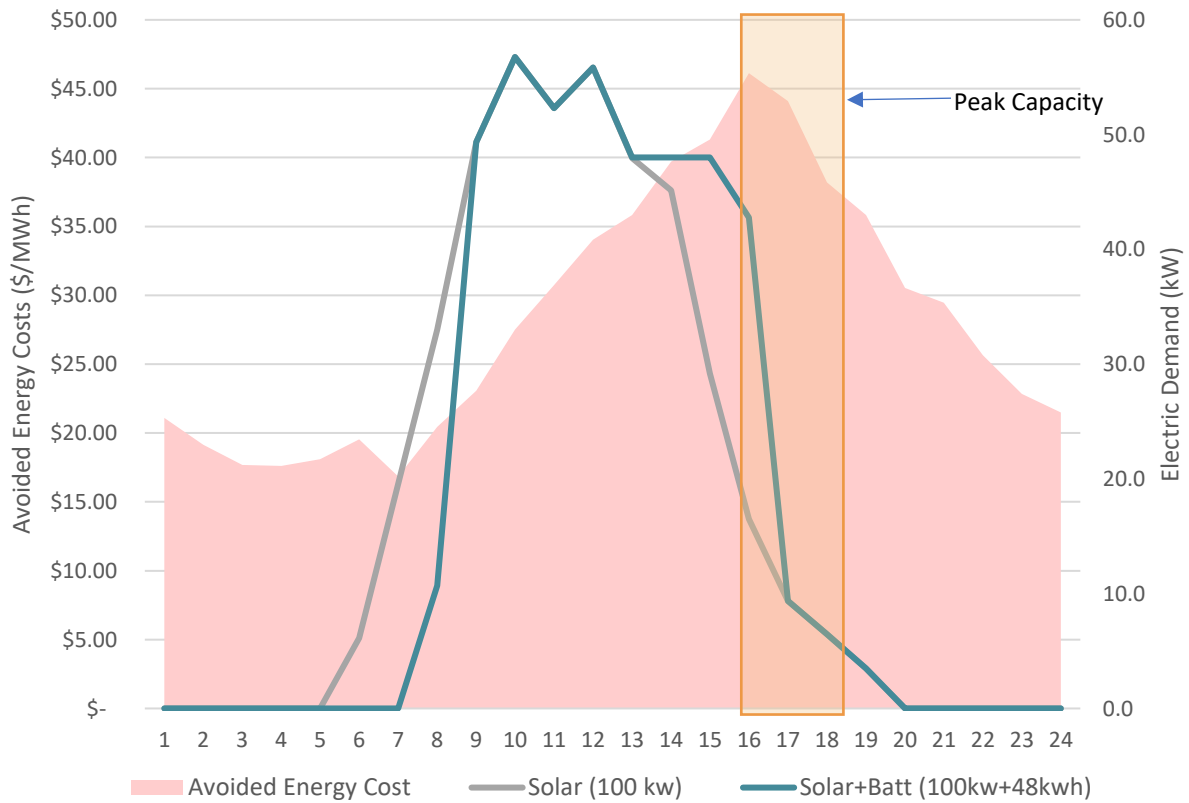


FIGURE 7-6: SOLAR PV LOAD PROFILES AND AVOIDED ENERGY COST PROFILE (TYPICAL SUMMER WEEKDAY)

Additionally, as shown in Figure 7-6, load shapes for two systems types, Solar PV and solar PV with battery storage were analyzed. The battery storage capacity and battery dispatch approach can have a significant impact on the hourly load. The battery was sized to be dispatch for up 3 to 4 hours of operation of approximately 20-25% of the solar PV DC capacity rating. The dispatch model selected was a method that would be beneficial for the end-use customer, specifically to extend the solar production shape further into the late afternoon to reduce tariff demand charges and/or accommodate short-term weather events. It is assumed that the battery would be dispatched to 85% of the rated capacity and primarily on weekdays. Increasing the battery capacity to maximize the peak capacity benefits was considered, but the additional costs did not outweigh the additional benefits. Finally, the battery storage is assumed to be charged by the solar PV (and not re-charged by the electric grid). This approach ultimately shifts the production load shape and hour or two further into the afternoon.

7.2.3 Sensitivities

As part of the market potential assessment for DERs, five sensitivities were analyzed to consider potentially different outcomes if input parameters effecting future participation or cost-effectiveness were to change from the original assumptions.¹¹⁸ These sensitivities included:

- Higher and lower avoided energy costs
- Higher and lower avoided transmission and distribution costs
- All eligible DSM opt-out large business customers removed
- Decreasing technology costs of solar PV and batteries
- Alternative cost-effectiveness criteria for CHP technologies

7.2.3.1 Avoided Energy Costs Sensitivity

Table 7-16 summarizes the market potential outcomes and changes if avoided energy costs were to increase by 30% or decrease by 50%.

TABLE 7-16: SUMMARY OF MARKET POTENTIAL OUTCOMES WITH DIFFERENT AVOIDED ENERGY COSTS

Year	Technical (MW)	Economic (MW)	MAP (MW)	RAP (MW)
Higher Avoided Energy Costs (30%)				
Combined Heat and Power (2040)	1,218	130	90	20
Percent difference to base scenario	0%	333%	300%	33%
Solar PV (2040)	11,319	0	0	0
Percent difference to base scenario	0%	0%	0%	0%
Lower Avoided Energy Costs (50%)				
Combined Heat and Power (2040)	1,218	0	0	0
Percent difference to base scenario	0%	n/a	n/a	n/a
Solar PV (2040)	11,319	0	0	0
Percent difference to base scenario	0%	0%	0%	0%

7.2.3.2 Avoided T&D Cost Sensitivity

Table 7-17 summarizes the market potential outcomes and changes if avoided transmission and distribution costs were zero for the next 10 years or if they were to increase by 200% or 500%. The later sensitivity is a proxy analysis for potential locational value where specific electric network component costs could be deferred or eliminated through the acquisition of DERs on that limited network

¹¹⁸ 4 CSR 240-22.050 (6)(C)1; 4 CSR 240-22.050 (6)(C)2

TABLE 7-17: SUMMARY OF MARKET POTENTIAL OUTCOMES WITH DIFFERENT AVOIDED T&D COSTS

Year	Technical (MW)	Economic (MW)	MAP (MW)	RAP (MW)
Lower Avoided T&D Costs (\$0 for 10 years)				
Combined Heat and Power (2040)	1,218	0	0	0
Percent difference to base scenario	0%	n/a	n/a	n/a
Solar PV (2040)	11,319	0	0	0
Percent difference to base scenario	0%	0%	0%	0%
Higher Avoided T&D Costs (200%)				
Combined Heat and Power (2040)	1,218	30	30	15
Percent difference to base scenario	0%	0%	0%	0%
Solar PV (2040)	11,319	0	0	0
Percent difference to base scenario	0%	0%	0%	0%
Higher Avoided T&D Costs (500%)				
Combined Heat and Power (2040)	1,218	130	90	20
Percent difference to base scenario	0%	333%	300%	33%
Solar PV (2040)	11,319	4,108	2,799	753
Percent difference to base scenario	0%	n/a	n/a	n/a

For the scenario where the avoided costs of T&D increase by 500%, solar systems larger than 500 KW become cost effective with TRC ratio larger than 1.0. Figure 7-7 illustrates the expected customer adoption of business Solar PV systems larger than 500 KW for maximum achievable potential (MAP) and realistic achievable potential (RAP). In review of Ameren Missouri’s customer owned solar PV program, only 1 business system larger than 500 KW was found to have been installed in the last 5 years.

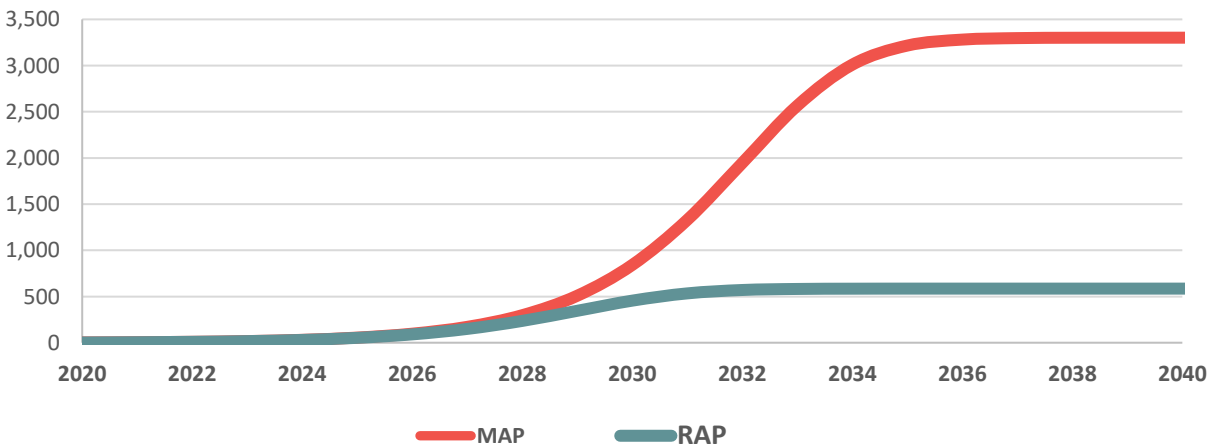


FIGURE 7-7: MARKET ADOPTION OF BUSINESS SECTOR SOLAR PV SYSTEMS LARGER THAN 500 KW

7.2.3.3 All Large Business Customer Opt-Outs Removed

Table 7-18 summarizes the market potential outcomes and changes if all eligible large business customers opt-out of DSM (largely rate class 11M). Solar PV does not substantially change, because the removal of these several hundred customers does not remove much available roof area.

TABLE 7-18: SUMMARY OF MARKET POTENTIAL OUTCOMES RELATED TO LARGE CUSTOMER OPT-OUTS

Year	Technical (MW)	Economic (MW)	MAP (MW)	RAP (MW)
Combined Heat and Power (2040)	948	0	0	0
Percent difference to base scenario	-22%	n/a	n/a	n/a
Solar PV (2040)	11,305	0	0	0
Percent difference to base scenario	-1%	n/a	n/a	n/a

7.2.3.4 Decreasing Technology Cost of Solar PV and Batteries

Table 7-19 summarizes the market potential outcomes and changes if solar PV and battery storage costs continue to decline in future years. Cost Effectiveness analysis considers technology costs in 2030. As shown here, total economic potential would not change if costs were to fall an additional 21% percent. Thus, the MAP and RAP would not change either.

TABLE 7-19: SUMMARY OF MARKET POTENTIAL OUTCOMES RELATED TO DECREASING TECHNOLOGY COSTS (2030)

Year	Technical (MW)	Economic (MW)	MAP (MW)	RAP (MW)
Solar PV (2040)	11,319	379	265	753
Percent difference to base scenario	0%	n/a	n/a	n/a

Future cost assumptions are as follows and illustrated in Figure 7-8.

- **Solar PV price drop:** 2017 - 2030: 2.4% annually
 - Source: NREL
- **Battery Storage:** price drop 2018 – 2030: 3.8% annually
- **Battery Storage:** price drop 2031 – 2050: 1.2% annually
 - Source: NREL

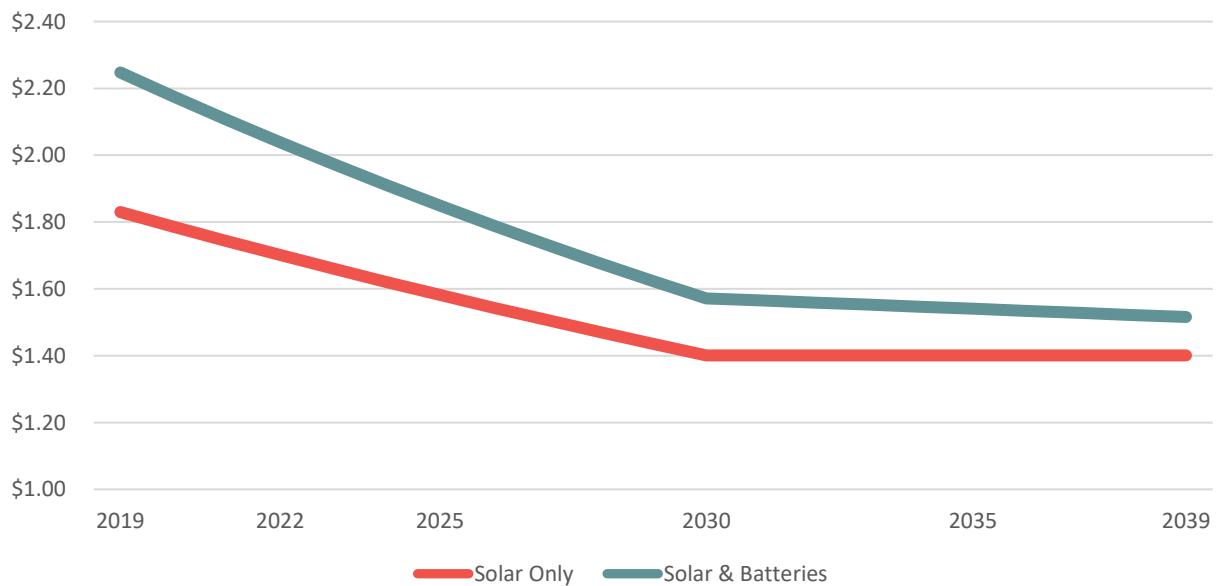


FIGURE 7-8: \$/KW COST FOR BUSINESS SECTOR SOLAR PV INSTALLATIONS

7.2.3.5 Summary of Technology TRC Ratios by Sensitivity

Figure 7-9 and Figure 7-10 shows the TRC ratios for the CHP and Solar PV technologies for the different sensitivities that change the TRC cost-effectiveness outcomes. The box and whisker figures illustrate the unique TRC ratios for the different capacity ranges for each technology.

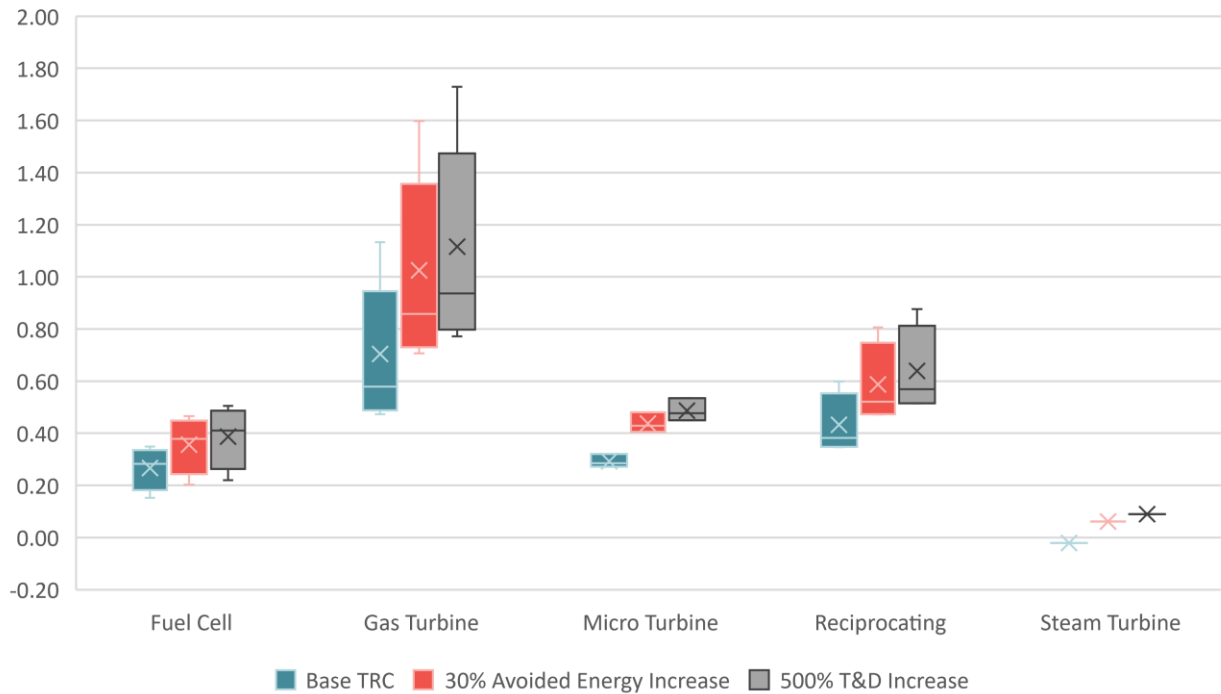


FIGURE 7-9: CHP TRC RATIOS FOR DIFFERENT TECHNOLOGIES FOR DIFFERENT SENSITIVITIES

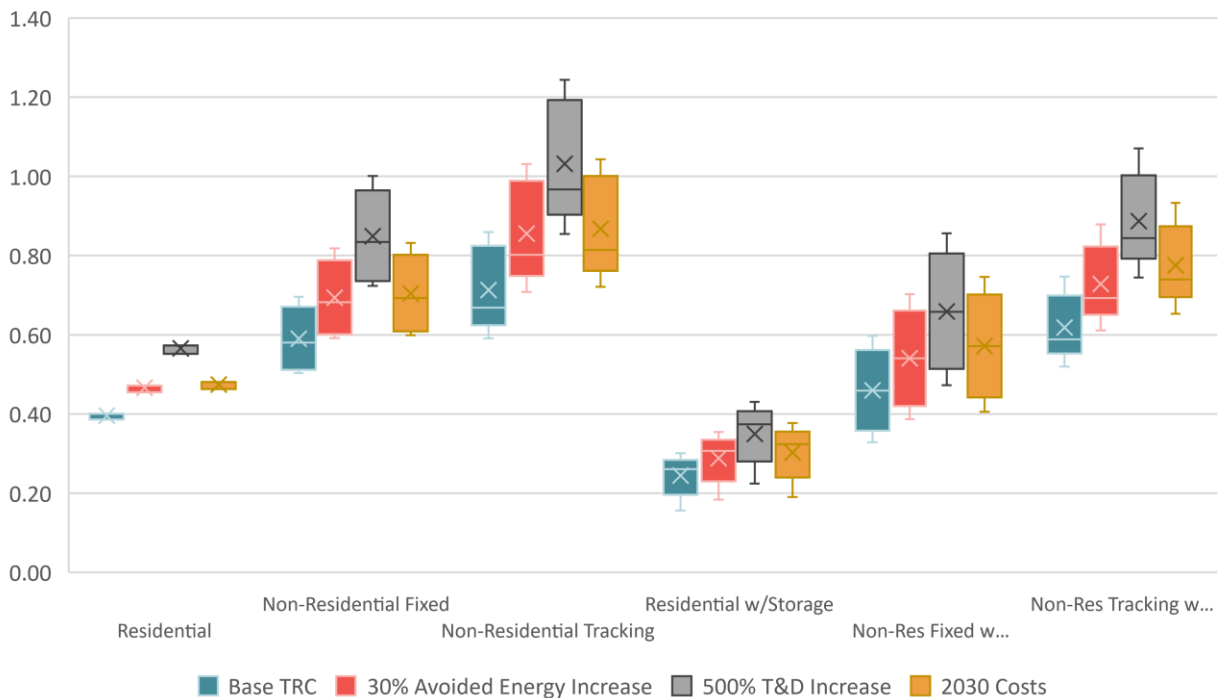


FIGURE 7-10: SOLAR PV TRC RATIOS FOR DIFFERENT TECHNOLOGIES FOR DIFFERENT SENSITIVITIES

7.2.4 Additional Commentary on Battery Storage

For this study, behind the meter, battery storage installed without solar PV was given a brief review and analysis. Battery storage can shave peaks and filling valleys to flatten energy demand, much like other DR technologies. Benefits could include load management flexibility and reliability benefits to the extent a system is appropriately configured. Costs include the battery system and the increase in energy usage associated with charging and discharging batteries since some stored energy is lost with each charge cycle.

Cost-effectiveness testing using the TRC ratio falls well below 0.5 given current avoided energy and demand costs. Avoided T&D costs would need to increase by over 1,000% with a total avoided demand cost to be greater than \$300/MW to meet a TRC cost-effectiveness threshold. Current expected declining battery system costs are not changing fast enough to change this outcome.

An addition challenge is that customers are unlikely to install a battery storage system without a utility program. From the customer perspective, bill management benefits would be too low given current rates to justify a battery investment. While some customers may highly value the uninterruptible power benefits batteries can also deliver, these reliability benefits are unlikely to produce an acceptable payback calculation in most cases.

In contrast, larger solar photovoltaic systems (with and without battery storage) were found to provide benefits to all customers under the total resource cost test (see Figure 7-10) and when considering the locational value of reliability benefits as modeled through higher avoided T&D costs. This highlights that reliability benefits can provide a sufficient payback when shared with all customers on the distribution system. It also highlights the cost efficiencies associated with the ownership of larger systems.

COMBINED RESULTS

This section provides total cost-effectiveness, savings, and program budgets for each study, along with a combined total, where appropriate. A benchmarking of results relative to other existing studies is also provided.

8.1 CUMULATIVE ANNUAL POTENTIAL SAVINGS

Table 8-1 provides cumulative annual program RAP results across the 2022-2026 (Years 1-5) timeframe, as well as for 2031 (10th-year) and 2040 (19th-year). The combined program RAP potential is more than 880,000 MWh by 2024, with more than two thirds of the potential from the business sector. By 2040 the combined program RAP is more than 4.5 million MWh.

TABLE 8-1 COMBINED PROGRAM RAP ENERGY EFFICIENCY POTENTIAL

Sector	2022	2023	2024	2025	2026	2031	2040
Residential	67,553	119,800	174,693	232,585	293,106	638,455	1,178,749
Business	201,715	401,718	608,072	820,667	1,038,961	1,773,578	2,478,382
Income-Eligible	34,031	61,095	92,088	126,541	166,075	414,316	843,401
Demand Response	0	0	0	0	0	0	0
Distributed Energy	2,879	5,758	8,637	11,515	14,394	28,789	54,699
Combined Total	306,178	588,371	883,490	1,191,308	1,512,536	2,855,137	4,555,231

Figure 8-1 shows breakdown of the contributions of each study component towards the 5-yr, 10-yr, and 20-yr program RAP savings as a percentage of total forecasted sales. The cumulative annual savings increases from 5.5% in 2024 to 15.5% by 2040. The residential and income-eligible sector accounts for 31% of the potential in 2024, rising to 44% by 2040, with most of the remaining potential from the business sector. Distributed energy accounts for a small portion of the potential in 2031 and 2040. Demand response does not contribute to the energy savings potential.¹¹⁹

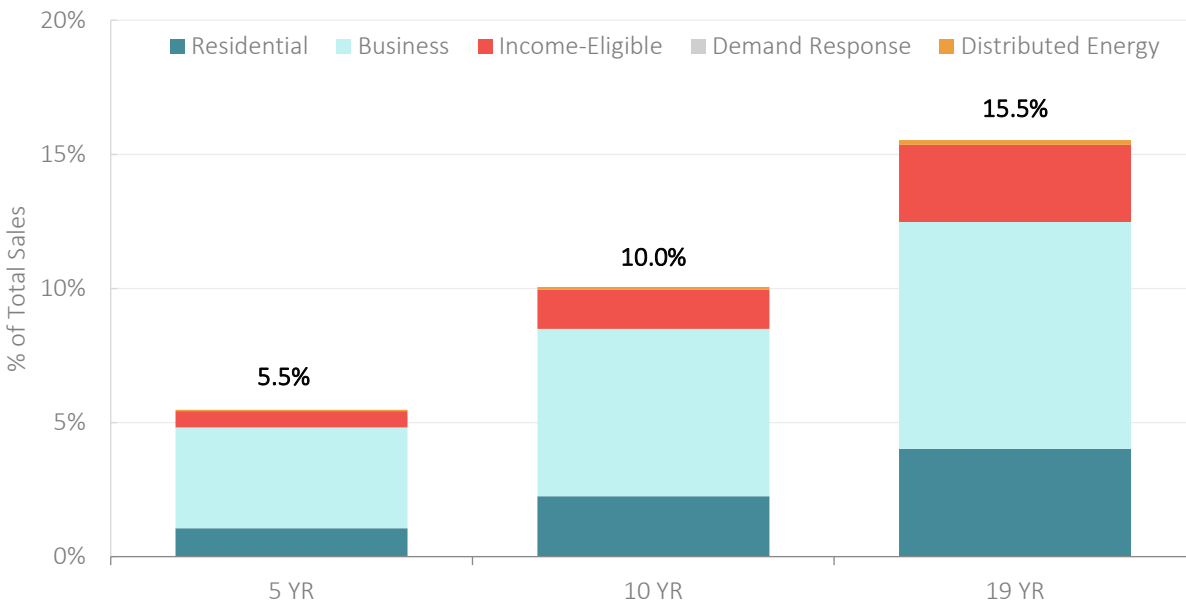


FIGURE 8-1: PROGRAM RAP ENERGY EFFICIENCY POTENTIAL BY STUDY COMPONENT

¹¹⁹ Potential savings from DER installations would likely be attributed to the business custom program.

Table 8-2 provides cumulative annual program RAP results across the 2022-2026 (Years 1-5) timeframe, as well as for 2031 (10th-year) and 2040 (19th-year). The combined program RAP potential is more than 480 MW by 2024, with more than 40% of the potential from demand response. By 2040 the combined program RAP is more than 1,800 MW.

TABLE 8-2 COMBINED PROGRAM RAP PEAK DEMAND REDUCTION POTENTIAL

	2022	2023	2024	2025	2026	2031	2040
Residential	30	53	75	99	123	206	307
Business	57	115	175	238	303	568	819
Income-Eligible	12	21	30	41	53	124	238
Demand Response	144	177	205	240	262	322	438
Distributed Energy	1	2	2	3	4	8	15
Combined Total	244	366	488	620	745	1,227	1,816

Figure 8-2 shows breakdown of the contributions of each study component towards the 5-yr, 10-yr, and 20-yr program RAP savings as a percentage of forecasted peak demand. The cumulative annual savings increases from 12.1% in 2024 to 27.9% by 2040. Demand response and the business sector accounts for three-quarters of the potential in 2024 with the balance from the residential and income-eligible energy efficiency potential. Distributed energy accounts for a small portion of the potential in 2031 and 2040.

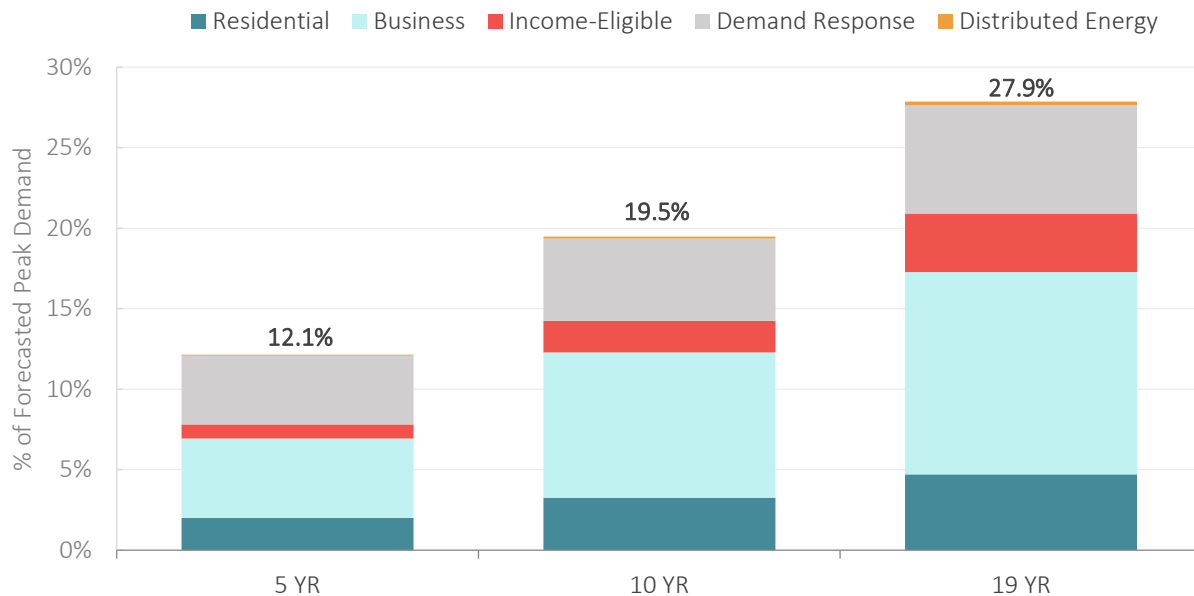


FIGURE 8-2: PROGRAM RAP PEAK DEMAND REDUCTION POTENTIAL BY STUDY COMPONENT

8.2 BENEFITS/COSTS

Table 8-3 below provides the net-present-value (“NPV”) benefits and costs (according to the TRC test) of the combined program potential across the study timeframe. The overall TRC ratio is 1.5, with an estimated total of nearly \$1.2 billion in net benefits.

TABLE 8-3: COMBINED PROGRAM RAP TRC NPV BENEFITS AND COSTS –BY 2040 (\$, IN MILLIONS)

Study Area	NPV Benefits	NPV Costs	TRC Ratio	NPV Net Benefits
Residential	\$869.6	\$604.8	1.44	\$264.7
Business	\$1,645.1	\$982.5	1.67	\$662.6
Income-Eligible	\$588.6	\$511.8	1.15	\$76.8
Demand Response	\$331.1	\$137.3	2.41	\$193.7
Distributed Energy	\$38.2	\$37.4	1.02	\$0.7
Total	\$3,473.0	\$2,273.9	1.53	\$1,199.1

Figure 8-3 shows the annual program RAP budgets for all study components. Total budgets range from \$80 million in 2022 to more than \$179 million by 2040.

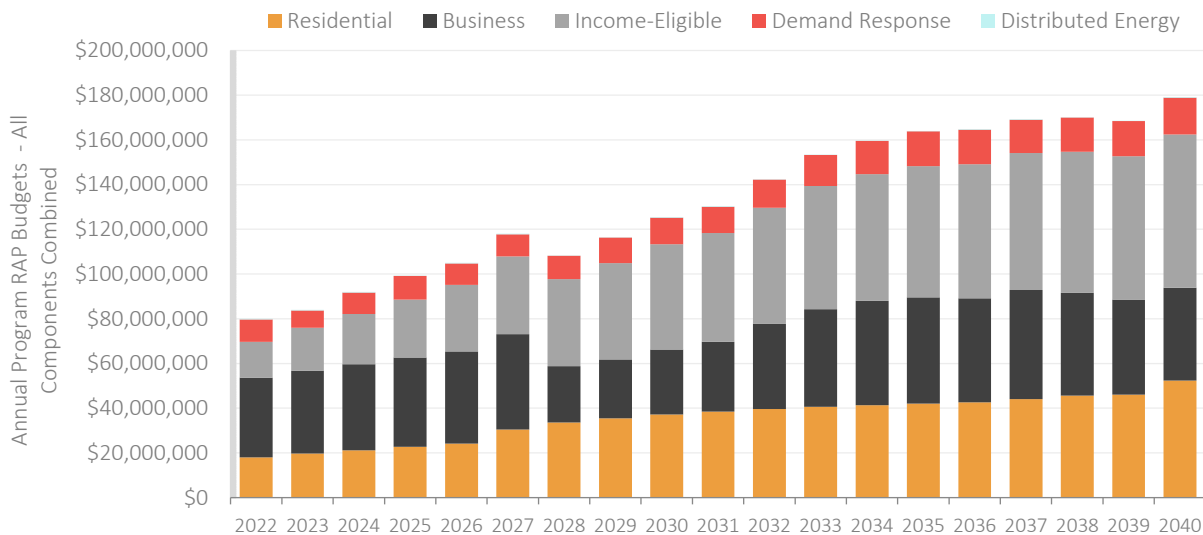


FIGURE 8-3: COMBINED PROGRAM RAP BUDGETS

8.3 ENERGY EFFICIENCY BENCHMARKING

As part of a review of the energy efficiency potential results, the GDS Team was tasked with benchmarking the current 2020 MPS results for Ameren Missouri to other utility potential estimates, using a top-down approach. The benchmarking analysis using this approach was intended to be national and comprehensive.¹²⁰ The MAP was based on the average of the highest two utilities in the benchmarking analysis, while RAP was based on the 50th percentile. The primary source of this data was the DOE’s Energy Efficiency Studies Catalog (DOE Catalog). The DOE Catalog is a compilation of roughly 83 state and local energy efficiency potential studies published since 2007. To provide a more direct comparison to the 2020 Ameren Missouri MPS, the GDS Team limited to comparison to studies in the DOE Catalog that included estimates of achievable potential and covered a roughly 20-year timeframe.¹²¹ Table 8-4 provides the result of the top-down benchmarking, noting relative close alignment in the result.

¹²⁰ 4 CSR 240-22.050 (2)

¹²¹ The DOE Catalog provides estimates of long-term potential as a % of average annual potential savings. For direct comparison, the GDS Team multiplied the average annual savings * length of the study. This data point was then compared to the cumulative annual savings found in the 2020 Ameren Missouri MPS.

TABLE 8-4: TOP-DOWN BENCHMARKING OF ENERGY EFFICIENCY POTENTIAL

	DOE	GDS
Achievable Potential (as a % of sales)	20 YR	20 YR
Maximum Achievable Potential (MAP)	25%	24%
Realistic Achievable Potential (RAP)	17%	17%

Following the top-down benchmarking, the GDS Team then sought to take a “deep-dive” to focus on the most recent potential data for neighboring states or other utilities in the region.

Table 8-5 provides a list of the potential studies included in the “deep-dive” benchmarking analysis, as well as a comparison of maximum achievable and realistic achievable potential results. The GDS Team selected studies that were publicly available and provided enough methodological and reporting detail to allow for basic comparisons.¹²² With a variety of different consultants undertaking the many other potential studies that are available, differences across studies assumptions and methodologies, different regulatory environments, and different program design considerations can result in varying levels of estimated future potential savings. The GDS Team briefly reviewed the methodological considerations of these studies relative to the 2020 Ameren Missouri MPS to better understand the varying outcomes. Appendix A provides a summary review of each benchmarked study.

TABLE 8-5: BENCHMARKING OF ENERGY EFFICIENCY POTENTIAL TO OTHER UTILITIES

STUDY	# YEARS	MAP (%)	RAP (%)
Ameren Illinois (IL)	20	16%	13%
ComEd (IL)	18	10%	7%
Indianapolis Power & Light (IN)	19	31%	19%
DTE (MI)	20	19%	14%
Focus on Energy (WI)	12	14%	13%
Pennsylvania Statewide (PA)	10	13%	8%
KCP&L (MO)	19	12%	9%
Louisville Gas & Electric	20	6%	6%
Arkansas PSC (AR)	10	9%	8%
Minnesota Statewide (MN)	10	21%	14%

¹²² The GDS Team sought input from stakeholders to produce additional studies to incorporate into the benchmarking analysis. While a few jurisdictions currently have new market potential analyses underway, no additional studies were offered for review.

8.4 LIST OF APPENDICES

The following is a list and brief description of appendices included as attachments to the report:

- Appendix A: Comparison of Recent Potential in Other Jurisdictions; this appendix provides summary information from seven studies, providing key metrics and a discussion of nuances that can drive differences between the studies and the interpretation of results.
- Appendix B: Baseline Study; this appendix provides a copy of the Opinion Dynamics market research results
- Appendix C: Residential Market-Rate Detail; this appendix provides measure-level data for the residential market-rate sector including costs, savings, useful lives, annual savings, budgets, and participation, and achievable potential adoption rates.
- Appendix D: Business Detail; this appendix provides measure-level data for the business sector including costs, savings, useful lives, annual savings, budgets, and participation, and achievable potential adoption rates.
- Appendix E: Income-Eligible Detail; this appendix provides measure-level data for the residential market-rate sector including costs, savings, useful lives, annual savings, budgets, and participation, and achievable potential adoption rates.
- Appendix F: Demand-Response Detail; this appendix provides measure-level demand response detail and cost-effectiveness screening results, and annual costs, savings and budgets.
- Appendix G: Distributed Energy Detail; this appendix provides measure-level detail and cost-effectiveness results for the DER study
- Appendix H: Regulatory Compliance Checklist; this appendix provides a citation of all IRP Rules that are addressed in the MPS and a notation of what section of the report these can be found

APPENDIX A: COMPARISON OF RECENT POTENTIAL IN OTHER JURISDICTIONS

GDS gathered information from seven recent and publicly available potential studies conducted in or near the Midwest. These studies and their outcomes can be used to compare Ameren’s current potential study results to those conducted elsewhere. This appendix provides summary information from seven studies, providing key metrics and a discussion of nuances that can drive differences between the studies and the interpretation of results.

All seven studies were completed between 2015 and 2019. They share common elements – modeling technical, economic, and achievable potential. Most utilize the TRC test for cost-effectiveness, with one using the UCT. Achievable potential definitions and boundaries differ, but typically have realistic achievable estimates constraining a maximum achievable estimate with annual budget limitations or assumptions about market adoption of measures that pass the economic potential screening. Each study provides a different range of detail and information. Table A-1 summarizes key metrics, below. Following Table A-1, each study is summarized and includes additional information for further comparison.

Across the seven comparison studies, achievable potential varied as a percent of load. Factors include underlying modeling assumptions or unique conditions not present in one study or another. For example, Louisville Gas & Electric and Kentucky Utilities applied a value of \$0 to any capacity savings for energy efficiency and allowed only replace-on-failure (i.e. lost opportunity) savings for the second ten years of their potential study. Studies with longer time horizons tended to have higher achievable potential savings, likely reflecting that programs would have greater opportunity with more time. Other factors that may shape differences between the studies, but were not readily apparent with consistent available information in the reports, include:

- Avoided cost and other major modeling assumptions
- Demographic and firmographic differences between utilities
- Differences in utility climate and weather sensitive loads
- The assumptions used to account for current equipment saturation
- Differences in adoption curves or willingness-to-pay modeling
- Cumulative savings being relative to a year preceding the study period or at the end of the study period

All of these factors can lead to varying outcomes that are not fully explained in each report in a way that makes them directly comparable to Ameren’s potential study. However, as a body of recent potential studies from the middle portion of the U.S., they do provide context and perspective useful for making comparisons to Ameren’s study.

Table A-1 below, provides a summary of key comparison metrics. Beneath the table, each of the utilities included in the comparison has a brief description of its potential study and more detail behind the summary results.

TABLE A-1 KEY POTENTIAL STUDY METRICS

Study Name	ISO	Subject	Year Published	Forecast Period	Market Size	Overall Achievable Potential
Ameren Missouri 2019 Energy Efficiency Potential Study	MISO	Energy Efficiency	2019	2022-2040	2040 Forecast: Res: 13,408 GWh C&I: 15,913 GWh	RAP: 15.1% MAP: 15.6%
Ameren Illinois Demand Side Management Market Potential Study	MISO	Energy Efficiency	2016	2017-2036	2036 Forecast: Res: 11,300 GWh C&I: 24,000 GWh	RAP: 12.5% MAP: 16.4%
Arkansas Energy Efficiency Potential Study	MISO (mostly)	Energy Efficiency (statewide, IOUs only)	2015	2016-2025	2016 Statewide: C&I: ~14,000 GWh Res: ~11,500 GWh	Higher \$: 9.0% Current \$: 7.8% Lower \$: 5.7%
		Demand Response (statewide, IOUs only)			Not presented for DR	9%
Focus on Energy Wisconsin Energy Efficiency Potential Study	MISO	Energy Efficiency (Statewide)	2017	2019-2030	Res: 2.5 MM C&I: 347 k	BAU: 9.1% Mid: 12.7% Max: 14.2%
ComEd Energy Efficiency Potential Study	PJM	Energy Efficiency	2016	2017-2030	Res: 3.5 MM C&I: 376 k	Max: 10% PP Ach: 7%
DTE Energy Efficiency Potential Study	MISO	Energy Efficiency	2016	2016-2025 and 2016-2035	2014 customers Res: 1.9 MM Com: 198k Ind: 778 2016 forecasted load: Res: 16,586 GWh Com: 21,439 GWh Ind: 12,551 GWh	2016-2025: 12.5% traditional 8.9% constrained 2016-2035: 18.8% traditional 13.5% constrained
Indianapolis Power & Light (IPL)	MISO	Energy Efficiency	2018	2021-2039	2020 forecasted load: Res: 5,000 GWh C&I: 7,000 GWh	RAP: 19% MAP: 31%
		Demand Response			Not presented for DR	RAP: 8% MAP: 12%
Kansas City Power & Light 2016 DSM Potential Study	SPP	Energy Efficiency	2017	2019-2037	2015 loads Res: 8,585 GWh Com: 8,760 GWh Ind: 5,208 GWh	Max Ach: 12.0% Realistic Ach: 8.7%
		Demand Response			Not presented for DR	Max Ach: 13.0% Realistic Ach: 11.0%
Louisville Gas & Electric and Kentucky Utilities	N/A	Energy Efficiency	2017	2019-2038	Res: 11,453 GWh Com: 10,200 GWh	Incentive Scenarios Low: 4.2% Mid: 5.5% High: 6.2%
MN Statewide	MISO	Energy Efficiency	2018	2020-2029	Res: 32% of market% Com: 36% Ind: 19% Opt-Out: 13%	PP Ach: 14% MAP: 21%

Study Name	ISO	Subject	Year Published	Forecast Period	Market Size	Overall Achievable Potential
Energy Efficiency Potential Study for Pennsylvania	PJM	Energy Efficiency (Statewide)	2015	2016-2025	2010 load ¹²³ Res: 54,193 GWh Com: 55,957 GWh Ind: 36,511 GWh	Max Ach: 13.2% Base Ach: 8.3% (% of 2010 load)

Summary Descriptions of Comparison Potential Studies

In developing the data to support Table A-1, GDS researched the details of each of the example potential studies to help provide context to the underlying modeling and considerations for developing achievable potential. Below, each study is described in a mini-case study format, with information related to how achievable potential was defined and scenarios that were used to test the sensitivity of multiple achievable potential perspectives.

Ameren Illinois Demand Side Management Market Potential Study (2016)

Ameren Illinois' 2016 DSM Market Potential Study served to assess various tiers of energy efficiency potential including technical, economic, maximum achievable, and realistic achievable potential. The study developed updated baseline estimates with the latest information on federal, state, and local codes and standards for improving energy efficiency. The study consisted of three primary components: market research, a full energy efficiency potential analysis at the measure and program levels, and estimation of supply curves.

Ameren Illinois undertook primary market research to collect data for the Ameren Illinois service territory, including electric and natural gas end-use data, end-use saturation data, and customer psychographics, demographics, and firmographics. This information enables Ameren Illinois to understand how their customers make decisions related to their energy use and energy efficiency investment decisions.

Ameren Illinois' definition of maximum achievable assumed ideal market, implementation, and customer preference conditions, with well-established communication channels, trade allies and delivery partners, and high levels of incentives, administrative, and marketing costs. Realistic achievable potential assumed more conservative conditions as well as limited program budgets. Savings were presented as net.

Primary market research produced adoption rates that were typically lower than those produced from the 2019 Ameren Missouri market research, particularly for maximum achievable potential. In addition, estimates of technical and economic potential are generally lower, suggesting differences in electric equipment penetration or assumptions regarding the current saturation of efficient equipment. Avoided costs were not presented in the study.

TABLE A-2. AMEREN ILLINOIS 2017-2036 ENERGY EFFICIENCY POTENTIAL COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Share of Savings	Commercial Share of Savings	Industrial Share of Savings
2017-2036	TRC	Max: 16.4% PP: 12.5%	Max: 22% PP: 23%	Max: 54% PP: 52%	Max: 24% PP: 24%

¹²³ In Pennsylvania utilities must meet energy efficiency percentage reductions relative to their 2010 load.

Arkansas Energy Efficiency Potential Study (2016)

The Arkansas Public Service Commission filed its 2016-2025 potential study in mid-2015. Economic potential was estimated at 15.5 percent of the 2025 load forecast. Using current budgeting as the base achievable potential scenario, a cumulative saving of 7.8 percent was estimated as achievable across the 10-year forecast period. Additional scenarios also tested the effect of lower budgets, higher budgets, and in the event of a carbon value. The cumulative achievable potential ranged from 5.7 percent (low budget) to 9.0 percent (high budget), thus no scenario equivalent to maximum achievable potential was seemingly modeled. Savings are described as being net of free riders, though no details were offered on how net savings were developed. In Arkansas some customers have the option to operate their own self-direct program. Achievable savings were treated as net of self-direct customers, removing their underlying load from the analysis for all technical, economic, and achievable estimates of potential savings.

The market scope included all investor-owned utilities (IOUs) in Arkansas. The market size being modeled for the study was not explicitly described. However, graphical depictions of the residential and commercial/industrial loads were included. The residential market is approximately 11,500 GWh per year, with the commercial/industrial market at approximately 14,000 GWh per year. Technical potential is a 32% of the residential market, yet only 13% of the C&I market. To model achievable potential, the study incorporates Arkansas energy efficiency policy requiring that “all major end-uses” be covered, and that achievable potential include savings of “all achievable within a reasonable time period and maximizing net benefits to customers and utility system.” Achievable potential was determined by applying payback acceptance curves that were based on 2012 market research conducted for Kansas City Power & Light.

The potential study included a section related to demand response. The demand response “realistic” achievable potential was estimated at nine percent of capacity by 2025. The “realistic” demand response potential considered demand forecasts, customer acceptance rates, and programmatic best practices. Economic potential was not presented in the report.

Table A-3 summarizes key achievable potential metrics by sector resulting from the Arkansas Energy Efficiency Potential Study for energy efficiency. Sector-level details were not provided for the low and high incentive scenarios.

TABLE A-3. ARKANSAS ENERGY EFFICIENCY POTENTIAL STUDY KEY COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Ach Potential	C&I Ach Potential
2016-2025	TRC	Low \$:5.7% Current \$7.8% High \$: 9.0%	Low \$: N/A Current \$: 10.3% High \$: N/A	Low \$: N/A Current \$: 5.2% High \$: N/A

Focus on Energy Wisconsin Energy Efficiency Potential Study (2017)

Wisconsin has a state-wide energy efficiency program that includes all IOUs, most municipal utilities, and many cooperative utilities. In 2017, the Public Service Commission of Wisconsin published its Focus on Energy 2016 Energy Efficiency Potential Study. The study analyzed energy efficiency savings potential for the 2019-2030 time period. Data were based largely on loads associated with the IOUs and loads representing most municipal utilities. For 12-year span, the study found an economic potential of 21 percent of forecasted 2030 electricity sales and an achievable potential under a “business as usual” scenario as savings of 9.1 percent. 2030 forecasted sales included 19.6 million MWh for the residential sector and 48.5 million MWh for the combined commercial and industrial sectors.

For the Focus on Energy study, achievable potential was defined as representing “the portion of economic potential that might be reasonably achievable by Focus on Energy, after taking into account market barriers... and program funding limitations.” The study authors do not consider the analysis results as program potential as program design elements were not incorporated into the analysis. Additionally, savings are only presented as gross savings and explicitly do not consider net to gross ratios or other considerations for program attribution or spillover. Wisconsin uses a modified TRC test that incorporates a \$15 per ton of carbon value as well as criteria air pollutant emission values reflecting utility costs for avoidance.

The study presents several scenarios to compare the “business as usual” (BAU) case to other funding and incentive levels. The BAU demonstrated the lowest achievable potential, assuming 25 percent of incremental cost incentives as a cap on overall spending at historical percent-of-utility revenue levels (1.09 percent). The other scenarios included low, medium, high, and maximum incentives set at 25 percent, 50 percent, 75 percent, and 100 percent of incremental costs, respectively, but without the funding cap applied used in the BAU scenario. The maximum achievable was modeled as the 100 percent of measure cost incentive level. The achievable potentials across these scenarios ranged from 9.3 percent to 14.2 percent by 2025. Note that the BAU case is the lowest performing scenario.

Table A-4 summarizes key achievable metrics by sector for the Focus on Energy BAU scenario with sector-level results for each scenario.

TABLE A-4. FOCUS ON ENERGY WISCONSIN SCENARIO COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Ach Potential	C&I Ach Potential
2016-2025	Modified TRC	BAU: 9.1%	BAU: 11.5%	BAU: 8.1%
		Low: 9.3%	Low: 11.7%	Low: 8.2%
		Mid: 12.7%	Mid: 16.8%	Mid: 11.1%
		High: 13.7%	High: 17.6%	High: 12.1%
		Max: 14.2%	Max: 18.2%	Max: 12.6%

ComEd Energy Efficiency Potential Study, 2017-2030

ComEd’s distribution arm operates energy efficiency programs across its service territory. In 2016, ComEd published its potential study which forecasted opportunities for energy efficiency spanning the 14 years of 2017-2030. The study found an overall economic potential of roughly 29% at the end of 2030 and a maximum achievable potential of 10%. Once constrained by program assumptions that maintained current funding levels, the cumulative achievable potential in 2030 was found to be 7 percent. The share of savings was heavily weighted toward the commercial sector, with 66 percent of savings. The residential sector was estimated to achieve 25 percent of savings, with the industrial sector contributing the remaining eight percent.

In the ComEd study, achievable savings were presented as net savings and defined as:

1. Maximum achievable is the amount of cost-effective program potential that could be achieved absent program budget constraints and with incentives set at 100 percent of incremental cost.
2. Program achievable is based on the maximum budget under a two percent of customers' electricity costs limitation and follow current program budgets.

Net savings were derived from the historical evaluated net to gross ratios developed by program evaluators. The industrial sector does not appear to exclude any existing load from the energy efficiency potential analysis (a provision that exempts certain customers was signed into law in late 2016). Adoption rates were informed

by interviews with program managers and often constrained by current participation levels and often assumed some potential decrease over time.

Avoided costs were not presented in the study. Savings by year were not tabulated, though were indicated as being influenced by known code and standards changes as well as the treatment of behavioral programs for persistence year-to-year.

TABLE A-5. COMED 2017-2030 ENERGY EFFICIENCY POTENTIAL COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Share of Savings	Commercial Share of Savings	Industrial Share of Savings
2017-2030	TRC	Max: 10% PP: 7%	Max: 22% PP: 25%	Max: 72% PP: 66%	Max: 6% PP: 8%

DTE Energy Efficiency Potential Study (2016)

In 2016, DTE completed its most recent energy efficiency potential study. This study presented gross savings across two forecast periods – a near-term 10-year estimate (2016-2025) and a longer-term 20-year estimate (2016-2035). Unlike most studies in this comparison analysis, DTE Energy utilized the Utility Cost Test, also known as the Program Administrator Cost Test. The economically achievable potential was estimated at 34.8 percent in the 10-year and 35.6 percent in the 20-year models. Maximum achievable potential (MAP) was estimated as 12.5 percent in the 10-year model and 18.8% in the 20-year model. Realistically achievable potential (RAP) was estimated 8.9 percent in the 10-year model and 13.5 percent in the 20-year model.

The MAP and RAP definitions for achievable potential utilized two scenarios to describe their treatment. In both scenarios, incentives were assumed to be 50 percent of incremental cost. The chief different between MAP and RAP is overall program spending. MAP analyzed savings by having no cap on program budgets, while RAP capped program budgets at two percent of retail sales. In the RAP scenario, cost-effective savings are constrained by Michigan’s Public Act 295 of 2008, which limited utility expenditures to two percent of retail sales unless approved by the Michigan Public Service Commission.

TABLE A-6. DTE ENERGY EFFICIENCY POTENTIAL STUDY COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Achievable Potential	Commercial Achievable Potential	Industrial Achievable Potential
2016-2025	UCT	MAP: 12.5% RAP: 8.9%	MAP: 15.6% RAP: 10.3%	MAP: 12.5% RAP: 8.4%	MAP: 9.3% RAP: 7.7%
2016-2035	UCT	MAP: 18.8% RAP: 13.5%	MAP: 20.5% RAP: 17.6%	MAP: 18.9% RAP: 10.6%	MAP: 16.3% RAP: 13.2%

Indianapolis Power & Light Demand Side Management Market Potential Study (2018)

Conducted by GDS Associates, the IPL DSM Market Potential Study covered the 2021-2039 timeframe, and included an assessment of market potential for the residential, commercial, and industrial sectors. GDS used a bottom-up approach to estimate energy efficiency potential in the residential sector. In the C&I sectors, GDS utilized the bottom-up modeling approach to first estimate measure-level savings and costs, as well as cost-effectiveness, and then applied cost-effective measure savings to all applicable energy shares of load. All savings estimates are provided at the gross level.

Economic potential was determined using the UCT Test. Economic potential represented nearly 37% of total system load. The analysis included estimates of maximum and realistic achievable potential, with definitions of each scenario like the 2020 Ameren MPS. In total, the IPL study included 187 residential measures, 237 commercial measures, and 130 industrial measures. Industrial opt-outs were excluded from the estimates of long-term potential. Traditional retail buydown for screw-based lighting was only included for the first two years of the analysis timeframe, and additional direct install opportunities were included from the 2023-2024 timeframe. Beginning in 2025, residential LED lighting savings were essentially eliminated. Behavioral potential represented a substantial portion of the incremental annual residential potential (~25% of the sector annual potential)

In the MAP scenario, incentive levels were assumed to represent 100% of the incremental measure cost. In the RAP scenario, incentives typically ranged from 25%-40% of measure cost in the residential sector, and less than 30% in the C&I sectors. Achievable potential adoption rates were based on primary WTP data collected as part of the MPS. Maximum adoption rates typically ranged from 70%-90%. Realistic achievable potential adoption rates typically ranged from 40%-60% of annual eligible measures over the analysis timeframe. Similar to the 2020 Ameren Missouri MPS, measures that reached the end of their useful life were allowed to re-enter the eligible potential market, assuming sustained savings and a new set of measure/program costs.

TABLE A-7. IPL DEMAND SIDE MANAGEMENT MARKET POTENTIAL STUDY COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Achievable Potential	Commercial Achievable Potential	Industrial Achievable Potential
2021-2039	UCT	MAP: 31% RAP: 19%	MAP: 35% RAP: 23%	MAP: 37% RAP: 20%	MAP: 14% RAP: 7%

Kansas City Power & Light 2016 DSM Potential Study

In early 2017, Kansas City Power & Light (KCP&L) completed its 2016 DSM Potential Study, estimating DSM potential from 2019 through 2037. This study considered both energy efficiency and demand response, with energy efficiency savings reflecting net savings (the baseline forecast incorporated naturally occurring energy efficiency). The savings percentages are presented as net savings relative to the baseline forecast year (2015 loads). The KCP&L potential study presented a cumulative economic potential for energy efficiency of 19.6 percent, using the TRC cost-effectiveness test. The economic potential for demand response was not presented due to many cost-effective but mutually exclusive program and measure options. KCP&L removed the potential savings from customers who have an option to not participate in KCP&L programs.

20-year technical potential is just under 30% of baseline sales, with economic at approximately 22% of baseline sales. These lower initial estimates of potential then produce lower estimates of achievable despite similar definitions of maximum and realistic achievable potential. The achievable potential was presented with two metrics – maximum achievable potential (MAP) and realistic achievable potential (RAP). The MAP was developed by assuming ideal program conditions with incentives that covered a substantial portion of measure costs, along with high administrative and marketing costs. The RAP was developed by assuming the current program conditions, including current participation rates and spending. The RAP was meant to reflect less-than-ideal program conditions that include constrained barriers, imperfect markets, and barriers to customer acceptance. Overall energy efficiency MAP and RAP were estimated at 12.0 percent and 8.7 percent across the forecast period. Demand response MAP and RAP were developed along similar logics, with an estimate of anticipated participation rates across different programs and measures, resulting in a MAP of 13 percent and RAP and 11 percent.

TABLE A-8. KCP&L 2016 DSM POTENTIAL STUDY COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Achievable Potential	Commercial Achievable Potential	Industrial Achievable Potential
2019-2037 Energy Efficiency	TRC	MAP: 12.0% RAP: 8.7%	MAP: 10.4% RAP: 8.2%	MAP: 16.4% RAP: 12.4%	MAP: 7.6% RAP: 5.2%
2019-2037 Demand Response	TRC	MAP: 13% RAP: 11%	Not available	Not available	Not available

Louisville Gas and Electric and Kentucky Utilities Demand-Side Potential Study (2017)

In 2017 Louisville Gas and Electric and Kentucky Utilities (LG&E and KU), as one company with two operating units, completed its DSM potential study for the 2019 through 2038 period. Using the TRC cost-effectiveness test, the study found economic energy efficiency potential equal to nine percent of LG&E and KU's forecasted 2038 loads (technical potential was approximately 33% of baseline sales). The baseline forecast includes the presence of naturally occurring energy efficiency, but otherwise describes savings as gross savings. This study exhibits the lowest economic potential of any of the compared studies. Of note, the analysts modeled avoided energy costs that had decreased 20 percent since the prior 2013 study. Additionally, avoided capacity from energy efficiency was valued at \$0/kW, rather than the \$100/kW value used in the 2013 study. This treatment of avoided costs may explain the lower economic and achievable potential found for LG&E and KU compared to other studies, with a sensitivity analysis showing economic potential increasing to 15 percent of the 2038 forecasted load if capacity values were set at \$100/kW.

Achievable potential was developed using three scenarios, representing varying incentive levels. The scenarios presented incentive levels of 0 percent, 50 percent, and 75 percent of incremental cost coverage. Willingness-to-pay survey results were used to estimate achievable program adoption within the service territory. The outcome were achievable potentials of 4.0 percent, 5.8 percent, and 6.5 percent, increasing along with higher incentives. The study calculated achievable potential savings with only the first ten years allowing for measure retrofits and lost opportunity (natural replacement and new construction) measures. In the second half of the study period, only lost opportunity measures were considered for savings. The effect of this assumption on 2038 cumulative savings is unknown.

Table A-9 presents summary results of the achievable potential estimates, reflecting the three incentive scenarios described above.

TABLE A-9. LG&E AND KU ENERGY EFFICIENCY POTENTIAL COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Achievable Potential	Com & Ind Achievable Potential
2019-2038	TRC	75%: 6.5% 50%: 5.8% 0%: 4.0%	75%: 6.2% 50%: 5.5% 0%: 4.2%	75%: 6.8% 50%: 6.1% 0%: 3.8%

Minnesota Energy Efficiency Potential Study (2018)

The Minnesota Energy Efficiency Potential Study analyzed energy efficiency potential over a 10-year period, beginning in 2020 through 2029. The study included 117 residential and 186 business sector energy efficiency measure (comparable to the 2020 Ameren Missouri MPS). This included 18 emerging technology measures across within each sector. Whereas the 2020 Ameren MPS uses a "bottom-up" approach in the residential

sector and “top-down” approach for the business sector, the MN MPS utilizes a “top-down” approach for all sectors. All savings are reported as gross savings.

The MN EE Potential Study used the Societal Test for screening. Avoided costs were typically lower than current Ameren Missouri avoided cost, but also included a value for avoided emissions to help balance out the total value of avoided energy across both jurisdictions. Overall economic potential for the state by 2029 was estimated to be 33%.

The definition of maximum achievable potential generally mirrored the 2020 Ameren Missouri MPS with financial incentives representing 100% of the incremental costs of each measure, along with aggressive marketing and program designs. Beyond maximum achievable, the study also provided an estimate of program achievable, which assumed a standard incentive that represents 50% of incremental measure costs for program planning purposes. To estimate achievable penetration, the MN MPS utilized a combination of program awareness and willingness factor. The awareness factors were not readily accessible, but the MN MPS does note that willingness factors generally ranged from 60% to 85% for market-drive measures and 50%-80% for retrofit measures. Maximum penetrations rates were generally met over a period of 5-15 years.

TABLE A-10. MINNESOTA ENERGY EFFICIENCY POTENTIAL COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Achievable Potential	Com & Ind Achievable Potential
2020-2029	Societal	MAP: 21% Prog Pot:14%	Program Potential: 8%	Program Potential: 18%

Pennsylvania Energy Efficiency Potential Study (2015)

Pennsylvania completed its most recent potential study in 2015, spanning a 10-year forecast of potential savings from 2016 through 2025. As a statewide study, it reflects the potential energy efficiency savings from all investor owned utilities in the State. Pennsylvania’s study is somewhat different from other studies in this comparison in that it used 2010 as a baseline year – substantially preceding the forecast period. Using the TRC and with no option for opt-out electricity customers, the study found an overall economic potential of 18.4 percent relative to the 2010 baseline year using the TRC cost-effectiveness test. The study presents savings at the gross-level, without net savings effects.

The Pennsylvania potential study presents two levels of achievable potential: Maximum Achievable Potential (MAP) and Base Achievable Potential (BAP). The MAP assumes an aggressive program scenario that includes 100 percent of measure incremental costs being paid for by the program. The BAP restricts the savings potential by using the historical program spending of the Pennsylvania utilities as well as the measure adoption rates evident in prior program years. The overall achievable potential (relative to the 2010 base year loads) is 13.2 percent under MAP and 8.3 percent under BAP.

TABLE A-11. PENNSYLVANIA STATEWIDE ENERGY EFFICIENCY POTENTIAL COMPARISON METRICS

Forecast Period	Benefit-Cost Model	Overall Ach Potential	Residential Achievable Potential	Commercial Achievable Potential	Industrial Achievable Potential
2016-2025	TRC	MAP: 13.2% BAP: 8.3%	MAP: 17.5% RAP: 12.2%	MAP: 9.8% RAP: 5.7%	MAP: 12.1% RAP: 6.4%

APPENDIX B: BASELINE STUDY



Ameren Missouri Baseline Market Research Results

January 29, 2020

Contributors



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1. Baseline Market Research Overview

This report summarizes the methodologies and key results for the baseline market research in support of Ameren Missouri's 2019 potential study. The research objectives of this effort were based on a gap analysis (conducted under separate contract by the contractor selected to perform the Ameren Missouri 2019 potential study) and subsequent prioritization of data needs. The research objectives were developed in coordination with Ameren Missouri and the potential study team and were refined based on feedback from regulatory stakeholders.¹ They include the assessment of the following:

- the penetration and saturation of key energy using equipment;
- characteristics of key equipment (e.g., level of efficiency, capacity) and building shell;
- site conditions related to distributed energy resources (DER);
- customer characteristics (i.e., demographics/firmographics), attitudes (e.g., awareness of/interest in energy efficiency and Ameren Missouri programs), and key customer behaviors (e.g., occupancy patterns); and
- customer willingness to adopt select enduses/measures and program offerings.

We addressed these research objectives through primary data collection with residential customers, multifamily property owners/managers, and business customers.

Primary Data Collection

In the residential sector, we conducted three primary data collection activities: (1) an online survey with residential customers, (2) on-site visits with residential customers, and (3) an online survey with multifamily building owners and managers. The residential customer research targeted home owners and tenants in the following key segments: Low Income and Non-Low Income customers, and customers occupying single family and multifamily homes. In Table 1 we present the total residential survey completes by housing type and Low Income and Non-Low Income.

Table 1. Residential Survey and On-Site Completes

	Customer Survey Completes			Customer On-site Visit Completes			Multifamily Owner/Manager Survey Completes
	Single Family	Multifamily	Total	Single Family	Multifamily	Total Total	
Low Income Customers (80% AMI)	294	364	658	37	23	60	29
Non-Low Income Customers	513	224	737	40	20	60	56
Total	807	588	1,395	77	43	120	85

¹ Opinion Dynamics presented the planned market research scope of work at an in-person stakeholder meeting on May 6, 2019 and finalized the scope following receipt of stakeholder comments.

Primary data collection in the business sector was limited to an online survey with business customers. The business research covered two primary segments (small usage and medium/large usage) and within each primary segment, we further classified the sample within the following five business segments: office/government, industrial, retail/entertainment, food sales/service, and other. In Table 2 we present completes by primary segment and sector.

Table 2. Business Survey Completes

Segment	Survey Completes (Penetration)			Survey Completes (Adoption Rates)		
	Small Business	Med/Large Business	Total	Small Business	Med/Large Business	Total
Office/Government	75	48	123	57	40	97
Industrial	47	124	171	36	104	140
Retail/Entertainment	94	44	138	73	33	106
Food Sales/Service	58	52	110	46	40	86
Other	80	109	189	60	88	148
Total	354	377	731	272	305	577

Data Analysis

We developed Penetration and Saturations estimates and adoption curve estimates for four residential segments: (1) Single Family Low Income, (2) Single Family Non-Low Income, (3) Multifamily Low Income, and (4) Multifamily Non-Low Income, and Penetration estimates for two business segments: (1) small business and (2) medium/large business.

Penetration and saturation concepts are defined as follows:

- **Penetration:** A percentage representing the proportion of customers that have one or more of a particular piece of equipment. It is calculated by dividing the number of customers with one or more of a piece of equipment by the total number of customers responding to that question. For example, Non-Low Income residential customers had an LED penetration rate of 87%, meaning that 87 out of every 100 Non-Low Income households have at least one LED installed.
- **Saturation:** A number representing how many of a particular piece of equipment are present, on average, among all customers. It is calculated by dividing the total number of a particular piece of equipment by the total number of customers (*including* those who do not have the equipment). For example, the saturation rate of LEDs in Non-Low Income customer homes was 30.2, meaning that on average each Non-Low Income home has 30.2 LEDs. Note that a saturation is presented as an average per all homes in the stratum, as opposed to per all homes in the stratum with the equipment.

Residential single family and multifamily penetration and saturation data was collected in the residential online survey and adjusted, where necessary, by on-site visit results. In some cases, which will be noted, penetration and saturation data is based directly on on-site visit data.

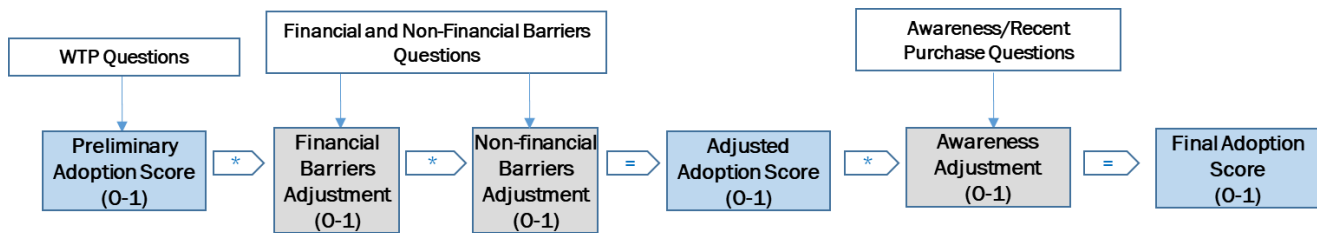
Business penetration data is based on online survey data only.

Penetration and saturation results are shown in Section 3

Adoption rate calculations were based on a battery of questions which assessed (1) the respondent's willingness to adopt energy efficiency technologies or participate in demand response programs in scenarios with varying levels of program support, (2) the magnitude of the respondent's financial and non-financial barriers to adoption/participation, and (3) their awareness of Ameren Missouri energy efficiency programs and/or high efficiency technologies. Adoption rates were calculated based on the equation shown in Figure 1.

Final adoption rates are shown in Section 0.

Figure 1. Adoption Curve Equation



Report Organization

The remainder of this report is organized as follows:

- **Section 2: Methodology** presents the methodology for the primary data collection efforts and for the development of penetration and saturation results and adoption curves.
- **Section 3: Summary of Key Penetration and Saturation Results** presents high level penetration and saturation results for the residential and business sectors, by key segments.
- **Section 0: Summary of Adoption Curve Results** presents residential and business adoption curves, by key segments.
- **Appendix A: Survey Instruments and Residential Penetration and Saturation by Segment** presents all final survey instruments, as well as more detailed residential penetration and saturation results, by segment.

2. Methodology

Key baseline market research activities included extensive primary data collection, development of penetration and saturation estimates for key equipment, and development of adoption curves for key enduses. The following sections present details about each of these activities.

2.1 Primary Data Collection - Residential Sector

For the residential sector, we conducted three primary data collection activities:

- An online survey with residential customers
- On-site visits with residential customers
- An online survey with multifamily building owners and managers

2.1.1 Residential Customer Research

The residential customer research targeted home owners and tenants in the following key segments: Low Income and Non-Low Income customers, and customers occupying single family and multifamily homes. Low Income was defined by household size and 80% of area median income. Residential baseline data was collected through a residential customer online survey and customer on-site visits. ADM Associates assisted Opinion Dynamics with the on-site data collection. In total, we completed 1,395 online survey interviews and 120 on-site visits.

Residential Customer Online Survey

The residential customer survey collected home characteristics, equipment penetration for key enduses – such as heating, cooling, water heating, insulation, smart power strips, thermostats, major appliances, solar PV systems, pool pumps, and electric vehicles – and information on barriers and willingness to adopt a range of energy efficient measures at varying incentive levels.

We invited customers to participate in the online survey through an invitation mailed to their homes. We mailed 8,000 survey invitations with a target of completing 1,000 interviews. We followed up with two reminder postcards for those customers who did not respond to the survey. We offered residential customers a \$10 Amazon or Walmart gift card for their participation in the online survey.

We stratified the sample into two primary segments (low income and non-low income), with a target to complete approximately 500 interviews in each segment. Within both segments, we further targeted 250 completes with both single family and multifamily customers (see Table 3).

Ameren Missouri's customer data does not contain information that would allow us to segment the population into the four study segments. We therefore developed flags that identified likely low income and multifamily customers, as follows:

- **Low income:** In order to target low income households that are 80% below area median income (AMI), we used census data at the census tract level to select areas with over half of residents earning under \$35,000 annually. These census tracts include customers at various income levels but customers are more likely to be low income households.

- **Multifamily:** We targeted multifamily customers by identifying duplicate addresses and addresses with unit or apartment numbers, which suggest that there may be multiple units within a building. We reviewed the housing flags provided in the customer data but found that this alternate approach provided us with additional likely multifamily customers.

Overall, 1,395 residential customers completed the survey, with a response rate of 19%. We exceeded the survey target of 500 for both housing type segments and for both income-level segments. Table 3 summarizes survey targets and survey completes, by segment.

Table 3. Survey Quota Targets and Completes

	Survey Targets			Survey Completes		
	Single Family	Multifamily	Total	Single Family	Multifamily	Total
Low Income Customers (80% AMI)	250	250	500	294	364	658
Non-Low Income Customers	250	250	500	513	224	737
Total	500	500	1,000	807	588	1,395

Residential On-site Visits

The residential on-site visits collected detailed information on building characteristics as well as the penetration, saturation, and characteristics of key energy using equipment (including heating, cooling, and water heating equipment; lighting; insulation; clothes washers; smart strips; water-related equipment; pool pumps; solar PV systems; and windows and doors).

We developed the sample of on-site visits from the respondents to the residential online survey (a nested sampling approach). We recruited customers within the online survey to participate in the on-site visits.

The target number of completed on-site visits was 120. We reached our target of 60 visits with Low Income customers and 60 visits with Non-Low Income customers and achieved representative samples of single family and multifamily homes (see Table 4).

Table 4. On-site Visit Targets and Completes

	On-site Visit Targets			On-site Visit Completes		
	Single Family	Multifamily	Total	Single Family	Multifamily	Total
Low Income Customers (80% AMI)	40	20	60	37	23	60
Non-Low Income Customers	40	20	60	40	20	60
Total	80	40	120	77	43	120

Residential Population

We developed survey weights based on the proportion of survey respondents in each stratum relative to the distribution of Ameren Missouri’s customer population across the same dimensions. We developed an estimate of Ameren Missouri’s population distribution over the study strata by leveraging the U.S. Census Bureau’s Public Use Microdata (PUM) datasets, which provide anonymized respondent-level data by Census tract. We estimated the total population by stratum by developing counts by stratum for each census tract

Ameren Missouri serves and then prorating each by the proportion of the census tract that is within Ameren Missouri's service territory (Table 5). This approach was necessary because Ameren Missouri's customer billing data does not contain comprehensive information on low income status and type of home.

Table 5. Ameren Missouri Residential Population Estimates

	Single Family	Multifamily	Total
Low Income Customers (80% AMI)	358,957	110,988	469,945
Non-Low Income Customers	654,981	67,887	722,868
Total	1,013,938	178,875	1,192,813

2.1.2 Multifamily Building Owners/Manager Research

Since the multifamily tenants targeted by the residential customer survey do not make adoption decisions on building-level systems (such as heating, cooling, water heating, and solar) and generally cannot report on characteristics of these systems, we also conducted a survey with multifamily building owners and property managers. The main purpose of this survey was to collect data to develop adoption curves for shared systems in multifamily properties. In addition, the survey included penetration and saturation questions about these shared systems. This data was intended as a back-up in case the on-site visits from the residential survey did not give us access to enough shared systems on multifamily properties to develop penetration and saturation estimates.

We reviewed and considered multiple sample sources for the multifamily owners/managers survey, including mailing lists from Apartments.com or other real estate lists, contact lists provided by Ameren Missouri program staff, Multifamily program vendor contacts, as well as Community Development Organizations engaged in outreach and education efforts regarding energy efficiency for landlords in multifamily properties.

The final sample frame was based on the list of multifamily property managers developed from Apartments.com, as provided by Ameren Missouri, and included 2,639 multifamily properties. Available contact information included building address and, in some cases, the building name, but it did not include the name of the owner or property management firm nor the name of an individual contact person. We sent multifamily property managers and owners an invitation to participate in the online survey, mailed to the property and addressed to the attention of "The Property Manager." Furthermore, we had no information on whether the owner or property management firm has an office at the property location. It is therefore uncertain what percentage of mailed letters actually reached the intended recipient. Given this uncertainty, we mailed survey invitations to all 2,639 properties in the sample frame, i.e., a census attempt.

Sampled owners/managers received up to three invitations to participate in the survey:

- An initial mailed letter with a weblink, inviting them to complete the survey online; and
- Two postcards, reminding owners/managers to complete the survey online.
- In addition, Tower Grove Neighborhoods Community Development Corporation included an invitation to the survey on their Homescreen Newsletter.

Similar to the residential customer research, the goal of this multifamily survey effort was to develop separate estimates for owners/managers of (1) affordable (low income) housing properties and (2) market-rate (non-

low income) properties. The sample frame identified 407 properties as rent restricted or subsidized. However, for analysis purposes, we classified properties as low income based on the following survey question:

- S8. *Does this property provide subsidized or public housing for low income residents?*
1. Yes
 2. No

Given the small population, especially for low income properties, and the uncertainty surrounding the available contact information, we did not set segment-specific targets for completes. Overall, 85 multifamily owners/managers completed the survey, with a response rate of 5% (see Table 6). We left the survey open for an extended amount of time, two additional weeks, in order to get as many completes as possible.

Table 6. Multifamily Property Manager / Owner Sample and Completes

	Multifamily Owner/Manager Sample (Census Attempt)	Multifamily Owner/Manager Completes
Low Income/Subsidized Multifamily	407	29
Market-rate Multifamily	2,232	56
Total	2,639	85

2.2 Primary Data Collection – Business Sector

Primary data collection in the business sector was limited to an online survey with business customers. The survey collected business and facility characteristics, as well as equipment penetrations for key enduses, such as lighting, heating, cooling, water heating, refrigeration, thermostats, and on-site generation (including solar PV systems). The business online survey also collected information on barriers to energy efficiency and willingness-to-adopt energy efficient measures under various incentive offerings.

We stratified the survey sample into two primary segments (small usage and medium/large usage) and within each primary segment, we further classified the sample within the following five business segments: office/government, industrial, retail/entertainment, food sales/service, and other.

Our sampling unit was the business-premise, which is defined as a unique business at a unique location. We developed the study-eligible population of business-premises in Ameren Missouri’s service territory using two steps:

- We identified and consolidated accounts with either the same name and address, or with similar names and addresses, using “fuzzy text matching” algorithms and geocoding.
- We identified and excluded accounts that were out of scope for this study (e.g., communication towers, cable boxes, municipal/street lighting, opt-out customers,² or residential premises) or had missing or very low (i.e., less than 200 kWh a year) usage. Excluded accounts represented 36% of all business accounts and 5% of annualized usage.

We then segmented the population into the survey strata, i.e., business segment and usage category, as follows:

- **Business segment** assignments were primarily driven by the four-digit Standard Industry Classification (SIC) code provided in the Ameren Missouri customer data (available for 70% of

² Some large electric customers may elect to not participate in Ameren Missouri’s energy efficiency programs

business-premises). Where SIC codes were missing or inconclusive, we relied on a word-association algorithm to assign each business-premise a predicted probability of belonging to each segment, based on the known segments of other business-premises. In cases where this probability reached a critical threshold, we assigned a likely initial segment to the business-premise (30% of business-premises). Overall, we made a business segment assignment for 82% of business-premises. For the remaining 18%, we were unable to assign a segment.

- **Usage category** was assigned based on the following criteria:
 - **Small Business:** Defined as all business-premises that (1) have at least one account which is served under a 2M rate class and (2) have no accounts currently served under a 4M or 11M rate class.
 - **Medium/Large Business:** All business-premises not categorized as a small business.

One key piece of information collected in the business online survey is business segment. At the beginning of the survey respondents with a segment assignment were asked to confirm their initial segment assignments or provide a revised segment, while survey respondents without a segment assignment were asked to report their business segment. Once the survey was completed, we compared initial segments to self-reported segments and developed population adjustment factors to correct for likely misclassification in the original population.

Table 7 below provides the summary of the final (adjusted) business-premise counts, by business segment and usage category.

Table 7. Business Final Population Summary

	Business-Premises		
	Small Business	Med/Large Business	Total
Office/Government	31,724	2,429	34,153
Industrial	8,853	1,794	10,647
Retail/ Entertainment	13,186	1,053	14,239
Food Sales/Service	4,701	1,496	6,197
Other	24,762	2,373	27,135
Total	83,226	9,145	92,371

We invited customers to participate in the online survey through an email invitation (if an email address was available) or a letter invitation mailed to their facility. We sent 12,800 invitations with a target of completing 600 interviews (see Table 8). We followed up with two reminder emails or postcards for customers who had not yet responded to the survey. To encourage survey completion, we entered all respondents who completed the survey into a drawing for one of ten \$100 incentives.

Table 8. Business Survey Quota Targets

Segment	Survey Targets		
	Small Business	Med/Large Business	Total
Office/Government	60	60	120
Industrial	60	60	120
Retail/ Entertainment	60	60	120

Segment	Survey Targets		
	Small Business	Med/Large Business	Total
Food Sales/Service	60	60	120
Other	60	60	120
Total	300	300	600

In total, 577 business customers completed the online survey, for a response rate of 6%. In addition, 154 customers responded to all penetration questions but dropped out of the survey prior to the adoption questions. As a result, our analysis included a total of 731 responses for the penetration calculations, but only 577 responses for the adoption calculations (see Table 9).

Table 9. Business Survey Completes

Segment	Survey Completes (Penetration)			Survey Completes (Adoption Rates)		
	Small Business	Med/Large Business	Total	Small Business	Med/Large Business	Total
Office/Government	75	48	123	57	40	97
Industrial	47	124	171	36	104	140
Retail/Entertainment	94	44	138	73	33	106
Food Sales/Service	58	52	110	46	40	86
Other	80	109	189	60	88	148
Total	354	377	731	272	305	577

2.3 Penetration and Saturation Methodology

Penetration and saturation results presented in Section 3 are based on the data collected in the primary data collection efforts described above. Penetration and saturation concepts are defined as follows:

- Penetration:** A percentage representing the proportion of customers that have one or more of a particular piece of equipment. It is calculated by dividing the number of customers with one or more of a piece of equipment by the total number of customers responding to that question. For example, the LED penetration rate for Non-Low Income residential customers is 87%, meaning that 87 out of every 100 Non-Low Income households have at least one LED installed.
- Saturation:** A number representing how many of a particular piece of equipment are present, on average, among all customers. It is calculated by dividing the total number of a particular piece of equipment by the total number of customers (*including* those who do not have the equipment). For example, the saturation rate of LEDs in Non-Low Income customer homes is 30.2, meaning that on average each Non-Low Income home (including the 13% with no LEDs) has 30.2 LEDs.

Residential single family and multifamily penetration and saturation data was collected in the residential online survey and adjusted, where necessary, by on-site visit results. In some cases, which will be noted, penetration and saturation data is based directly on on-site visit data.

Business penetration data is based on online survey data only.

2.3.1 Sampling Precision

The sampling precision target for this study was the industry-standard 90% confidence at 10% relative precision (often referred to as “90/10”) for key equipment types. However, precision estimates for individual baseline study results generally vary widely because the two drivers of precision (the number of observations and the variance in responses) can vary dramatically from question to question. While the penetration estimates for most major equipment types (i.e., the share of all homes or businesses with that equipment) can typically meet the 90/10 precision threshold, saturation estimates and equipment characteristics often do not, especially if the equipment is rare (e.g., chillers) or the number of widgets varies widely from business to business or home to home (e.g., the number of LEDs). As such, it is impossible to report a single precision level for an entire survey (or other research effort). Instead, the detailed data tables generated for this study include the standard error for all estimates of penetration, saturation, and equipment characteristics.

2.4 Adoption Curve Methodology

As a part of the 2019 baseline market research, we developed adoption curves for major enduses and segments within the residential and business sectors.

2.4.1 Residential Adoption Curve Methodology

We developed estimates for four residential segments: (1) Single Family Low Income, (2) Single Family Non-Low Income, (3) Multifamily Low Income, and (4) Multifamily Non-Low Income.

Single family results are based on responses to the online residential customer survey. Multifamily results are based on responses to both, the online residential customer survey (for in-unit measures, such as appliances) and the online multifamily building owner/manager survey (for building-wide/shared measures, such as HVAC systems or building shell measures).

Measures Covered by Primary Research

We developed adoption curves for the energy efficiency measures, demand response (DR) programs, and distributed energy resources (DER) shown in Table 10.

Table 10. Measures/Programs Included in Primary Research

Measures/Program	Applicability
EE Equipment	
Heating/CAC system HP water heater Major appliances Insulation/air sealing	Residential customers and multifamily owners/managers who have decision-making authority over the enduse/measure.
DR Programs	
Central AC control	Residential customers who are owners and have central air conditioning
Water heater control	Residential customers who are owners and have electric water heaters
Time-of-use rates	Residential customers who are individually billed
DER	

Measures/Program	Applicability
Solar PV (purchase) Solar PV (lease)	Single family customers who own their homes; multifamily owners/managers
Electric vehicles	All residential customers

Adoption Curve Inputs

Adoption curves are based on three types of survey questions: (1) willingness-to-participate (WTP) at different incentive levels, (2) barriers to adopting energy efficient equipment, and (3) awareness of Ameren Missouri programs.

Willingness-to-Participate

Direct WTP questions are the starting point of measure/program-specific adoption curve calculations. WTP questions focus on potential financial barriers to measure adoption/program participation. For each item, we asked respondents to rate the likelihood that they would purchase the energy efficient version of the equipment, or participate in the DR program, at various incentive levels, including no incentive and an incentive that covers the full incremental (or total) cost. For multifamily property manager and owner WTP, incentives were described in the form of payback periods.

The scales for the WTP questions were five-point labeled scales. Table 11 shows the response options and the likelihood factor associated with each option. This likelihood factor represents the Preliminary Adoption Score for each survey respondent.

Table 11. Residential WTP Response Options and Scoring

Response Option	Preliminary Adoption Score
1 - Not at all likely	0.00
2 - Slightly likely	0.25
3 - Somewhat likely	0.50
4 - Moderately likely	0.75
5 - Extremely likely	1.00

Barriers to Adoption

The survey presented respondents with common measure/program-specific financial and non-financial barriers to measure adoption/program participation and asked them to rate these barriers on a five-point labeled scale, where 1 means “Not a barrier,” 2 means “Slight barrier,” 3 means “Somewhat of a barrier,” 4 means “Moderate barrier,” and 5 means “Extreme barrier.”

Responses to financial and non-financial barrier questions were used to make adjustments to the Preliminary Adoption Score, if (1) the respondent identified at least one significant barrier (defined as a barrier that was given a response of 4 for a “Moderate barrier” or 5 for an “Extreme barrier”) and (2) their likelihood response to the WTP question for adoption without an incentive was greater than a 2 (i.e., more than “slightly likely”). Both financial and non-financial barrier adjustments were made on a stepwise scale because the barrier to choosing the efficient option is lessened as more of the incremental cost is covered.

Table 12 summarizes the financial and non-financial barrier adjustment factors at the different incentive levels covered in the survey. Since these adjustment factors are multiplied by the Preliminary Adoption Score, a lower factor means a greater adjustment. The adjustments for significant financial barriers are greater than for non-

financial barriers because there is more of a contradiction between their WTP and barrier responses. For example, it would be a contradiction if a respondent indicated that a financial barrier was an “extreme barrier” to the adoption of the energy efficient option but then also said that they would adopt the energy efficient option without an incentive. We apply financial and non-financial barrier adjustments to the Preliminary Adoption Score results in the Adjusted Adoption Score.

Table 12. Residential Barrier Adjustments

Incentive Level	Financial Barrier Factor	Non-Financial Barrier Factor
0%	0.0	0.5
25%	0.2	0.6
50%	0.4	0.7
75%	0.6	0.8
100%	0.8	0.9

Awareness of Ameren Missouri Programs

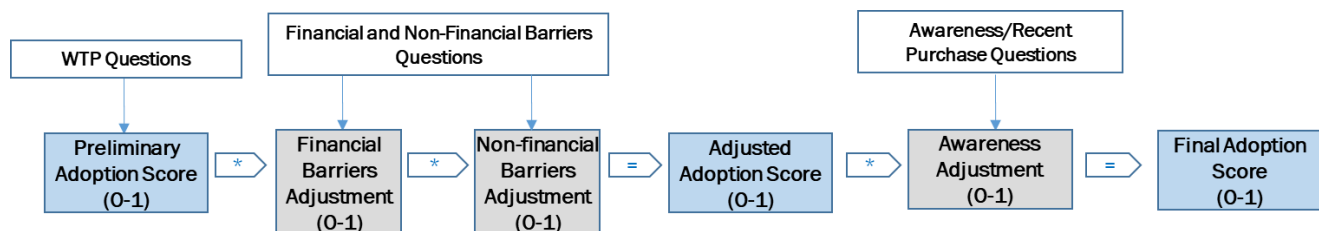
A final barrier to program participation is awareness of Ameren Missouri’s programs and the available incentives. Once aware of the programs, customers might have no barriers to participation, but they can only participate if they know that programs and incentives exist. The Adjusted Adoption Score represents the likely action of customers, once they know about the program/incentives. To reflect that some customers who might otherwise participate will not be aware of the program, the survey included two types of questions: (1) current awareness of Ameren Missouri programs/incentives and (2) whether the respondent is a “recent market participant,” defined as having purchased/installed a similar measure in the past three years.

We developed an overall measure-specific awareness adjustment factor for each measure/program. This factor represents the percentage of recent market participants that are aware of Ameren Missouri programs/incentives. The awareness adjustment is based on recent market participants, rather than all survey respondents, because some customers who are not currently aware of the programs are likely to become aware of them, once they are in the market for a certain piece of equipment. For example, somebody may not know about the programs/incentives at the time of the survey, but once their HVAC system breaks, they might find out from their contractor that program incentives are available. As such, awareness of recent market participants better reflects the likely level of awareness at the time of decision-making around the installation of energy efficient equipment and program participation.

Application of the awareness adjustment factor to the Adjusted Adoption Score results in the Final Adoption Score.

The graphic (Figure 2) below illustrates how the different types of survey responses are combined to develop residential adoption curves.

Figure 2. Residential Adoption Curve Equation



Aggregation Across Respondents

For each measure/program, we calculated overall self-reported adoption percentages as the average of all respondents' Final Adoption Scores, by segment (if sample sizes allowed). While this report presents the detailed findings by segment, we also developed aggregated adoption curves, separately for Low Income and Non-Low Income, and for Single Family and Multifamily. When calculating aggregated results, we applied sample weights to adjust for oversampling of Multifamily and Low Income customers. '

Say-Do Approach as Comparison

In the 2016 Ameren Missouri Potential Study, an approach labeled the "Say-Do" was used to develop residential adoption curves. This approach made a single adjustment to the self-reported likelihood to adopt to account for the fact that people do not always end up doing what they think or say they will do. The adjustment made using the "Say-Do" approach reflects the percentage of respondents that is assumed to ultimately adopt and depends on the original likelihood to adopt response. For example, the approach assumes that 56% of respondents who provided a "10" ("extremely likely to participate") will ultimately adopt the measure, compared to only 5% of those who provided a response of "1" ("extremely unlikely to participate"). The percentages used in the "Say-Do" approach are based on proprietary research conducted by YGDI during 2010. This research captured stated likelihood to adopt or purchase a variety of new products and services, at one point in time, and then tracked actual adoption or purchase over 6–12 months. As expected, people were less likely to actually purchase products or services than they estimated they would be at an earlier point in time. We reviewed adoption under a similar "Say-Do" approach with data collected in our surveys, as a point of comparison. We found that the adjustment was similar in some respects but in other respects provided extreme adjustments. As a result, we decided to use the approach described above, rather than the "Say-Do" approach, as it provides more fine-tuned estimates based on real barriers to adoption at varying incentive levels.

2.4.2 Business Adoption Curve Methodology

We developed adoption curve estimates for two business segments: (1) small business and (2) medium/large business. Business adoption curves are based on responses to the online customer survey.

Measures/Programs Covered by Primary Research

We developed adoption curves for the energy efficiency enduses, DR programs, and DER programs shown in Table 13.

Table 13. Business Measures/Programs Included in Primary Research

Measures/Program	Applicability
EE Equipment	
HVAC measures Water heating measures Lighting measures Refrigeration measures	Business customers who have the enduse/measure and have decision-making authority over the enduse/measure
DR Programs	
All DR Programs	Customers who occupy the sampled facility (i.e., excludes property managers)
Custom DR program	Medium/large business with at least 100 kW peak demand

Measures/Program	Applicability
Central AC control	Small business customers who have CAC
Water heater control	Small business customers who have electric water heaters
Time-of-use rates	All business customers
DER	
Solar PV (purchase) Solar PV (lease)	Business customers who own and occupy their facility and do not already have solar PV installed

Adoption Curve Inputs

Similar to residential adoption curves, business adoption curves are based on three types of survey questions: (1) WTP at different payback periods, (2) barriers to adopting energy efficient equipment, and (3) awareness of Ameren Missouri programs. While adoption rates for all business enduses/programs rely on these three factors, there are slight differences in how adoption rates are calculated for energy efficiency enduses and for DR/DER programs. These differences are noted below.

Willingness-to-Participate

Direct WTP questions are the starting point of enduse/program-specific adoption curve calculations. WTP questions focus on potential financial barriers to energy efficiency for major and minor energy-related investments without specifying a particular measure or enduse. Separately for major and minor investments, we asked respondents to rate the likelihood they would replace failed equipment with an energy efficient model under a range of different payback period assumptions. The range of different payback periods reflects different incentive levels from Ameren Missouri, which reduce the initial investment by different amounts, holding all else constant. For DR and DER programs, the WTP questions assessed participation at various incentive levels, including no incentive.

The scales for the WTP questions are five-point labeled scales. Table 14 shows the response options and the likelihood factor associated with each option. This likelihood factor represents the Preliminary Adoption Score for each survey respondent.

Table 14. Business WTP Response Options and Scoring

Response Option	Preliminary Adoption Score
1 - Not at all likely	0.00
2 - Slightly likely	0.25
3 - Somewhat likely	0.50
4 - Moderately likely	0.75
5 - Extremely likely	1.00

Barriers to Adoption

The survey presented respondents with enduse/program-specific financial and non-financial barriers to measure adoption/program participation and asked them to rate these barriers on a five-point labeled scale, where 1 means "Not a barrier," 2 means "Slight barrier," 3 means "Somewhat of a barrier," 4 means "Moderate barrier," and 5 means "Extreme barrier."

For **energy efficiency measures**, responses to financial and non-financial barrier questions were used to calibrate a respondent's Preliminary Adoption Scores to a particular enduse.

For the Financial Barriers Adjustment, we relied on enduse calibration factors that represent the relative financial barrier of an enduse compared to the financial barriers across all enduses. For each enduse, this factor was calculated as the average (across all respondents) of the highest financial barrier given for the enduse divided by average (across all respondents) of the highest financial barrier given for all enduses. We developed separate factors for major and minor purchases and by business size (see Table 15). The Financial Barriers Adjustment recognizes that the financial barriers customers face for a given enduse could be higher or lower than average. This calibration is necessary because the Preliminary Adoption Score is not enduse specific, and only differentiates between major and minor purchases.

Table 15. Business Energy Efficiency Financial Barrier Adjustments

Usage Category	End Use	Major Purchases	Minor Purchases
Small Usage	HVAC	0.981	0.981
	Lighting	1.038	1.038
	Refrigeration	0.959	0.959
	Water Heating	0.997	0.997
Medium/Large Usage	HVAC	0.970	0.970
	Lighting	1.041	1.041
	Refrigeration	0.970	0.970
	Water Heating	1.019	1.019

The non-financial barrier questions were used to develop an additional adjustment factor, if the respondent identified at least one significant non-financial barrier (defined as a barrier that was given a response of 4 for a “Moderate barrier” or 5 for an “Extreme barrier”). The non-financial barrier adjustment was made on a stepwise scale because the barrier to choosing the efficient option is lessened as more of the incremental cost is covered (see Table 16).

Table 16. Business Energy Efficiency Non-Financial Barrier Adjustments

Payback Period	Non-Financial Barrier Factor
10 years	0.5
5 years	0.6
3 years	0.7
1 year	0.8
0 years	0.9

Applying financial and non-financial barrier adjustments to the Preliminary Adoption Score results in the Adjusted Adoption Score.

For **DR and DER programs**, the use of financial and non-financial barrier questions in the adoption algorithm was similar to the residential methodology: We made adjustments to the Preliminary Adoption Score if (1) the respondent identified at least one significant barrier (defined as a barrier that was given a response of 4 for a “Moderate barrier” or 5 for an “Extreme barrier”) and (2) their likelihood response to the WTP question for adoption without an incentive was greater than a 2 (i.e., more than “slightly likely”). Both financial and non-financial barrier adjustments were made on a stepwise scale because the barrier to choosing the efficient option is lessened as more of the incremental cost is covered.

Table 12 summarizes the financial and non-financial barrier adjustment factors at the different incentive levels covered in the survey, by program. Since these adjustment factors are multiplied by the Preliminary Adoption Score, a lower factor means a greater adjustment. The adjustments for significant financial barriers are greater than for non-financial barriers because there is more of a contradiction between their response and barriers. Applying financial and non-financial barrier adjustments to the Preliminary Adoption Score results in the Adjusted Adoption Score.

Table 17. Business DR and DER Barrier Adjustments

Incentive Level (by Program)					Adjustment	
Custom DR (Average Incentive)	Time of Use Rates	CAC/DHW DR (Annual Incentive)	Purchased Solar (Payback Period)	Leased Solar	Financial Barrier Factor	Non-Financial Barrier Factor
-	-	\$0	15 years or longer	\$0	0.0	0.5
\$0	3% lower than current rates	\$15	10 years	1/12 Cost	0.2	0.6
\$25 per kW	4% lower than current rates	\$25	5 years	1/5 Cost	0.4	0.7
\$50 per kW	6% lower than current rates	\$35	3 years	1/4 Cost	0.6	0.8
\$100 per kW	8% lower than current rates	\$50	1 year	1/3 Cost	0.8	0.9
-	-		0 years		1.0	1.0

Awareness of Ameren Missouri Programs

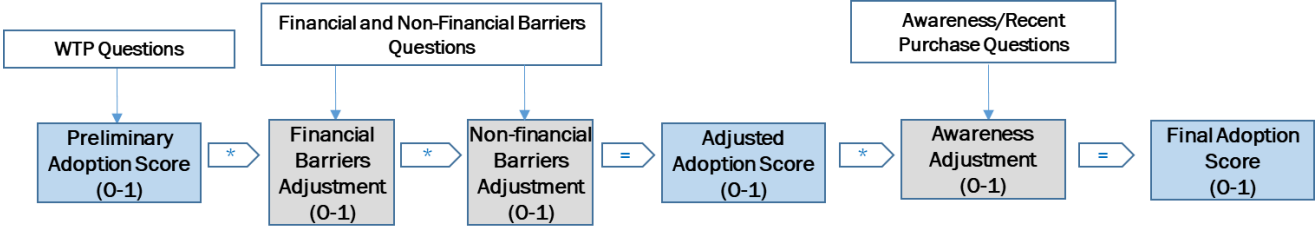
A final barrier to program participation is awareness of Ameren Missouri’s programs and the available incentives. Once aware of the programs, customers might have no barriers to participation, but they can only participate if they know that programs and incentives exist. The Adjusted Adoption Score represents the likely action of customers, once they know about the program/incentives. To reflect that some customers who might otherwise participate will not be aware of the program, the survey included two types of questions: (1) current awareness of Ameren Missouri programs/incentives and (2) whether the respondent is a “recent market participant,” defined as having purchased/installed a similar measure in the past three years.

We developed an overall measure-specific awareness adjustment factor for each measure/program. This factor represents the percentage of recent market participants that are aware of Ameren Missouri programs/incentives. The awareness adjustment is based on recent market participants, rather than all survey respondents, because some customers who are not currently aware of the programs are likely to become aware of them, once they are in the market for a certain piece of equipment. For example, somebody may not know about the programs/incentives at the time of the survey, but once their HVAC system breaks, they might find out from their contractor that program incentives are available. As such, awareness of recent market participants better reflects the likely level of awareness at the time of decision-making around the installation of energy efficient equipment and program participation.

Application of the awareness adjustment factor to the Adjusted Adoption Score results in the Final Adoption Score.

The graphic below (Figure 3) illustrates how the different types of survey responses are combined to develop business adoption curves.

Figure 3. Business Adoption Curve Equation



Aggregation Across Respondents

For each enduse/program, we calculated overall self-reported adoption percentages as the average of all respondents' Final Adoption Score, by usage category. We applied sample weights to adjust for oversampling of some business segments.

3. Summary of Key Penetration and Saturation Results

3.1 Residential Penetration and Saturation Results

Table 18 presents weighted and onsite-adjusted penetration and saturation results for low income and non-low income customers. The full results by the more granular segments – i.e., low income single family (LI-SF), low income multifamily (LI-MF), non-low income single family (NLI-SF), and non-low income multifamily (NLI-MF) – are presented in Appendix A.

Table 18. Residential Penetration and Results by Low Income and Non-Low Income

Enduse / Equipment	Penetration		Saturation	
	Low Income	Non-Low Income	Low Income	Non-Low Income
Lighting				
Has Lighting	100%	100%	28.92	72.01
LEDs	69%	87%	5.59	30.15
CFLs	83%	88%	7.14	13.72
Incandescents or Halogens	95%	97%	14.01	23.37
Linear Fluorescents	47%	59%	2.18	4.77
Heating				
Has Dedicated Heating	79%	90%	--	--
Has Shared Heating	21%	10%	--	--
Primary Heating Fuel - Electricity	55%	35%	--	--
Primary Heating Fuel - Fuel Oil	1%	1%	--	--
Primary Heating Fuel - Natural Gas	40%	61%	--	--
Primary Heating Fuel - Other	1%	1%	--	--
Primary Heating Fuel - Propane	3%	2%	--	--
Dedicated Furnace	67%	82%	0.75	0.88
Dedicated Boiler	2%	2%	<0.01	<0.01
Dedicated Ducted Heat Pump	4%	6%	0.07	0.04
Dedicated Ductless Heat Pump	1%	1%	<0.01	<0.01
Dedicated Electric Baseboard	6%	2%	0.02	0.02
Dedicated Portable Electric Heater	6%	5%	0.15	0.02
Dedicated Other	2%	1%	0.05	0.02
Cooling				
Has Central AC	83%	95%	0.83	1.22
Has Dedicated AC	83%	95%	0.83	0.96

Enduse / Equipment	Penetration		Saturation	
	Low Income	Non-Low Income	Low Income	Non-Low Income
Has Room AC	27%	12%	0.32	0.15
Water Heating				
Has Dedicated Water Heating	72%	87%	--	--
Has Shared Water Heating	28%	13%	--	--
Dedicated Water Heater Fuel Type - Electric	40%	32%	--	--
Dedicated Water Heater Fuel Type - Fuel Oil	<1%	<1%	--	--
Dedicated Water Heater Fuel Type - Natural Gas	30%	53%	--	--
Dedicated Water Heater Fuel Type - Propane	1%	2%	--	--
Dedicated Type of Water Heater - Conventional Storage Tank	70%	84%	0.83	0.66
Dedicated Type of Water Heater - Heat Pump Water	<1%	<1%	--	--
Dedicated Type of Water Heater - Indirect/Combination System	<1%	<1%	--	--
Dedicated Type of Water Heater - Tankless Water Heater	1%	2%	0.02	0.04
Major Appliances				
Has Refrigerator	100%	100%	1.24	1.62
Primary Refrigerator Has an Ice Maker	24%	49%	--	--
Primary Refrigerator Type - Bottom Freezer Top Fridge	9%	29%	--	--
Primary Refrigerator Type - Side-By-Side Fridge/Freezer	22%	35%	--	--
Primary Refrigerator Type - Single Door Fridge	1%	1%	--	--
Primary Refrigerator Type - Small Fridge Less Than 3 Feet High	1%	<1%	--	--
Primary Refrigerator Type - Top Freezer Bottom Fridge	67%	34%	--	--
Primary Refrigerator Type - Wine Cooler	<1%	<1%	--	--
Has Secondary Refrigerator	21%	47%	--	--
Has Tertiary Refrigerator	3%	12%	--	--
Has Freezer	37%	41%	0.41	0.45
Has Any Washer	83%	97%	1.04	1.00
Has a Dedicated Clothes Washer	68%	92%	--	--
Has a Clothes Washer in Common Area	14%	5%	--	--

Enduse / Equipment	Penetration		Saturation	
	Low Income	Non-Low Income	Low Income	Non-Low Income
Building Envelope				
Has Attic	49%	76%	--	--
Has Conditioned Attic	<1%	2%	--	--
Has Attic Insulation	49%	73%	--	--
Has Basement Walls	91%	93%	--	--
Has Insulated Basement Walls	47%	65%	--	--
Level of Insulation - Basement or Crawlspace Walls - Fully	25%	37%	--	--
Level of Insulation - Basement or Crawlspace Walls - Partially	22%	28%	--	--
Has Basement Ceiling	91%	93%	--	--
Has Insulated Basement Ceiling	47%	50%	--	--
Level of Insulation - Basement or Crawlspace Ceiling - Fully	28%	27%	--	--
Level of Insulation - Basement or Crawlspace Ceiling - Partially	20%	23%	--	--
Has Insulated Exterior Walls	96%	94%	--	--
Level of Insulation - Exterior Walls - Fully	73%	84%	--	--
Level of Insulation - Exterior Walls - Partially	22%	10%	--	--
Has Single Pane Window	42%	45%	2.89	3.06
Single Pane without Storm Windows	40%	40%	2.08	1.53
Single Pane with Storm Windows	16%	19%	0.81	1.53
Has Double Pane Windows	82%	94%	6.1	13.92
Double Pane without Storm Windows	80%	94%	6.03	13.77
Double Pane with Storm Windows	2%	6%	0.07	0.15
Solar				
Homeowner - Has Solar Panels	<1%	1%	<0.01	<0.01
Electric Vehicles				
Owns an Electric Vehicle	1%	2%	0.01	<0.01
Pool Pumps				
Has an Inground Pool	1%	5%	0.01	0.05
Has a Pool Pump	<1%	5%	0.01	0.05

3.2 Business Penetration Results

Table 19 presents weighted penetration results for all study-eligible business customers as well as by small and medium/large usage.

Table 19. Business Penetration Results

Enduse / Equipment	Penetration		
	Overall	Small Business	Medium/Large Business
Lighting			
Linear Fluorescent	75%	75%	71%
Linear LED	38%	35%	66%
Incandescents or Halogens	52%	51%	58%
CFL	41%	40%	51%
Nonlinear LED	39%	36%	58%
High Intensity Discharge Lamps	20%	18%	34%
High Bay Lighting	36%	33%	66%
Occupancy Sensors	12%	9%	41%
Daylight Dimming	5%	5%	9%
Timing Controls	17%	14%	41%
Exterior Lighting	93%	92%	99%
Heating			
Has Heating	94%	94%	97%
Natural Gas	58%	56%	69%
Electricity	56%	55%	63%
Propane	6%	6%	5%
Biomass	2%	2%	<1%
Fuel Oil	1%	1%	1%
Other	2%	2%	4%
Natural Gas - Primary	54%	53%	60%
Electricity - Primary	34%	34%	33%
Propane - Primary	4%	4%	2%
Biomass - Primary	1%	1%	<1%
Fuel Oil - Primary	1%	1%	<1%
Primary - Furnace	65%	66%	55%
Primary - Boiler	5%	4%	14%
Primary - Unit Heater	9%	9%	11%
Primary - Heat Pump	5%	5%	8%
Primary - Electric Resistance Heaters	4%	4%	6%
Primary - Infrared Heater	1%	1%	1%

Enduse / Equipment	Penetration		
	Overall	Small Business	Medium/Large Business
Cooling			
Has Air Conditioning	93%	92%	99%
Any AC Equipment	90%	89%	99%
Packaged System AC	47%	43%	80%
Split System AC	45%	45%	46%
Heat Pump with Ducts	12%	11%	18%
Heat Pump without Ducts	3%	3%	5%
Chiller	3%	2%	18%
Window or Wall AC	13%	13%	17%
Water Heating			
Has Water Heating Equipment	84%	83%	96%
Primary - Natural Gas	33%	31%	51%
Primary - Electricity	49%	49%	42%
Primary - Propane	2%	2%	2%
Primary - Fuel Oil	<1%	<1%	<1%
Storage Water Heater with Dedicated Heater	76%	74%	89%
Indirect Storage Water Heater	2%	2%	6%
Tankless Water Heater	8%	8%	9%
Heat Pump Water Heater	<1%	<1%	3%
Refrigeration			
Has Commercial Refrigeration	17%	14%	48%
Refrigerated Non-Display Cases	14%	12%	38%
Refrigerated Display Cases	8%	7%	24%
Commercial Refrigerated Walk-ins	10%	7%	34%
Thermostats			
Manual Thermostats	33%	33%	31%
Programable Thermostats	7%	6%	18%
Smart Thermostats	63%	62%	73%
On-Site Generation			
Renewable Energy Generation	1%	<1%	3%
Emergency/Backup Generation	7%	5%	18%
Cogeneration/CHP	1%	1%	1%
Facility and Business Characteristics			
Own or Partially Own	64%	63%	76%
Lease/Rent	35%	36%	24%
Only Manage, Neither Lease nor Own	1%	1%	<1%

Enduse / Equipment	Penetration		
	Overall	Small Business	Medium/Large Business
Occupy Facility (All)	73%	71%	88%
Occupy Facility (Partial)	25%	26%	11%
Do Not Occupy Facility (Manage Only)	2%	2%	<1%

4. Summary of Adoption Curve Results

4.1 Residential Adoption Curve Results

This section provides residential adoption curve results for the Single Family Low Income (LI-SF) and Non-Low Income (NLI-SF) segments as well as for the Multifamily Low Income (LI-MF) and Non-Low Income (NLI-MF) segments.

4.1.1 Single Family Results

Table 20. Adoption Curve Results

	Incentive Level				
	0%	25%	50%	75%	100%
Non-Low Income SF					
HVAC	30%	43%	53%	59%	64%
Water Heating	6%	12%	17%	21%	24%
Insulation	12%	26%	37%	49%	59%
Appliances	26%	33%	40%	46%	52%
Solar Purchase	6%	21%	40%	58%	77%
Electric Vehicle	9%	22%	37%	50%	60%
Low Income SF					
HVAC	17%	25%	33%	41%	50%
Water Heating	4%	9%	16%	22%	28%
Insulation	4%	13%	23%	32%	44%
Appliances	17%	26%	34%	41%	49%
Solar Purchase	4%	12%	20%	31%	58%
Electric Vehicle	7%	18%	28%	36%	49%

Table 21. Solar Lease Single Family Adoption Curve Results

	Incentive Level				
	\$0	\$1,250	\$2,500	\$3,750	\$5,000
NLI-SF	5%	16%	27%	36%	45%
LI-SF	3%	8%	13%	21%	28%

Table 22. Demand Response Central AC Single Family Adoption Curve Results

	Incentive Level				
	0%	Annual incentive of \$15	Annual incentive of \$25	Annual incentive of \$35	Annual incentive of \$50
NLI-SF	11%	16%	20%	24%	28%
LI-SF	8%	12%	15%	18%	22%

Table 23. Demand Response Water Heating Single Family Adoption Curve Results

	Incentive Level				
	0%	Annual incentive of \$15	Annual incentive of \$25	Annual incentive of \$35	Annual incentive of \$50
NLI-SF	5%	11%	15%	18%	22%
LI-SF	5%	10%	14%	17%	23%

Table 24. Demand Response TOU Single Family Adoption Curve Results

	Off-Peak Rate			
	8 cents/kWh off-peak rate	6 cents/kWh off-peak rate	4 cents/kWh off-peak rate	3 cents/kWh off-peak rate
NLI-SF	19%	26%	33%	40%
LI-SF	4%	7%	9%	10%

4.1.2 Multifamily Results

Table 25. HVAC Multifamily Property Owner/Manager Adoption Curve Results

	Payback Period				
	10 years	5 years	3 years	1 year	0 years
Non-Low Income MF					
HVAC	16%	30%	40%	48%	56%
Water Heating	8%	16%	23%	29%	35%
Insulation	10%	24%	35%	47%	54%
Solar Purchase	9%	17%	31%	41%	54%
Low Income MF					
HVAC	24%	36%	47%	56%	60%
Water Heating	20%	33%	46%	54%	62%
Insulation	21%	34%	50%	65%	81%
Solar Purchase	13%	26%	41%	52%	60%

Table 26. Appliances Multifamily Tenant and Residential Owner Adoption Curve Results

	Incentive Level				
	0%	25%	50%	75%	100%
NLI-MF	28%	36%	45%	52%	58%
LI-MF	9%	18%	26%	33%	39%

Table 27. Solar Lease Multifamily Tenant and Residential Owner Adoption Curve Results

	Incentive Level				
	\$0	\$8,300	\$12,500	\$25,000	\$33,300
NLI-MF	5%	22%	34%	51%	57%
LI-MF	5%	20%	28%	42%	49%

Table 28. Electric Vehicles Multifamily Tenant and Residential Owner Adoption Curve Results

	Incentive Level				
	0%	25%	50%	75%	100%
NLI-MF	12%	31%	46%	56%	66%
LI-MF	7%	18%	26%	33%	41%

Table 29. Demand Response Central AC Multifamily Tenant and Residential Owner Adoption Curve Results

	Incentive Level				
	0%	Annual incentive of \$15	Annual incentive of \$25	Annual incentive of \$35	Annual incentive of \$50
NLI-MF	12%	17%	21%	24%	28%
LI-MF	12%	16%	20%	23%	29%

Table 30. Demand Response Water Heating Multifamily Tenant and Residential Owner Adoption Curve Results

	Incentive Level				
	0%	Annual incentive of \$15	Annual incentive of \$25	Annual incentive of \$35	Annual incentive of \$50
NLI-MF	5%	10%	13%	13%	23%
LI-MF	22%	22%	22%	33%	33%

Table 31. Demand Response TOU Multifamily Tenant and Residential Owner Adoption Curve Results

	Off-Peak Rate			
	8 cents/kWh off-peak rate	6 cents/kWh off-peak rate	4 cents/kWh off-peak rate	3 cents/kWh off-peak rate
NLI-MF	6%	14%	16%	18%
LI-MF	13%	15%	18%	20%

4.2 Business Adoption Curve Results

In this section we provide business adoption curve results by Small Business and Medium/Large Business.

Table 32. HVAC Business Adoption Curve Results

	Payback Period				
	10 Years	5 Years	3 Years	1 Year	0 Years
Major Investment					
Small Business	15%	22%	29%	33%	36%
Medium / Large Business	24%	35%	44%	51%	55%
Minor Investment					
Small Business	14%	20%	25%	29%	32%
Medium / Large Business	24%	35%	44%	53%	58%

Table 33. Lighting Business Adoption Curve Results

	Payback Period				
	10 Years	5 Years	3 Years	1 Year	0 Years
Major Investment					
Small Business	16%	24%	29%	34%	37%
Medium / Large Business	27%	39%	47%	53%	58%
Minor Investment					
Small Business	14%	20%	25%	30%	33%
Medium / Large Business	26%	38%	48%	55%	60%

Table 34. Refrigeration Business Adoption Curve Results

	Payback Period				
	10 Years	5 Years	3 Years	1 Year	0 Years
Major Investment					
Small Business	14%	21%	26%	29%	32%
Medium / Large Business	25%	36%	46%	52%	56%
Minor Investment					
Small Business	12%	18%	25%	27%	30%
Medium / Large Business	25%	36%	47%	53%	58%

Table 35. Water Heating Business Adoption Curve Results

	Payback Period				
	10 Years	5 Years	3 Years	1 Year	0 Years
Major Investment					
Small Business	15%	23%	29%	33%	36%
Medium / Large Business	25%	38%	47%	54%	57%
Minor Investment					
Small Business	14%	20%	25%	29%	32%
Medium / Large Business	25%	37%	48%	55%	60%

Table 36. Central AC DR Business Adoption Curve Results

DR – Central AC	Annual Incentive				
	\$0	\$15	\$25	\$35	\$50
Small Business	6%	7%	9%	10%	12%
Medium / Large Business					

Table 37. Water Heating DR Business Adoption Curve Results

DR – Water Heating	Annual Incentive				
	\$0	\$15	\$25	\$35	\$50
Small Business	5%	8%	10%	11%	14%
Medium / Large Business					

Table 38. Custom DR Business Adoption Curve Results

DR – Custom	Average Incentive per kW			
	\$0	\$25	\$50	\$100
Small Business				
Medium / Large Business	16%	37%	55%	69%

Table 39. Time of Use Business Adoption Curve Results

Time of Use	Off-Peak Rate			
	3% lower than current rates	4% lower than current rates	6% lower than current rates	8% lower than current rates
Small Business	5%	6%	9%	12%
Medium / Large Business	5%	8%	11%	14%

Table 40. Leased Solar Business Adoption Curve Results

Lighting	Incentive Level				
	\$0 Incentive	Minimum Incentive (1/12 total cost)	Low Incentive (1/8 total cost)	High Incentive (1/4 total cost)	Max Incentive (1/3 total cost)
Small Business	2%	7%	10%	14%	17%
Medium / Large Business	2%	8%	13%	17%	20%

Table 41. Purchased Solar Business Adoption Curve Results

Lighting	Payback Period					
	15+ years	10 years	5 years	3 years	1 year	0 years
Small Business	4%	8%	14%	17%	21%	23%
Medium / Large Business	5%	9%	17%	22%	26%	30%

Appendix A. Survey Instruments & Full Residential Penetration and Saturation Results

Surveys Instruments

Residential Web Survey



Ameren Missouri
Baseline Study - Resid

Residential On-site Survey



Ameren Missouri
Baseline Study - Resid

Multifamily Web Survey



Ameren Missouri
Baseline Study - Multil

Business Web Survey



Ameren Missouri
Baseline Study - Busin

Residential Penetration and Saturation Results by Segment

Enduse / Equipment	Penetration				Saturation			
	LI-SF	LI-MF	NLI-SF	NLI-MF	LI-SF	LI-MF	NLI-SF	NLI-MF
Lighting								
LEDs	72%	58%	88%	75%	5.63	5.44	31.70	15.24
CFLs	84%	78%	88%	85%	7.63	5.56	14.70	4.29
Incandescents or Halogens	95%	93%	97%	95%	16.27	6.70	24.46	12.88
Linear Fluorescents	50%	37%	61%	40%	2.53	1.04	5.17	0.94
Heating								
Has Dedicated Heating	85%	63%	93%	69%	–	–	–	–
Has Shared Heating	15%	37%	7%	31%	–	–	–	–
Primary Heating Fuel - Electricity	50%	73%	32%	71%	–	–	–	–
Primary Heating Fuel - Fuel Oil	1%	<1%	1%	<1%	–	–	–	–
Primary Heating Fuel - Natural Gas	45%	26%	64%	29%	–	–	–	–
Primary Heating Fuel - Other	1%	<1%	1%	<1%	–	–	–	–
Primary Heating Fuel - Propane	4%	<1%	3%	<1%	–	–	–	–
Dedicated Furnace	74%	49%	85%	57%	0.82	0.52	0.88	0.88
Dedicated Boiler	2%	3%	2%	2%	<0.01	<0.01	<0.01	<0.01
Dedicated Ducted Heat Pump	5%	2%	6%	6%	0.03	0.19	0.05	<0.01
Dedicated Ductless Heat Pump	1%	1%	1%	2%	<0.01	<0.01	<0.01	<0.01
Dedicated Electric Baseboard	5%	9%	2%	3%	<0.01	0.07	0.02	<0.01
Dedicated Portable Electric Heater	7%	3%	5%	2%	0.15	0.15	0.02	<0.01
Dedicated Other	2%	2%	1%	1%	0.06	0.04	0.02	<0.01
Cooling								
Has Central AC	84%	80%	96%	89%	0.82	0.85	0.95	1.00
Has Dedicated AC	84%	79%	96%	89%	0.82	0.85	1.24	1.00
Has Room AC	27%	26%	12%	12%	0.35	0.22	0.17	–
Water Heating								
Has Dedicated Water Heating	85%	42%	93%	49%	–	–	–	–
Has Shared Water Heating	15%	58%	7%	51%	–	–	–	–

Enduse / Equipment	Penetration				Saturation			
	LI-SF	LI-MF	NLI-SF	NLI-MF	LI-SF	LI-MF	NLI-SF	NLI-MF
Dedicated Water Heater Fuel Type - Electric	45%	29%	31%	36%	-	-	-	-
Dedicated Water Heater Fuel Type - Fuel Oil	<1%	<1%	<1%	<1%	-	-	-	-
Dedicated Water Heater Fuel Type - Natural Gas	38%	12%	59%	13%	-	-	-	-
Dedicated Water Heater Fuel Type - Propane	2%	<1%	2%	<1%	-	-	-	-
Dedicated Type of Water Heater - Conventional Storage Tank	83%	40%	89%	48%	0.85	0.74	0.67	0.65
Dedicated Type of Water Heater - Heat Pump Water	<1%	<1%	1%	<1%	-	-	-	-
Dedicated Type of Water Heater - Indirect/Combination System	<1%	<1%	<1%	<1%	-	-	-	-
Dedicated Type of Water Heater - Tankless Water Heater	2%	1%	2%	1%	0.03	-	0.5	-
Major Appliances								
Has Refrigerator	100%	100%	100%	100%	1.3	1.05	1.67	1.09
Primary Refrigerator Has an Ice Maker	30%	4%	52%	14%	-	-	-	-
Primary Refrigerator Type - Bottom Freezer Top Fridge	11%	2%	31%	12%	-	-	-	-
Primary Refrigerator Type - Side-By-Side Fridge/Freezer	27%	4%	37%	13%	-	-	-	-
Primary Refrigerator Type - Single Door Fridge	1%	2%	1%	1%	-	-	-	-
Primary Refrigerator Type - Small Fridge Less Than 3 Feet High	1%	<1%	<1%	<1%	-	-	-	-
Primary Refrigerator Type - Top Freezer Bottom Fridge	59%	91%	30%	73%	-	-	-	-
Primary Refrigerator Type - Wine Cooler	<1%	<1%	<1%	<1%	-	-	-	-
Has Secondary Refrigerator	26%	4%	51%	8%	-	-	-	-
Has Tertiary Refrigerator	3%	1%	13%	1%	-	-	-	-
Has Freezer	45%	13%	44%	5%	0.50	0.13	0.50	0.05
Has Any Washer	86%	73%	98%	86%	1.04	1.00	1.00	1.00
Has a Dedicated Clothes Washer	78%	37%	95%	63%	-	-	-	-

Enduse / Equipment	Penetration				Saturation			
	LI-SF	LI-MF	NLI-SF	NLI-MF	LI-SF	LI-MF	NLI-SF	NLI-MF
Has a Clothes Washer in Common Area	7%	36%	3%	24%	-	-	-	-
Building Envelope								
Has Attic	59%	15%	80%	29%	-	-	-	-
Has Conditioned Attic	<1%	<1%	2%	<1%	-	-	-	-
Has Attic Insulation	59%	15%	78%	29%	-	-	-	-
Has Basement Walls	89%	96%	94%	88%	-	-	-	-
Has Insulated Basement Walls	46%	55%	70%	61%	-	-	-	-
Level of Insulation - Basement or Crawlspace Walls - Fully	25%	28%	37%	27%	-	-	-	-
Level of Insulation - Basement or Crawlspace Walls - Partially	21%	28%	28%	34%	-	-	-	-
Has Basement Ceiling	89%	96%	94%	88%	-	-	-	-
Has Insulated Basement Ceiling	47%	41%	53%	67%	-	-	-	-
Level of Insulation - Basement or Crawlspace Ceiling - Fully	27%	28%	27%	34%	-	-	-	-
Level of Insulation - Basement or Crawlspace Ceiling - Partially	20%	14%	22%	34%	-	-	-	-
Has Insulated Exterior Walls	95%	87%	95%	82%	-	-	-	-
Level of Insulation - Exterior Walls - Fully	74%	56%	84%	67%	-	-	-	-
Level of Insulation - Exterior Walls - Partially	22%	31%	10%	15%	-	-	-	-
Has Single Pane without Storm Windows	47%	19%	43%	12%	2.53	0.63	1.45	2.24
Has Single Pane with Storm Windows	21%	<1%	19%	18%	1.06	<0.01	1.62	0.65
Has Double Pane without Storm Windows	79%	81%	95%	82%	6.97	3.00	14.62	5.53
Has Double Pane with Storm Windows	3%	<1%	7%	<1%	0.09	<0.01	0.17	<0.01
Solar								
Homeowner - Has Solar Panels	<1%	<1%	1%	<1%	<0.01	<0.01	<0.01	<0.01
Electric Vehicles								
Owns an Electric Vehicle	<1%	1%	2%	1%	<0.01	0.04	<0.01	<0.01

Enduse / Equipment	Penetration				Saturation			
	LI-SF	LI-MF	NLI-SF	NLI-MF	LI-SF	LI-MF	NLI-SF	NLI-MF
Pool Pumps								
Has an Inground Pool	1%	2%	5%	1%	0.01	0.04	0.05	0.01
Has a Pool Pump	1%	1%	5%	1%	0.01	0.02	0.05	0.01

For more information, please contact:

Antje Flanders
Vice President

617-492-1400 tel
aflanders@opiniondynamics.com

1000 Winter Street
Waltham, MA 02451



Boston | Headquarters

617 492 1400 tel
617 492 7944 fax
800 966 1254 toll free

1000 Winter Street
Waltham, MA 02451

San Francisco Bay

510 444 5050 tel
510 444 5222 fax

1 Kaiser Plaza
Suite 445
Oakland, CA 94612

San Diego

858 270 5010 tel
858 270 5211 fax

7590 Fay Avenue
Suite 406
La Jolla, CA 92037

Portland

503 287 9136 tel
503-281-7375 fax

3934 NE MLK Jr. Blvd.
Suite 300
Portland, OR 97212

APPENDIX C: RESIDENTIAL MARKET-RATE DETAIL

Ameren MO		Residential Market-Rate Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	520.0	100%	520.0	0.067	0.067	8	8	\$140	\$50	1.29	3.61	3.14
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	1,027.5	100%	1,027.5	0.132	0.132	8	8	\$140	\$50	2.54	7.12	5.85
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	891.2	100%	891.2	0.150	0.150	8	8	\$140	\$50	2.39	6.68	5.12
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	857.0	100%	857.0	0.812	0.812	5	5	\$43	\$20	11.69	24.99	10.39
1005	Appliance	Refrigerator	N/A	SF	ROB	545.1	25%	136.3	0.021	0.021	17	17	\$140	\$0	0.69	#DIV/0!	1.31
1006	Appliance	Freezers ENERGY STAR - replace on fail	N/A	SF	ROB	469.0	10%	46.8	0.008	0.008	22	22	\$35	\$0	1.16	#DIV/0!	2.14
1007	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	857.0	24%	204.0	0.193	0.193	12	12	\$5	\$5	57.05	57.05	43.50
1008	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	501.7	47%	235.8	0.030	0.030	14	14	\$141	\$0	0.99	#DIV/0!	1.96
1009	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	242.3	47%	113.9	0.015	0.015	14	14	\$141	\$0	0.48	#DIV/0!	1.38
1010	Appliance	Heat Pump Dryer	N/A	SF	ROB	768.9	50%	384.5	0.052	0.052	14	14	\$405	\$0	0.57	#DIV/0!	1.11
1011	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	768.9	21%	160.0	0.021	0.021	16	16	\$152	\$0	0.70	#DIV/0!	1.36
1012	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	307.0	12%	37.0	0.003	0.003	11	11	\$76	\$0	0.21	#DIV/0!	0.48
1013	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	135.1	12%	16.3	0.001	0.001	11	11	\$76	\$0	0.09	#DIV/0!	0.32
1014	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	878.8	67%	588.8	0.068	0.068	9	9	\$70	\$50	3.28	4.59	7.66
1015	Appliance	Water Cooler	N/A	SF	ROB	398.1	31%	125.4	0.014	0.014	10	10	\$17	\$0	3.18	#DIV/0!	6.64
1016	Appliance	Refrigerator	N/A	SF	NC	545.1	25%	136.3	0.021	0.021	17	17	\$140	\$0	0.69	#DIV/0!	1.31
1017	Appliance	Freezers ENERGY STAR - replace on fail	N/A	SF	NC	469.0	10%	46.8	0.008	0.008	22	22	\$35	\$0	1.16	#DIV/0!	2.14
1018	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	857.0	24%	204.0	0.193	0.193	12	12	\$5	\$5	57.05	57.05	43.50
1019	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	501.7	47%	235.8	0.030	0.030	14	14	\$141	\$0	0.99	#DIV/0!	1.96
1020	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	242.3	47%	113.9	0.015	0.015	14	14	\$141	\$0	0.48	#DIV/0!	1.38
1021	Appliance	Heat Pump Dryer	N/A	SF	NC	768.9	50%	384.5	0.052	0.052	14	14	\$405	\$0	0.57	#DIV/0!	1.11
1022	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	768.9	21%	160.0	0.021	0.021	16	16	\$152	\$0	0.70	#DIV/0!	1.36
1023	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	307.0	12%	37.0	0.003	0.003	11	11	\$76	\$0	0.21	#DIV/0!	0.48
1024	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	135.1	12%	16.3	0.001	0.001	11	11	\$76	\$0	0.09	#DIV/0!	0.32
1025	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	878.8	67%	588.8	0.068	0.068	9	9	\$70	\$50	3.28	4.59	7.66
1026	Appliance	Water Cooler	N/A	SF	NC	398.1	31%	125.4	0.014	0.014	10	10	\$17	\$0	3.18	#DIV/0!	6.64
1027	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	520.0	100%	520.0	0.067	0.067	8	8	\$140	\$50	1.29	3.61	3.14
1028	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	1,027.5	100%	1,027.5	0.132	0.132	8	8	\$140	\$50	2.54	7.12	5.85
1029	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	891.2	100%	891.2	0.150	0.150	8	8	\$140	\$50	2.39	6.68	5.12
1030	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	857.0	100%	857.0	0.812	0.812	5	5	\$43	\$20	11.69	24.99	10.39
1031	Appliance	Refrigerator	N/A	MF	ROB	545.1	25%	136.3	0.021	0.021	17	17	\$140	\$0	0.69	#DIV/0!	1.31
1032	Appliance	Freezers ENERGY STAR - replace on fail	N/A	MF	ROB	469.0	10%	46.8	0.008	0.008	22	22	\$35	\$0	1.16	#DIV/0!	2.14
1033	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	857.0	24%	204.0	0.193	0.193	12	12	\$5	\$5	57.05	57.05	43.50
1034	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	501.7	47%	235.8	0.030	0.030	14	14	\$141	\$0	0.99	#DIV/0!	1.96
1035	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	242.3	47%	113.9	0.015	0.015	14	14	\$141	\$0	0.48	#DIV/0!	1.38
1036	Appliance	Heat Pump Dryer	N/A	MF	ROB	768.9	50%	384.5	0.052	0.052	14	14	\$405	\$0	0.57	#DIV/0!	1.11
1037	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	768.9	21%	160.0	0.021	0.021	16	16	\$152	\$0	0.70	#DIV/0!	1.36
1038	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	307.0	12%	37.0	0.003	0.003	11	11	\$76	\$0	0.21	#DIV/0!	0.48
1039	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	135.1	12%	16.3	0.001	0.001	11	11	\$76	\$0	0.09	#DIV/0!	0.32
1040	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	878.8	67%	588.8	0.068	0.068	9	9	\$70	\$50	3.28	4.59	7.66
1041	Appliance	Water Cooler	N/A	MF	ROB	398.1	31%	125.4	0.014	0.014	10	10	\$17	\$0	3.18	#DIV/0!	6.64
1042	Appliance	Refrigerator	N/A	MF	NC	545.1	25%	136.3	0.021	0.021	17	17	\$140	\$0	0.69	#DIV/0!	1.31
1043	Appliance	Freezers ENERGY STAR - replace on fail	N/A	MF	NC	469.0	10%	46.8	0.008	0.008	22	22	\$35	\$0	1.16	#DIV/0!	2.14
1044	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	857.0	24%	204.0	0.193	0.193	12	12	\$5	\$5	57.05	57.05	43.50
1045	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	501.7	47%	235.8	0.030	0.030	14	14	\$141	\$0	0.99	#DIV/0!	1.96
1046	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	242.3	47%	113.9	0.015	0.015	14	14	\$141	\$0	0.48	#DIV/0!	1.38
1047	Appliance	Heat Pump Dryer	N/A	MF	NC	768.9	50%	384.5	0.052	0.052	14	14	\$405	\$0	0.57	#DIV/0!	1.11
1048	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	768.9	21%	160.0	0.021	0.021	16	16	\$152	\$0	0.70	#DIV/0!	1.36
1049	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	307.0	12%	37.0	0.003	0.003	11	11	\$76	\$0	0.21	#DIV/0!	0.48
1050	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	135.1	12%	16.3	0.001	0.001	11	11	\$76	\$0	0.09	#DIV/0!	0.32
1051	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	878.8	67%	588.8	0.068	0.068	9	9	\$70	\$50	3.28	4.59	7.66
1052	Appliance	Water Cooler	N/A	MF	NC	398.1	31%	125.4	0.014	0.014	10	10	\$17	\$0	3.18	#DIV/0!	6.64
2001	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	N/A	SF	Retrofit	2,172.5	71%	1,551.8	0.723	0.723	25	25	\$836	\$125	2.88	19.25	3.36
2002	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	N/A	SF	Retrofit	2,172.5	77%	1,667.2	0.777	0.777	25	25	\$1,209	\$150	2.14	17.24	2.51
2003	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	N/A	SF	Retrofit	2,172.5	81%	1,770.2	0.825	0.825	25	25	\$1,847	\$175	1.49	15.69	1.75
2004	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	N/A	SF	Retrofit	1,357.8	70%	955.5	0.445	0.445	25	25	\$1,860	\$100	0.80	14.82	0.94
2005	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	N/A	SF	Retrofit	2,172.5	85%	1,838.2	0.857	0.857	25	25	\$2,462	\$200	1.16	14.25	1.37
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	19,739.8	0%	57.5	0.109	-0.061	25	25	\$166	\$0	0.52	#DIV/0!	0.60
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	19,739.8	0%	-34.4	0.135	-0.144	20	20	\$509	\$0	0.39	#DIV/0!	-0.10
2008	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	19,739.8	4%	733.3	0.343	0.343	15	15	\$400	\$400	1.99	1.99	3.27
2009	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	19,739.8	7%	1,470.7	0.685	0.685	15	15	\$400	\$400	3.98	3.98	5.53

Ameren MO		Residential Market-Rate Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
2010	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	19,739.8	12%	2,451.1	1.142	1.142	15	15	\$400	\$400	6.63	6.63	8.56
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	19,739.8	6%	1,189.2	0.000	0.000	20	20	\$2,254	\$0	0.31	#DIV/0!	0.79
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	19,739.8	10%	2,017.2	0.613	1.615	25	25	\$1,251	\$0	2.02	#DIV/0!	2.79
2013	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	19,739.8	16%	3,158.4	0.665	2.497	15	15	\$2,769	\$0	0.85	#DIV/0!	1.41
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	19,739.8	16%	3,059.7	0.498	1.656	7	7	\$8,161	\$0	0.13	#DIV/0!	0.25
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	19,739.8	16%	3,059.7	0.498	1.656	7	7	\$14,875	\$0	0.07	#DIV/0!	0.14
2016	Building Shell	Duct Insulation	N/A	SF	Retrofit	19,739.8	9%	1,748.2	0.815	0.815	20	20	\$493	\$0	4.75	#DIV/0!	5.34
2017	Building Shell	Duct Sealing	N/A	SF	Retrofit	19,739.8	1%	223.0	0.104	0.104	20	20	\$444	\$0	0.67	#DIV/0!	0.76
2018	Building Shell	Floor Insulation	N/A	SF	Retrofit	19,739.8	14%	2,775.6	1.294	1.294	25	25	\$734	\$0	5.86	#DIV/0!	6.53
2019	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	19,739.8	5%	1,063.2	1.007	0.000	20	20	\$348	\$0	6.45	#DIV/0!	4.60
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	19,739.8	5%	1,063.2	1.007	0.000	20	20	\$341	\$0	6.59	#DIV/0!	4.70
2021	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	19,739.8	5%	1,024.3	0.970	0.000	20	20	\$696	\$0	1.97	#DIV/0!	2.22
2022	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	SF	Retrofit	1,234.9	71%	882.1	0.411	0.411	25	25	\$636	\$0	1.64	#DIV/0!	1.82
2023	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	SF	Retrofit	1,234.9	77%	947.7	0.442	0.442	25	25	\$1,209	\$0	1.22	#DIV/0!	1.36
2024	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	SF	Retrofit	1,234.9	81%	1,006.2	0.469	0.469	25	25	\$1,847	\$0	0.85	#DIV/0!	0.94
2025	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	SF	Retrofit	771.8	70%	543.1	0.253	0.253	25	25	\$1,860	\$0	0.45	#DIV/0!	0.50
2026	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	SF	Retrofit	1,234.9	85%	1,044.9	0.487	0.487	25	25	\$2,462	\$0	0.66	#DIV/0!	0.73
2027	Building Shell	Radiant Barrier	N/A	SF	Retrofit	8,851.8	1%	49.5	0.070	-0.069	25	25	\$166	\$0	0.47	#DIV/0!	0.51
2028	Building Shell	Cool Roof	N/A	SF	Retrofit	8,851.8	0%	9.4	0.074	-0.154	20	20	\$509	\$0	0.02	#DIV/0!	0.03
2029	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	8,851.8	7%	630.6	0.294	0.294	15	15	\$400	\$400	1.70	1.70	2.94
2030	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	8,851.8	14%	1,261.2	0.588	0.588	15	15	\$400	\$400	3.41	3.41	4.89
2031	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	8,851.8	24%	2,101.9	0.980	0.980	15	15	\$400	\$400	5.68	5.68	7.48
2032	Building Shell	Wall Insulation	N/A	SF	Retrofit	8,851.8	6%	556.2	0.000	0.000	20	20	\$2,254	\$0	1.15	#DIV/0!	0.37
2033	Building Shell	Storm Windows	N/A	SF	Retrofit	8,851.8	12%	1,067.2	0.422	1.488	25	25	\$1,251	\$0	0.21	#DIV/0!	1.47
2034	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	8,851.8	16%	1,416.3	0.452	1.871	15	15	\$2,769	\$0	0.46	#DIV/0!	0.63
2035	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	8,851.8	16%	1,372.0	0.471	1.840	7	7	\$8,161	\$0	0.08	#DIV/0!	0.11
2036	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	8,851.8	16%	1,372.0	0.471	1.840	7	7	\$14,875	\$0	0.04	#DIV/0!	0.06
2037	Building Shell	Duct Insulation	N/A	SF	Retrofit	8,851.8	9%	783.9	0.365	0.365	20	20	\$493	\$0	2.13	#DIV/0!	2.39
2038	Building Shell	Duct Sealing	N/A	SF	Retrofit	8,851.8	3%	223.0	0.104	0.104	20	20	\$444	\$0	0.67	#DIV/0!	0.76
2039	Building Shell	Floor Insulation	N/A	SF	Retrofit	8,851.8	14%	1,244.6	0.580	0.580	25	25	\$734	\$0	2.63	#DIV/0!	2.93
2040	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	8,851.8	4%	313.7	0.297	0.000	20	20	\$348	\$0	1.90	#DIV/0!	1.36
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	8,851.8	4%	313.7	0.297	0.000	20	20	\$341	\$0	1.94	#DIV/0!	1.39
2042	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	8,851.8	4%	311.0	0.295	0.000	20	20	\$696	\$0	0.60	#DIV/0!	0.67
2043	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	N/A	SF	Retrofit	833.8	93%	772.1	0.360	0.360	25	25	\$636	\$125	1.43	9.58	15.64
2044	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	N/A	SF	Retrofit	879.8	94%	829.6	0.387	0.387	25	25	\$1,209	\$150	1.06	8.58	11.64
2045	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	N/A	SF	Retrofit	920.7	96%	880.8	0.411	0.411	25	25	\$1,847	\$175	0.74	7.81	8.09
2046	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	N/A	SF	Retrofit	515.4	92%	475.4	0.222	0.222	25	25	\$1,860	\$100	0.40	7.37	4.34
2047	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	N/A	SF	Retrofit	947.9	96%	914.6	0.426	0.426	25	25	\$2,462	\$200	0.58	7.09	6.31
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	2,455.0	1%	35.6	0.104	-0.012	25	25	\$166	\$0	0.33	#DIV/0!	0.43
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	2,455.0	2%	41.4	0.126	-0.026	20	20	\$509	\$0	0.11	#DIV/0!	0.02
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	2,455.0	4%	102.7	0.048	0.048	15	15	\$400	\$0	0.28	#DIV/0!	1.14
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	2,455.0	8%	205.4	0.096	0.096	15	15	\$400	\$0	0.56	#DIV/0!	2.28
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	2,455.0	14%	342.3	0.160	0.160	15	15	\$400	\$0	0.93	#DIV/0!	3.80
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	2,455.0	3%	73.2	0.000	0.000	20	20	\$2,254	\$0	0.02	#DIV/0!	0.37
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	2,455.0	11%	277.9	0.584	1.135	25	25	\$1,251	\$0	0.34	#DIV/0!	1.32
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	2,455.0	16%	392.8	0.613	0.186	15	15	\$2,769	\$0	0.15	#DIV/0!	0.58
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	2,455.0	16%	380.5	0.531	0.115	7	7	\$8,161	\$0	0.02	#DIV/0!	0.10
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	2,455.0	16%	380.5	0.531	0.115	7	7	\$14,875	\$0	0.01	#DIV/0!	0.06
2058	Building Shell	Duct Insulation	N/A	SF	Retrofit	2,455.0	6%	139.1	0.065	0.065	20	20	\$493	\$0	0.38	#DIV/0!	0.81
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	2,455.0	1%	36.7	0.104	0.104	20	20	\$444	\$0	0.42	#DIV/0!	0.60
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	2,455.0	14%	345.2	0.161	0.161	25	25	\$734	\$0	0.73	#DIV/0!	2.38
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	2,455.0	-2%	-39.4	-0.037	0.000	20	20	\$348	\$0	0.00	#DIV/0!	1.59
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	2,455.0	-2%	-39.4	-0.037	0.000	20	20	\$341	\$0	0.00	#DIV/0!	0.78
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	2,455.0	-2%	-49.4	-0.047	0.000	20	20	\$696	\$0	0.00	#DIV/0!	0.73
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	19,000.0	20%	3,800.0	0.868	0.868	30	30	\$1,828	\$0	2.57	#DIV/0!	3.97
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	9,000.0	20%	1,800.0	0.411	0.411	30	30	\$2,154	\$0	1.03	#DIV/0!	2.81

Ameren MO		Residential Market-Rate Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
2066	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	2,172.5	71%	1,551.8	0.723	0.723	25	25	\$836	\$125	2.88	19.25	3.36
2067	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	2,172.5	77%	1,667.2	0.777	0.777	25	25	\$1,209	\$150	2.14	17.24	2.51
2068	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	2,172.5	81%	1,770.2	0.825	0.825	25	25	\$1,847	\$175	1.49	15.69	1.75
2069	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	1,357.8	70%	955.5	0.445	0.445	25	25	\$1,860	\$100	0.80	14.82	0.94
2070	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	2,172.5	85%	1,838.2	0.857	0.857	25	25	\$2,462	\$200	1.16	14.25	1.37
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	9,852.8	0%	28.7	0.054	-0.031	25	25	\$166	\$0	0.26	#DIV/0!	0.30
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	9,852.8	0%	-17.2	0.067	-0.072	20	20	\$509	\$0	0.19	#DIV/0!	-0.05
2073	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	9,852.8	4%	398.5	0.186	0.186	15	15	\$400	\$400	1.08	1.08	2.23
2074	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	9,852.8	8%	796.9	0.371	0.371	15	15	\$400	\$400	2.15	2.15	3.46
2075	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	9,852.8	13%	1,328.2	0.619	0.619	15	15	\$400	\$400	3.59	3.59	5.09
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	9,852.8	5%	525.4	0.000	0.000	20	20	\$969	\$0	0.32	#DIV/0!	0.82
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	9,852.8	10%	940.2	0.330	0.773	25	25	\$538	\$0	2.34	#DIV/0!	3.02
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	9,852.8	16%	1,576.4	0.423	1.245	15	15	\$1,190	\$0	1.09	#DIV/0!	1.63
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	9,852.8	16%	1,527.2	0.238	0.798	7	7	\$4,046	\$0	0.13	#DIV/0!	0.25
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	9,852.8	16%	1,527.2	0.238	0.798	7	7	\$8,500	\$0	0.06	#DIV/0!	0.12
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	9,852.8	9%	872.6	0.407	0.407	20	20	\$267	\$0	4.38	#DIV/0!	4.92
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	9,852.8	1%	111.3	0.052	0.052	20	20	\$240	\$0	0.62	#DIV/0!	0.70
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	9,852.8	14%	1,385.4	0.646	0.646	25	25	\$734	\$0	2.93	#DIV/0!	3.26
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	9,852.8	4%	362.2	0.343	0.000	20	20	\$91	\$0	8.37	#DIV/0!	5.96
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	9,852.8	4%	362.2	0.343	0.000	20	20	\$170	\$0	4.49	#DIV/0!	3.20
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	9,852.8	4%	351.2	0.333	0.000	20	20	\$183	\$0	2.57	#DIV/0!	2.89
2087	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	MF	Retrofit	1,234.9	71%	882.1	0.411	0.411	25	25	\$836	\$0	1.64	#DIV/0!	1.82
2088	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	MF	Retrofit	1,234.9	77%	947.7	0.442	0.442	25	25	\$1,209	\$0	1.22	#DIV/0!	1.36
2089	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	MF	Retrofit	1,234.9	81%	1,006.2	0.469	0.469	25	25	\$1,847	\$0	0.85	#DIV/0!	0.94
2090	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	MF	Retrofit	771.8	70%	543.1	0.253	0.253	25	25	\$1,860	\$0	0.45	#DIV/0!	0.50
2091	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	MF	Retrofit	1,234.9	85%	1,044.9	0.487	0.487	25	25	\$2,462	\$0	0.66	#DIV/0!	0.73
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	4,911.7	1%	27.5	0.039	-0.038	25	25	\$166	\$0	0.26	#DIV/0!	0.29
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	4,911.7	0%	5.2	0.041	-0.085	20	20	\$509	\$0	0.01	#DIV/0!	0.02
2094	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	4,911.7	7%	341.7	0.159	0.159	15	15	\$400	\$400	0.92	0.92	2.05
2095	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	4,911.7	14%	683.4	0.319	0.319	15	15	\$400	\$400	1.85	1.85	3.11
2096	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	4,911.7	23%	1,139.0	0.531	0.531	15	15	\$400	\$400	3.08	3.08	4.51
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	4,911.7	5%	262.0	0.000	0.000	20	20	\$969	\$0	1.16	#DIV/0!	0.41
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	4,911.7	10%	501.7	0.312	0.060	25	25	\$538	\$0	1.45	#DIV/0!	1.61
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	4,911.7	16%	785.9	0.285	1.008	15	15	\$1,190	\$0	0.63	#DIV/0!	0.81
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	4,911.7	16%	761.3	0.211	0.822	7	7	\$4,046	\$0	0.08	#DIV/0!	0.13
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	4,911.7	16%	761.3	0.211	0.822	7	7	\$8,500	\$0	0.04	#DIV/0!	0.06
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	4,911.7	9%	435.0	0.203	0.203	20	20	\$267	\$0	2.18	#DIV/0!	2.45
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	4,911.7	2%	111.3	0.052	0.052	20	20	\$240	\$0	0.62	#DIV/0!	0.70
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	4,911.7	14%	690.6	0.322	0.322	25	25	\$734	\$0	1.46	#DIV/0!	1.63
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	4,911.7	2%	99.8	0.095	0.000	20	20	\$91	\$0	2.31	#DIV/0!	1.64
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	4,911.7	2%	99.8	0.095	0.000	20	20	\$170	\$0	1.24	#DIV/0!	0.88
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	4,911.7	2%	93.0	0.088	0.000	20	20	\$183	\$0	0.68	#DIV/0!	0.77
2108	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	833.8	93%	772.1	0.360	0.360	25	25	\$836	\$125	1.43	9.58	15.64
2109	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	879.8	94%	829.6	0.387	0.387	25	25	\$1,209	\$150	1.06	8.58	11.64
2110	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	920.7	96%	880.8	0.411	0.411	25	25	\$1,847	\$175	0.74	7.81	8.09
2111	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	515.4	92%	475.4	0.222	0.222	25	25	\$1,860	\$100	0.40	7.37	4.34
2112	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	947.9	96%	914.6	0.426	0.426	25	25	\$2,462	\$200	0.58	7.09	6.31
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	2,435.7	1%	35.3	0.103	-0.012	25	25	\$166	\$0	0.33	#DIV/0!	0.39
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	2,435.7	2%	41.1	0.125	-0.026	20	20	\$509	\$0	0.11	#DIV/0!	0.09
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	2,435.7	2%	55.7	0.026	0.026	15	15	\$400	\$0	0.15	#DIV/0!	0.58
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	2,435.7	5%	111.3	0.052	0.052	15	15	\$400	\$0	0.30	#DIV/0!	1.86
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	2,435.7	8%	185.5	0.086	0.086	15	15	\$400	\$0	0.50	#DIV/0!	3.11
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	2,435.7	3%	69.4	0.000	0.000	20	20	\$969	\$0	0.04	#DIV/0!	0.36
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	2,435.7	8%	205.8	0.312	0.060	25	25	\$538	\$0	0.59	#DIV/0!	1.45
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	2,435.7	16%	389.7	0.389	0.088	15	15	\$1,190	\$0	0.35	#DIV/0!	0.74
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	2,435.7	16%	377.5	0.531	0.115	7	7	\$4,046	\$0	0.05	#DIV/0!	0.11

Ameren MO		Residential Market-Rate Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	2,435.7	16%	377.5	0.531	0.115	7	7	\$8,500	\$0	0.02	#DIV/0!	0.05
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	2,435.7	6%	138.1	0.064	0.064	20	20	\$287	\$0	0.69	#DIV/0!	0.94
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	2,435.7	1%	36.4	0.103	0.103	20	20	\$240	\$0	0.78	#DIV/0!	0.31
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	2,435.7	14%	342.5	0.160	0.160	25	25	\$734	\$0	0.72	#DIV/0!	1.49
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	2,435.7	-1%	-23.9	-0.023	0.000	20	20	\$91	\$0	0.00	#DIV/0!	1.64
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	2,435.7	-1%	-23.9	-0.023	0.000	20	20	\$170	\$0	0.00	#DIV/0!	0.74
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	2,435.7	-2%	-41.4	-0.039	0.000	20	20	\$183	\$0	0.00	#DIV/0!	0.73
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	11,000.0	20%	2,200.0	0.502	0.502	30	30	\$1,828	\$0	1.49	#DIV/0!	2.30
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	5,000.0	20%	1,000.0	0.228	0.228	30	30	\$2,154	\$0	0.57	#DIV/0!	1.54
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	18,127.6	1%	128.7	0.060	0.060	1	1	\$6	\$6	1.43	1.43	3.19
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	18,127.6	9%	1,631.5	0.186	0.186	1	1	\$100	\$0	0.70	#DIV/0!	1.75
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	18,127.6	3%	581.9	0.066	0.066	5	5	\$90	\$0	1.41	#DIV/0!	3.20
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	9,963.5	1%	70.7	0.033	0.033	1	1	\$6	\$6	0.78	0.78	2.21
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	9,963.5	9%	896.7	0.102	0.102	1	1	\$100	\$0	0.38	#DIV/0!	0.96
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	9,963.5	3%	319.8	0.037	0.037	5	5	\$90	\$0	0.78	#DIV/0!	1.76
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	5,516.5	1%	39.2	0.018	0.018	1	1	\$6	\$6	0.43	0.43	1.67
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	5,516.5	9%	496.5	0.057	0.057	1	1	\$100	\$0	0.21	#DIV/0!	0.53
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	5,516.5	3%	177.1	0.020	0.020	5	5	\$90	\$0	0.43	#DIV/0!	0.97
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	18,127.6	1%	128.7	0.060	0.060	1	1	\$6	\$6	1.43	1.43	3.19
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	18,127.6	9%	1,631.5	0.186	0.186	1	1	\$100	\$0	0.70	#DIV/0!	1.75
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	18,127.6	3%	581.9	0.066	0.066	5	5	\$90	\$0	1.41	#DIV/0!	3.20
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	9,963.5	1%	70.7	0.033	0.033	1	1	\$6	\$6	0.78	0.78	2.21
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	9,963.5	9%	896.7	0.102	0.102	1	1	\$100	\$0	0.38	#DIV/0!	0.96
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	9,963.5	3%	319.8	0.037	0.037	5	5	\$90	\$0	0.78	#DIV/0!	1.76
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	5,516.5	1%	39.2	0.018	0.018	1	1	\$6	\$6	0.43	0.43	1.67
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	5,516.5	9%	496.5	0.057	0.057	1	1	\$100	\$0	0.21	#DIV/0!	0.53
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	5,516.5	3%	177.1	0.020	0.020	5	5	\$90	\$0	0.43	#DIV/0!	0.97
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	18,127.6	1%	128.7	0.060	0.060	1	1	\$6	\$6	1.43	1.43	3.19
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	18,127.6	9%	1,631.5	0.186	0.186	1	1	\$100	\$0	0.70	#DIV/0!	1.75
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	18,127.6	3%	581.9	0.066	0.066	5	5	\$90	\$0	1.41	#DIV/0!	3.20
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	9,963.5	1%	70.7	0.033	0.033	1	1	\$6	\$6	0.78	0.78	2.21
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	9,963.5	9%	896.7	0.102	0.102	1	1	\$100	\$0	0.38	#DIV/0!	0.96
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	9,963.5	3%	319.8	0.037	0.037	5	5	\$90	\$0	0.78	#DIV/0!	1.76
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	5,516.5	1%	39.2	0.018	0.018	1	1	\$6	\$6	0.43	0.43	1.67
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	5,516.5	9%	496.5	0.057	0.057	1	1	\$100	\$0	0.21	#DIV/0!	0.53
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	5,516.5	3%	177.1	0.020	0.020	5	5	\$90	\$0	0.43	#DIV/0!	0.97
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	18,127.6	1%	128.7	0.060	0.060	1	1	\$6	\$6	1.43	1.43	3.19
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	18,127.6	9%	1,631.5	0.186	0.186	1	1	\$100	\$0	0.70	#DIV/0!	1.75
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	18,127.6	3%	581.9	0.066	0.066	5	5	\$90	\$0	1.41	#DIV/0!	3.20
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	9,963.5	1%	70.7	0.033	0.033	1	1	\$6	\$6	0.78	0.78	2.21
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	9,963.5	9%	896.7	0.102	0.102	1	1	\$100	\$0	0.38	#DIV/0!	0.96
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	9,963.5	3%	319.8	0.037	0.037	5	5	\$90	\$0	0.78	#DIV/0!	1.76
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	5,516.5	1%	39.2	0.018	0.018	1	1	\$6	\$6	0.43	0.43	1.67
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	5,516.5	9%	496.5	0.057	0.057	1	1	\$100	\$0	0.21	#DIV/0!	0.53
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	5,516.5	3%	177.1	0.020	0.020	5	5	\$90	\$0	0.43	#DIV/0!	0.97
4001	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4002	Electronics	Advanced Tier 1 Power Strips - Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4003	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	SF	Retrofit	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$22	1.58	1.45	4.47
4004	Electronics	ENERGY STAR Display	N/A	SF	ROB	66.2	61%	40.2	0.020	0.020	5	5	\$10	\$0	0.86	#DIV/0!	1.99
4005	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	50.3	72%	36.0	0.004	0.004	4	4	\$8	\$0	0.76	#DIV/0!	1.82
4006	Electronics	ENERGY STAR PC	N/A	SF	ROB	238.5	32%	77.0	0.023	0.023	4	4	\$8	\$0	1.64	#DIV/0!	3.89
4007	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	91.0	73%	66.0	0.008	0.008	7	7	\$5	\$0	3.91	#DIV/0!	8.81
4008	Electronics	ENERGY STAR TV	N/A	SF	ROB	123.8	26%	31.8	0.017	0.017	6	6	\$10	\$0	0.85	#DIV/0!	1.85
4009	Electronics	Smart Residential Outlet	N/A	SF	ROB	432.0	6%	28.0	0.003	0.003	5	5	\$50	\$0	0.12	#DIV/0!	0.28
4010	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4011	Electronics	Advanced Tier 1 Power Strips - Kits - Unknown Location	Energy Efficient Kits	SF	NC	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4012	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	SF	NC	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$22	1.58	1.45	4.47
4013	Electronics	ENERGY STAR Display	N/A	SF	NC	66.2	61%	40.2	0.020	0.020	5	5	\$10	\$0	0.86	#DIV/0!	1.99
4014	Electronics	ENERGY STAR Laptop	N/A	SF	NC	50.3	72%	36.0	0.004	0.004	4	4	\$8	\$0	0.76	#DIV/0!	1.82

Ameren MO		Residential Market-Rate Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
4015	Electronics	ENERGY STAR PC	N/A	SF	NC	238.5	32%	77.0	0.023	0.023	4	4	\$8	\$0	1.64	#DIV/0!	3.89
4016	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	91.0	73%	66.0	0.008	0.008	7	7	\$5	\$0	3.91	#DIV/0!	8.81
4017	Electronics	ENERGY STAR TV	N/A	SF	NC	123.8	26%	31.8	0.017	0.017	6	6	\$10	\$0	0.85	#DIV/0!	1.85
4018	Electronics	Smart Residential Outlet	N/A	SF	NC	432.0	6%	28.0	0.003	0.003	5	5	\$50	\$0	0.12	#DIV/0!	0.28
4019	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4020	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	MF	Retrofit	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4021	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4022	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Multifamily Market Rate	MF	Retrofit	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4023	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	MF	Retrofit	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$22	1.58	1.45	4.47
4024	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$22	1.58	1.45	4.47
4025	Electronics	ENERGY STAR Display	N/A	MF	ROB	66.2	61%	40.2	0.020	0.020	5	5	\$10	\$0	0.86	#DIV/0!	1.99
4026	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	50.3	72%	36.0	0.004	0.004	4	4	\$8	\$0	0.76	#DIV/0!	1.82
4027	Electronics	ENERGY STAR PC	N/A	MF	ROB	238.5	32%	77.0	0.023	0.023	4	4	\$8	\$0	1.64	#DIV/0!	3.89
4028	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	91.0	73%	66.0	0.008	0.008	7	7	\$5	\$0	3.91	#DIV/0!	8.81
4029	Electronics	ENERGY STAR TV	N/A	MF	ROB	123.8	26%	31.8	0.017	0.017	6	6	\$10	\$0	0.85	#DIV/0!	1.85
4030	Electronics	Smart Residential Outlet	N/A	MF	ROB	432.0	6%	28.0	0.003	0.003	5	5	\$50	\$0	0.12	#DIV/0!	0.28
4031	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	NC	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4032	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	MF	NC	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4033	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	NC	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Multifamily Market Rate	MF	NC	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4035	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	MF	NC	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$22	1.58	1.45	4.47
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	NC	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$22	1.58	1.45	4.47
4037	Electronics	ENERGY STAR Display	N/A	MF	NC	66.2	61%	40.2	0.020	0.020	5	5	\$10	\$0	0.86	#DIV/0!	1.99
4038	Electronics	ENERGY STAR Laptop	N/A	MF	NC	50.3	72%	36.0	0.004	0.004	4	4	\$8	\$0	0.76	#DIV/0!	1.82
4039	Electronics	ENERGY STAR PC	N/A	MF	NC	238.5	32%	77.0	0.023	0.023	4	4	\$8	\$0	1.64	#DIV/0!	3.89
4040	Electronics	ENERGY STAR Sound Bar	N/A	MF	NC	91.0	73%	66.0	0.008	0.008	7	7	\$5	\$0	3.91	#DIV/0!	8.81
4041	Electronics	ENERGY STAR TV	N/A	MF	NC	123.8	26%	31.8	0.017	0.017	6	6	\$10	\$0	0.85	#DIV/0!	1.85
4042	Electronics	Smart Residential Outlet	N/A	MF	NC	432.0	6%	28.0	0.003	0.003	5	5	\$50	\$0	0.12	#DIV/0!	0.28
5001	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	SF	Recycle	302.5	100%	302.5	0.287	0.000	4	4	\$65	\$20	2.21	1.71	2.19
5002	HVAC Equipment	Dirty Filter Alarm_SF.Kits	Energy Efficient Kits	SF	Retrofit	2,330.4	3%	69.9	0.033	0.033	14	14	\$5	\$1	14.31	66.23	16.60
5003	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	Retrofit	45.2	85%	38.6	0.005	0.005	19	19	\$44	\$0	0.65	#DIV/0!	1.29
5004	HVAC Equipment	Smart Ceiling Fan	N/A	SF	Retrofit	2,446.6	8%	183.5	0.174	0.000	20	20	\$2,400	\$0	0.10	#DIV/0!	0.12
5005	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	SF	Retrofit	19,739.8	10%	1,974.0	0.344	0.344	15	15	\$1,218	\$0	1.14	#DIV/0!	2.00
5006	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	Efficient Products	SF	Retrofit	16,606.9	7%	1,142.3	0.183	0.183	10	10	\$175	\$50	3.13	10.94	6.17
5007	HVAC Equipment	Smart Vents/Sensors - HP	N/A	SF	Retrofit	8,851.8	10%	885.2	0.204	0.204	15	15	\$1,218	\$0	0.56	#DIV/0!	0.90
5008	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	Efficient Products	SF	Retrofit	10,675.8	7%	745.7	0.183	0.183	10	10	\$175	\$50	2.38	8.31	4.12
5009	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	SF	Retrofit	2,446.6	10%	244.7	0.344	0.344	15	15	\$1,218	\$0	0.22	#DIV/0!	0.94
5010	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	SF	Retrofit	2,455.0	10%	235.0	0.183	0.183	10	10	\$175	\$50	1.41	4.93	3.85
5011	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	HVAC	SF	ROB	18,604.1	55%	10,255.8	0.443	0.443	18	18	\$438	\$800	14.33	7.85	34.67
5012	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	HVAC	SF	ROB	18,245.9	63%	11,441.7	1.784	1.784	18	18	\$963	\$900	9.27	9.92	17.60
5013	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	HVAC	SF	ROB	19,413.3	61%	11,902.0	0.926	0.926	18	18	\$1,690	\$1,050	4.67	7.52	10.50
5014	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	SF	ROB	9,180.2	66%	6,081.3	0.534	0.534	18	18	\$1,121	\$75	3.68	55.02	7.68
5015	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	HVAC	SF	Retrofit	2,221.4	4%	117.8	0.112	0.000	2	2	\$70	\$0	0.38	#DIV/0!	0.35
5016	HVAC Equipment	AC Tune-up / refrigerant charge SF	HVAC	SF	Retrofit	2,221.4	22%	491.3	0.465	0.000	2	2	\$81	\$81	1.37	1.37	2.27
5017	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	HVAC	SF	Retrofit	2,221.4	2%	81.3	0.077	0.000	2	2	\$63	\$0	0.29	#DIV/0!	0.27
5018	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	HVAC	SF	Retrofit	2,221.4	7%	162.6	0.154	0.000	2	2	\$31	\$0	1.18	#DIV/0!	1.10
5019	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	HVAC	SF	ROB	2,446.6	8%	200.4	0.190	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
5020	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	HVAC	SF	ROB	2,446.6	14%	348.6	0.330	0.000	18	18	\$275	\$275	2.52	2.52	2.78
5021	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	HVAC	SF	ROB	2,446.6	20%	501.3	0.475	0.000	18	18	\$221	\$300	4.51	3.32	4.54
5022	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	HVAC	SF	ROB	2,326.2	24%	547.4	0.519	0.000	18	18	\$620	\$325	1.75	3.35	1.76
5023	HVAC Equipment	Ductless AC - replace on fail SF	HVAC	SF	ROB	1,203.2	44%	528.1	0.500	0.000	18	18	\$1,545	\$200	0.68	5.24	0.61
5024	HVAC Equipment	General HP tune-up (no charge or coil clean)	HVAC	SF	Retrofit	14,772.2	2%	303.6	0.138	0.138	2	2	\$70	\$0	0.62	#DIV/0!	0.91
5025	HVAC Equipment	HP Tune-up / refrigerant charge SF	HVAC	SF	Retrofit	14,772.2	9%	1,367.7	0.576	0.576	2	2	\$81	\$50	2.31	3.75	4.16
5026	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	HVAC	SF	Retrofit	14,772.2	1%	208.2	0.095	0.095	2	2	\$63	\$0	0.47	#DIV/0!	0.69
5027	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	HVAC	SF	Retrofit	14,772.2	3%	422.7	0.191	0.191	2	2	\$31	\$0	1.93	#DIV/0!	2.86
5028	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	HVAC	SF	ROB	9,119.9	7%	680.3	0.287	0.287	18	18	\$438	\$500	1.93	1.60	3.32
5029	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	HVAC	SF	ROB	9,682.6	18%	1,725.8	0.518	0.518	18	18	\$963	\$400	1.78	4.29	2.93
5030	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	SF	ROB	9,682.6	21%	1,998.9	0.776	0.776	18	18	\$1,690	\$1,690	1.33	1.33	2.66

Ameren MO		Residential Market-Rate Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
5031	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	HVAC	SF	ROB	4,487.1	32%	1,433.2	0.500	0.500	18	18	\$888	\$500	1.72	3.06	2.83
5032	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	SF	ROB	12,042.7	34%	4,084.0	1.340	1.340	18	18	\$3,200	\$800	1.32	5.29	2.04
5033	HVAC Equipment	DFHP - SEER 19	N/A	SF	ROB	6,672.0	21%	1,374.4	0.520	0.520	18	18	\$2,937	\$0	0.52	#DIV/0!	0.18
5034	HVAC Equipment	DFHP - SEER 20	N/A	SF	ROB	6,672.0	24%	1,595.9	0.593	0.593	18	18	\$3,177	\$0	0.55	#DIV/0!	0.26
5035	HVAC Equipment	DFHP - SEER 21	N/A	SF	ROB	6,672.0	27%	1,799.4	0.659	0.659	18	18	\$3,627	\$0	0.54	#DIV/0!	0.31
5036	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	SF	ROB	516.8	9%	48.5	0.046	0.000	9	9	\$20	\$20	2.68	2.68	3.00
5037	HVAC Equipment	Integrated Space and Water Heater	N/A	SF	ROB	11,472.5	51%	5,851.0	1.413	5.846	25	25	\$1,558	\$0	4.27	#DIV/0!	6.49
5038	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	NC	45.2	85%	38.6	0.005	0.005	19	19	\$44	\$0	0.65	#DIV/0!	1.29
5039	HVAC Equipment	Smart Ceiling Fan	N/A	SF	NC	2,446.6	8%	183.5	0.174	0.000	20	20	\$2,400	\$0	0.10	#DIV/0!	0.12
5040	HVAC Equipment	Smart Vents/Sensors - HP	N/A	SF	NC	8,851.8	10%	883.2	0.204	0.204	15	15	\$1,218	\$0	0.56	#DIV/0!	0.90
5041	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	Efficient Products	SF	NC	10,675.8	7%	745.7	0.183	0.183	10	10	\$175	\$50	2.38	8.31	4.12
5042	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	SF	NC	2,446.6	10%	244.7	0.204	0.204	15	15	\$1,218	\$0	0.22	#DIV/0!	0.94
5043	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	SF	NC	2,455.0	10%	235.0	0.183	0.183	10	10	\$175	\$50	1.41	4.93	3.85
5044	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	HVAC	SF	NC	2,446.6	8%	200.4	0.190	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
5045	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	HVAC	SF	NC	2,446.6	14%	348.6	0.330	0.000	18	18	\$275	\$275	2.52	2.52	2.78
5046	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	HVAC	SF	NC	2,446.6	20%	501.3	0.475	0.000	18	18	\$221	\$300	4.51	3.32	4.54
5047	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	HVAC	SF	NC	2,326.2	24%	547.4	0.519	0.000	18	18	\$620	\$325	1.75	3.35	1.76
5048	HVAC Equipment	Ductless AC - replace on fail SF	HVAC	SF	NC	1,203.2	44%	528.1	0.500	0.000	18	18	\$1,545	\$200	0.68	5.24	0.61
5049	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	HVAC	SF	NC	9,119.9	7%	680.3	0.287	0.287	18	18	\$438	\$500	1.83	1.60	3.32
5050	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	HVAC	SF	NC	9,682.6	18%	1,725.8	0.518	0.518	18	18	\$963	\$400	1.78	4.29	2.93
5051	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	SF	NC	9,682.6	21%	1,998.9	0.776	0.776	18	18	\$1,690	\$1,690	1.33	1.33	2.66
5052	HVAC Equipment	Ductless ASHP - replace on fail SF NC	HVAC	SF	NC	4,487.1	32%	1,433.2	0.500	0.500	18	18	\$888	\$500	1.72	3.06	2.83
5053	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	SF	NC	12,042.7	34%	4,084.0	1.340	1.340	18	18	\$3,200	\$800	1.32	5.29	2.04
5054	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	6,672.0	21%	1,374.4	0.520	0.520	18	18	\$2,937	\$0	0.52	#DIV/0!	0.18
5055	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	6,672.0	24%	1,595.9	0.593	0.593	18	18	\$3,177	\$0	0.55	#DIV/0!	0.26
5056	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	6,672.0	27%	1,799.4	0.659	0.659	18	18	\$3,627	\$0	0.54	#DIV/0!	0.31
5057	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	SF	NC	516.8	9%	48.5	0.046	0.000	9	9	\$20	\$20	2.68	2.68	3.00
5058	HVAC Equipment	Integrated Space and Water Heater	N/A	SF	NC	11,472.5	51%	5,851.0	1.154	5.370	25	25	\$1,558	\$0	3.96	#DIV/0!	6.49
5059	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	302.5	100%	302.5	0.287	0.000	4	4	\$65	\$20	2.21	7.17	2.19
5060	HVAC Equipment	Dirty Filter Alarm_MF:Kits	Energy Efficient Kits	MF	Retrofit	5,458.8	3%	163.8	0.076	0.076	14	14	\$5	\$1	33.51	155.15	38.59
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	Multifamily Market Rate	MF	Retrofit	2,514.6	3%	75.4	0.035	0.035	14	14	\$5	\$4	15.44	19.06	18.49
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	45.2	85%	38.6	0.005	0.005	19	19	\$44	\$0	0.65	#DIV/0!	1.29
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	1,604.3	8%	120.3	0.114	0.000	20	20	\$2,400	\$0	0.07	#DIV/0!	0.08
5064	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	MF	Retrofit	7,619.8	10%	762.0	0.199	0.199	15	15	\$1,218	\$0	0.51	#DIV/0!	0.72
5065	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	9,233.2	7%	638.1	0.119	0.119	10	10	\$175	\$50	1.83	6.42	3.52
5066	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	Retrofit	4,911.7	10%	491.2	0.118	0.118	15	15	\$1,218	\$0	0.32	#DIV/0!	0.50
5067	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	6,874.9	7%	491.5	0.183	0.183	10	10	\$175	\$50	1.89	6.63	2.82
5068	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	Retrofit	1,604.3	10%	160.4	0.199	0.199	15	15	\$1,218	\$0	0.14	#DIV/0!	0.54
5069	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	2,435.7	9%	215.7	0.183	0.183	10	10	\$175	\$50	1.37	4.81	2.67
5070	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	HVAC	MF	ROB	10,483.2	55%	5,787.2	0.246	0.246	18	18	\$237	\$450	14.95	7.86	36.22
5071	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	HVAC	MF	ROB	9,852.8	63%	6,178.5	0.963	0.963	18	18	\$820	\$500	9.27	9.64	17.63
5072	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	N/A	MF	ROB	10,483.2	61%	6,427.1	0.500	0.500	18	18	\$1,690	\$1,050	2.52	4.06	5.96
5073	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	MF	ROB	4,957.3	66%	3,283.9	0.288	0.288	18	18	\$752	\$250	2.96	8.91	6.46
5074	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	Multifamily Market Rate	MF	Retrofit	1,514.7	4%	80.3	0.076	0.000	2	2	\$70	\$0	0.26	#DIV/0!	0.24
5075	HVAC Equipment	AC Tune-up / refrigerant charge / MFMR	Multifamily Market Rate	MF	Retrofit	1,514.7	22%	335.0	0.076	0.000	2	2	\$81	\$75	0.45	0.49	1.79
5076	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	Multifamily Market Rate	MF	Retrofit	1,514.7	11%	55.5	0.053	0.000	2	2	\$63	\$0	0.20	#DIV/0!	0.18
5077	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	Multifamily Market Rate	MF	Retrofit	1,514.7	7%	110.9	0.105	0.000	2	2	\$31	\$0	0.81	#DIV/0!	0.75
5078	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	ROB	1,604.3	10%	160.0	0.157	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
5079	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	ROB	1,619.7	14%	230.8	0.219	0.000	18	18	\$250	\$250	1.83	1.83	2.29
5080	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	ROB	1,635.1	19%	306.6	0.290	0.000	18	18	\$148	\$300	4.12	2.03	4.94
5081	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	ROB	1,635.1	24%	384.7	0.365	0.000	18	18	\$436	\$350	1.75	2.18	2.04
5082	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	ROB	649.7	44%	285.2	0.270	0.000	18	18	\$979	\$250	0.58	2.27	0.66
5083	HVAC Equipment	General HP tune-up (no charge or coil clean)	N/A	MF	Retrofit	9,510.4	2%	192.4	0.085	0.085	2	2	\$70	\$0	0.39	#DIV/0!	0.58
5084	HVAC Equipment	HP Tune-up / refrigerant charge MF	N/A	MF	Retrofit	9,510.4	9%	868.4	0.355	0.355	2	2	\$81	\$50	1.45	2.34	2.87
5085	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	N/A	MF	Retrofit	9,510.4	1%	131.9	0.059	0.059	2	2	\$63	\$0	0.30	#DIV/0!	0.44
5086	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	N/A	MF	Retrofit	9,510.4	3%	267.9	0.117	0.117	2	2	\$31	\$0	1.21	#DIV/0!	1.81
5087	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	ROB	5,228.6	7%	385.9	0.157	0.157	18	18	\$237	\$450	1.88	0.99	4.19
5088	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	ROB	5,228.6	18%	931.9	0.279	0.279	18	18	\$520	\$400	1.78	2.32	3.28
5089	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	ROB	5,228.6	21%	1,079.4	0.419	0.419	18	18	\$913	\$913	1.33	1.33	2.66
5090	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	HVAC	MF	ROB	2,423.1	32%	773.9	0.270	0.270	18	18	\$705	\$250	1.17	3.31	1.89

Ameren MO		Residential Market-Rate Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
5091	HVAC Equipment	DFHP - SEER 19	N/A	MF	ROB	5,445.6	8%	448.0	0.331	0.331	18	18	\$2,937	\$0	0.25	#DIV/0!	-0.03
5092	HVAC Equipment	DFHP - SEER 20	N/A	MF	ROB	5,445.6	9%	510.8	0.460	0.460	18	18	\$3,177	\$0	0.30	#DIV/0!	0.00
5093	HVAC Equipment	DFHP - SEER 21	N/A	MF	ROB	5,445.6	10%	567.5	0.500	0.500	18	18	\$3,627	\$0	0.29	#DIV/0!	0.03
5094	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	ROB	516.8	9%	48.5	0.046	0.000	9	9	\$20	\$20	2.68	2.68	3.00
5095	HVAC Equipment	Integrated Space and Water Heater	N/A	MF	ROB	6,887.7	51%	3,512.7	0.891	3.150	25	25	\$1,558	\$0	0.61	#DIV/0!	3.90
5096	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	45.2	85%	38.6	0.005	0.005	19	19	\$44	\$0	2.65	#DIV/0!	1.29
5097	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	1,604.3	8%	120.3	0.114	0.000	20	20	\$2,400	\$0	0.07	#DIV/0!	0.08
5098	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	NC	4,911.7	10%	491.2	0.118	0.118	15	15	\$1,218	\$0	0.32	#DIV/0!	0.50
5099	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	6,874.9	7%	491.5	0.183	0.183	10	10	\$175	\$50	1.89	6.63	2.82
5100	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	NC	1,604.3	10%	160.4	0.118	0.118	15	15	\$1,218	\$0	0.14	#DIV/0!	0.54
5101	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	2,435.7	9%	215.7	0.183	0.183	10	10	\$175	\$50	1.37	4.81	2.67
5102	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	NC	1,604.3	10%	160.4	0.157	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
5103	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	NC	1,619.7	14%	230.8	0.219	0.000	18	18	\$250	\$250	1.83	1.83	2.29
5104	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	NC	1,635.1	19%	306.6	0.290	0.000	18	18	\$148	\$300	4.12	2.03	4.94
5105	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	NC	1,635.1	24%	384.7	0.365	0.000	18	18	\$436	\$350	1.75	2.18	2.04
5106	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	NC	649.7	44%	285.2	0.270	0.000	18	18	\$979	\$250	0.58	2.27	0.66
5107	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	NC	5,228.6	7%	385.9	0.157	0.157	18	18	\$237	\$450	1.88	0.99	4.19
5108	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	NC	5,228.6	18%	931.9	0.279	0.279	18	18	\$520	\$400	1.78	2.32	3.28
5109	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	NC	5,228.6	21%	1,079.4	0.419	0.419	18	18	\$913	\$913	1.33	1.33	2.66
5110	HVAC Equipment	Ductless ASHP - replace on fail MF NC	HVAC	MF	NC	2,423.1	32%	773.9	0.270	0.270	18	18	\$705	\$250	1.17	3.31	1.89
5111	HVAC Equipment	DFHP - SEER 19	N/A	MF	NC	5,445.6	8%	448.0	0.331	0.331	18	18	\$2,937	\$0	0.25	#DIV/0!	-0.03
5112	HVAC Equipment	DFHP - SEER 20	N/A	MF	NC	5,445.6	9%	510.8	0.460	0.460	18	18	\$3,177	\$0	0.30	#DIV/0!	0.00
5113	HVAC Equipment	DFHP - SEER 21	N/A	MF	NC	5,445.6	10%	567.5	0.500	0.500	18	18	\$3,627	\$0	0.29	#DIV/0!	0.03
5114	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	NC	516.8	9%	48.5	0.046	0.000	9	9	\$20	\$20	2.68	2.68	3.00
5115	HVAC Equipment	Integrated Space and Water Heater	N/A	MF	NC	6,887.7	51%	3,512.7	0.722	2.669	25	25	\$1,558	\$0	2.41	#DIV/0!	3.90
6001	Lighting	LED - 10W (CFL baseline)	Lighting	SF	ROB	12.0	33%	4.0	0.001	0.001	9	9	\$1	\$1	3.12	3.12	6.78
6002	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	SF	ROB	10.9	33%	3.6	0.001	0.001	9	9	\$5	\$5	0.60	0.60	2.11
6003	Lighting	LED - 10W (Halogen baseline)	Lighting	SF	ROB	36.9	81%	29.7	0.004	0.004	9	9	\$1	\$1	23.33	23.33	44.18
6004	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	SF	ROB	35.1	79%	27.7	0.004	0.004	9	9	\$5	\$5	4.64	4.64	9.60
6005	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	SF	ROB	36.9	81%	29.7	0.004	0.004	9	9	\$5	\$5	4.67	4.67	9.64
6006	Lighting	LED - 12W (Replacing CFL)	N/A	SF	ROB	11.6	47%	5.5	0.001	0.001	9	9	\$5	\$5	0.91	0.91	2.68
6007	Lighting	LED - 12W (Halogen baseline)	N/A	SF	ROB	28.4	79%	22.5	0.003	0.003	9	9	\$5	\$5	3.74	3.74	7.93
6008	Lighting	LED - 15W (CFL baseline)	Lighting	SF	ROB	16.9	45%	7.7	0.001	0.001	9	9	\$2	\$2	4.02	4.02	8.44
6009	Lighting	LED - 15W (Halogen baseline)	Lighting	SF	ROB	47.5	81%	38.3	0.006	0.006	9	9	\$2	\$2	20.06	20.06	38.12
6010	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	SF	ROB	47.5	81%	38.3	0.006	0.006	9	9	\$5	\$5	6.02	6.02	12.14
6011	Lighting	LED - 20W (CFL baseline)	Lighting	SF	ROB	22.2	41%	9.1	0.001	0.001	9	9	\$1	\$1	7.12	7.12	14.18
6012	Lighting	LED - 20W (Halogen baseline)	Lighting	SF	ROB	64.3	82%	52.5	0.008	0.008	9	9	\$1	\$1	41.28	41.28	77.40
6013	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	SF	ROB	8.1	52%	4.2	0.001	0.001	9	9	\$2	\$2	2.18	2.18	5.04
6014	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	SF	ROB	36.8	92%	33.7	0.005	0.005	9	9	\$2	\$2	17.63	17.63	33.64
6015	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	SF	ROB	9.9	48%	4.7	0.001	0.001	9	9	\$2	\$2	2.47	2.47	5.57
6016	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	SF	ROB	36.4	88%	32.2	0.005	0.005	9	9	\$2	\$2	16.86	16.86	32.20
6017	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Lighting	SF	ROB	16.1	49%	7.9	0.001	0.001	9	9	\$3	\$3	2.47	2.47	5.57
6018	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Lighting	SF	ROB	53.8	88%	47.3	0.007	0.007	9	9	\$3	\$3	14.88	14.88	28.55
6019	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	SF	ROB	18.8	64%	12.0	0.002	0.002	9	9	\$3	\$3	3.78	3.78	7.99
6020	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	SF	ROB	30.7	84%	25.6	0.004	0.004	9	9	\$3	\$3	8.05	8.05	15.90
6021	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	SF	ROB	14.3	31%	4.4	0.001	0.001	9	9	\$2	\$2	2.33	2.33	5.30
6022	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	SF	ROB	54.6	85%	46.5	0.007	0.007	9	9	\$2	\$2	24.37	24.37	46.10
6023	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Lighting	SF	ROB	54.6	85%	46.5	0.007	0.007	9	9	\$5	\$5	7.31	7.31	14.53
6024	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	SF	ROB	20.6	22%	4.6	0.001	0.001	9	9	\$2	\$2	2.42	2.42	5.48
6025	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	SF	ROB	89.7	85%	75.8	0.011	0.011	9	9	\$3	\$3	19.86	19.86	37.76
6026	Lighting	LED Nightlights	N/A	SF	ROB	46.8	47%	22.0	0.003	0.003	12	19	\$0	\$0	46.65	46.65	92.45
6027	Lighting	T8 Linear Fluorescent	N/A	SF	ROB	70.1	29%	20.6	0.025	0.025	8	8	\$36	\$0	0.19	#DIV/0!	0.43
6028	Lighting	Occupancy Sensor	N/A	SF	Retrofit	94.7	30%	28.4	0.079	0.079	10	10	\$61	\$0	0.19	#DIV/0!	0.42
6029	Lighting	LED - 10W (CFL baseline)	Lighting	SF	NC	12.0	33%	4.0	0.001	0.001	9	9	\$1	\$1	3.12	3.12	6.78
6030	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	SF	NC	10.9	33%	3.6	0.001	0.001	9	9	\$5	\$5	0.60	0.60	2.11
6031	Lighting	LED - 10W (Halogen baseline)	Lighting	SF	NC	36.9	81%	29.7	0.004	0.004	9	9	\$1	\$1	23.33	23.33	44.18
6032	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	SF	NC	35.1	79%	27.7	0.004	0.004	9	9	\$5	\$5	4.64	4.64	9.60

Ameren MO		Residential Market-Rate Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
6033	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	SF	NC	36.9	81%	29.7	0.004	0.004	9	19	\$5	\$5	4.67	4.67	9.64
6034	Lighting	LED - 12W (Replacing CFL)	N/A	SF	NC	11.6	47%	5.5	0.001	0.001	9	19	\$5	\$5	0.91	0.91	2.68
6035	Lighting	LED - 12W (Halogen baseline)	N/A	SF	NC	28.4	79%	22.5	0.003	0.003	9	19	\$5	\$5	3.74	3.74	7.93
6036	Lighting	LED - 15W (CFL baseline)	Lighting	SF	NC	16.9	45%	7.7	0.001	0.001	9	19	\$2	\$2	4.02	4.02	8.44
6037	Lighting	LED - 15W (Halogen baseline)	Lighting	SF	NC	47.5	81%	38.3	0.006	0.006	9	19	\$2	\$2	20.06	20.06	38.12
6038	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	SF	NC	47.5	81%	38.3	0.006	0.006	9	19	\$5	\$5	6.02	6.02	12.14
6039	Lighting	LED - 20W (CFL baseline)	Lighting	SF	NC	22.2	41%	9.1	0.001	0.001	9	19	\$1	\$1	7.12	7.12	14.18
6040	Lighting	LED - 20W (Halogen baseline)	Lighting	SF	NC	64.3	82%	52.5	0.008	0.008	9	19	\$1	\$1	41.28	41.28	77.40
6041	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	SF	NC	8.1	52%	4.2	0.001	0.001	9	19	\$2	\$2	2.18	2.18	5.04
6042	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	SF	NC	36.8	92%	33.7	0.005	0.005	9	19	\$2	\$2	17.63	17.63	33.64
6043	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	SF	NC	9.9	48%	4.7	0.001	0.001	9	19	\$2	\$2	2.47	2.47	5.57
6044	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	SF	NC	36.4	88%	32.2	0.005	0.005	9	19	\$2	\$2	16.86	16.86	32.20
6045	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Lighting	SF	NC	16.1	49%	7.9	0.001	0.001	9	19	\$3	\$3	2.47	2.47	5.57
6046	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Lighting	SI	NC	53.8	88%	47.3	0.007	0.007	9	19	\$3	\$3	14.88	14.88	28.55
6047	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	SF	NC	18.8	64%	12.0	0.002	0.002	9	19	\$3	\$3	3.78	3.78	7.99
6048	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	SF	NC	30.7	84%	25.6	0.004	0.004	9	19	\$3	\$3	8.05	8.05	15.90
6049	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	SF	NC	14.3	31%	4.4	0.001	0.001	9	19	\$2	\$2	2.33	2.33	5.30
6050	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	SF	NC	54.6	85%	46.5	0.007	0.007	9	19	\$2	\$2	24.37	24.37	46.10
6051	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Lighting	SF	NC	54.6	85%	46.5	0.007	0.007	9	19	\$5	\$5	7.31	7.31	14.53
6052	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	SF	NC	20.6	22%	4.6	0.001	0.001	9	19	\$2	\$2	2.42	2.42	5.48
6053	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	SF	NC	89.7	85%	75.8	0.011	0.011	9	19	\$3	\$3	19.86	19.86	37.76
6054	Lighting	LED Nightlights	N/A	SF	NC	46.8	47%	22.0	0.003	0.003	12	19	\$0	\$0	46.65	46.65	92.45
6055	Lighting	T8 Linear Fluorescent	N/A	SF	NC	70.1	29%	20.6	0.025	0.025	8	8	\$36	\$0	0.19	#DIV/0!	0.43
6056	Lighting	Occupancy Sensor	N/A	SF	NC	94.7	30%	28.4	0.079	0.079	10	10	\$61	\$0	0.19	#DIV/0!	0.42
6057	Lighting	LED - 10W (CFL baseline)	Lighting	MF	ROB	12.0	33%	4.0	0.001	0.001	9	19	\$1	\$1	3.12	3.12	6.78
6058	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	MF	ROB	10.9	33%	3.6	0.001	0.001	9	19	\$5	\$5	0.60	0.60	2.11
6059	Lighting	LED - 10W (CFL baseline)	Multifamily Market Rate	MF	ROB	8.6	48%	4.1	0.001	0.001	9	19	\$2	\$2	1.59	1.59	3.95
6060	Lighting	LED - 10W (Halogen baseline)	Lighting	MF	ROB	36.9	81%	29.7	0.004	0.004	9	19	\$1	\$1	23.33	23.33	44.18
6061	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	MF	ROB	35.1	79%	27.7	0.004	0.004	9	19	\$5	\$5	4.64	4.64	9.60
6062	Lighting	LED - 10W (Halogen baseline)	Multifamily Market Rate	MF	ROB	26.5	83%	22.0	0.003	0.003	9	19	\$2	\$2	8.51	8.51	16.80
6063	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	MF	ROB	36.9	81%	29.7	0.004	0.004	9	19	\$5	\$5	4.67	4.67	9.64
6064	Lighting	LED - 12W (Replacing CFL)	Multifamily Market Rate	MF	ROB	11.6	47%	5.5	0.001	0.001	9	19	\$5	\$5	0.91	0.91	2.68
6065	Lighting	LED - 12W (Halogen baseline)	Multifamily Market Rate	MF	ROB	28.4	79%	22.5	0.003	0.003	9	19	\$5	\$5	3.74	3.74	7.93
6066	Lighting	LED - 15W (CFL baseline)	Lighting	MF	ROB	16.9	45%	7.7	0.001	0.001	9	19	\$2	\$2	4.02	4.02	8.44
6067	Lighting	LED - 15W (CFL baseline)	Multifamily Market Rate	MF	ROB	12.1	44%	5.3	0.001	0.001	9	19	\$6	\$6	0.67	0.67	2.24
6068	Lighting	LED - 15W (Halogen baseline)	Lighting	MF	ROB	47.5	81%	38.3	0.006	0.006	9	19	\$2	\$2	20.06	20.06	38.12
6069	Lighting	LED - 15W (Halogen baseline)	Multifamily Market Rate	MF	ROB	34.0	80%	27.2	0.004	0.004	9	19	\$6	\$6	3.41	3.41	7.32
6070	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	MF	ROB	47.5	81%	38.3	0.006	0.006	9	19	\$5	\$5	6.02	6.02	12.14
6071	Lighting	LED - 20W (CFL baseline)	Lighting	MF	ROB	22.2	41%	9.1	0.001	0.001	9	19	\$1	\$1	7.12	7.12	14.18
6072	Lighting	LED - 20W (CFL baseline)	Multifamily Market Rate	MF	ROB	15.9	40%	6.3	0.001	0.001	9	19	\$8	\$8	0.63	0.63	2.17
6073	Lighting	LED - 20W (Halogen baseline)	Lighting	MF	ROB	64.3	82%	52.5	0.008	0.008	9	19	\$1	\$1	41.28	41.28	77.40
6074	Lighting	LED - 20W (Halogen baseline)	Multifamily Market Rate	MF	ROB	46.2	79%	36.6	0.005	0.005	9	19	\$8	\$8	3.67	3.67	7.80
6075	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	MF	ROB	8.1	52%	4.2	0.001	0.001	9	19	\$2	\$2	2.18	2.18	5.04
6076	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	ROB	36.8	92%	33.7	0.005	0.005	9	19	\$2	\$2	17.63	17.63	33.64
6077	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	MF	ROB	9.9	48%	4.7	0.001	0.001	9	19	\$2	\$2	2.47	2.47	5.57
6078	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	ROB	36.4	88%	32.2	0.005	0.005	9	19	\$2	\$2	16.86	16.86	32.20
6079	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Energy Efficient Kits	MF	ROB	16.1	49%	7.9	0.001	0.001	9	19	\$3	\$3	2.47	2.47	5.57
6080	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Multifamily Market Rate	MF	ROB	11.6	47%	5.5	0.001	0.001	9	19	\$4	\$4	1.03	1.03	2.92
6081	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Energy Efficient Kits	MF	ROB	53.8	88%	47.3	0.007	0.007	9	19	\$3	\$3	14.88	14.88	28.55
6082	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent)	Multifamily Market Rate	MF	ROB	49.0	88%	42.9	0.006	0.006	9	19	\$4	\$4	8.12	8.12	16.07
6083	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	MF	ROB	18.8	64%	12.0	0.002	0.002	9	19	\$3	\$3	3.78	3.78	7.99
6084	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Multifamily Market Rate	MF	ROB	20.7	57%	11.8	0.002	0.002	9	19	\$2	\$2	4.76	4.76	9.83
6085	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	MF	ROB	30.7	84%	25.6	0.004	0.004	9	19	\$3	\$3	8.05	8.05	15.90

Ameren MO		Residential Market-Rate Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
6086	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	ROB	14.3	31%	4.4	0.001	0.001	9	19	\$2	\$2	2.33	2.33	5.30
6087	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Multifamily Market Rate	MF	ROB	10.3	30%	3.1	0.000	0.000	9	19	\$3	\$3	0.79	0.79	2.47
6088	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	MF	ROB	54.6	85%	46.5	0.007	0.007	9	19	\$2	\$2	24.37	24.37	46.10
6089	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Multifamily Market Rate	MF	ROB	39.1	83%	32.3	0.005	0.005	9	19	\$3	\$3	8.31	8.31	16.41
6090	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Energy Efficient Kits	MF	ROB	54.6	85%	46.5	0.007	0.007	9	19	\$5	\$5	7.31	7.31	14.53
6091	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	ROB	20.6	22%	4.6	0.001	0.001	9	19	\$2	\$2	2.42	2.42	5.48
6092	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	MF	ROB	89.7	85%	75.8	0.011	0.011	9	19	\$3	\$3	19.86	19.86	37.76
6093	Lighting	LED Nightlights	Multifamily Market Rate	MF	ROB	46.8	47%	22.0	0.003	0.003	12	19	\$0	\$0	46.65	46.65	92.45
6094	Lighting	Occupancy Sensor	N/A	MF	Retrofit	94.7	30%	28.4	0.079	0.079	10	10	\$61	\$0	0.19	#DIV/0!	0.42
6095	Lighting	T8 Linear Fluorescent	N/A	MF	ROB	70.1	29%	20.6	0.025	0.025	8	8	\$36	\$0	0.19	#DIV/0!	0.43
6096	Lighting	LED - 10W (CFL baseline)	Lighting	MF	NC	12.0	33%	4.0	0.001	0.001	9	19	\$1	\$1	3.12	3.12	6.78
6097	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	MF	NC	10.9	33%	3.6	0.001	0.001	9	19	\$5	\$5	0.60	0.60	2.11
6098	Lighting	LED - 10W (CFL baseline)	Multifamily Market Rate	MF	NC	8.6	48%	4.1	0.001	0.001	9	19	\$2	\$2	1.59	1.59	3.95
6099	Lighting	LED - 10W (Halogen baseline)	Lighting	MF	NC	36.9	81%	29.7	0.004	0.004	9	19	\$1	\$1	23.33	23.33	44.18
6100	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	MF	NC	35.1	79%	27.7	0.004	0.004	9	19	\$5	\$5	4.64	4.64	9.60
6101	Lighting	LED - 10W (Halogen baseline)	Multifamily Market Rate	MF	NC	26.5	83%	22.0	0.003	0.003	9	19	\$2	\$2	8.51	8.51	16.80
6102	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	MF	NC	36.9	81%	29.7	0.004	0.004	9	19	\$5	\$5	4.67	4.67	9.64
6103	Lighting	LED - 12W (Replacing CFL)	Multifamily Market Rate	MF	NC	11.6	47%	5.5	0.001	0.001	9	19	\$5	\$5	0.91	0.91	2.68
6104	Lighting	LED - 12W (Halogen baseline)	Multifamily Market Rate	MF	NC	28.4	79%	22.5	0.003	0.003	9	19	\$5	\$5	3.74	3.74	7.93
6105	Lighting	LED - 15W (CFL baseline)	Lighting	MF	NC	16.9	45%	7.7	0.001	0.001	9	19	\$2	\$2	4.02	4.02	8.44
6106	Lighting	LED - 15W (CFL baseline)	Multifamily Market Rate	MF	NC	12.1	44%	5.3	0.001	0.001	9	19	\$6	\$6	0.67	0.67	2.24
6107	Lighting	LED - 15W (Halogen baseline)	Lighting	MF	NC	47.5	81%	38.3	0.006	0.006	9	19	\$2	\$2	20.06	20.06	38.12
6108	Lighting	LED - 15W (Halogen baseline)	Multifamily Market Rate	MF	NC	34.0	80%	27.2	0.004	0.004	9	19	\$6	\$6	3.41	3.41	7.32
6109	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	MF	NC	47.5	81%	38.3	0.006	0.006	9	19	\$5	\$5	6.02	6.02	12.14
6110	Lighting	LED - 20W (CFL baseline)	Lighting	MF	NC	22.2	41%	9.1	0.001	0.001	9	19	\$1	\$1	7.12	7.12	14.18
6111	Lighting	LED - 20W (CFL baseline)	Multifamily Market Rate	MF	NC	15.9	40%	6.3	0.001	0.001	9	19	\$8	\$8	0.63	0.63	2.17
6112	Lighting	LED - 20W (Halogen baseline)	Lighting	MF	NC	64.3	82%	52.5	0.008	0.008	9	19	\$1	\$1	41.28	41.28	77.40
6113	Lighting	LED - 20W (Halogen baseline)	Multifamily Market Rate	MF	NC	46.2	79%	36.6	0.005	0.005	9	19	\$8	\$8	3.67	3.67	7.80
6114	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	MF	NC	8.1	52%	4.2	0.001	0.001	9	19	\$2	\$2	2.18	2.18	5.04
6115	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	NC	36.8	92%	33.7	0.005	0.005	9	19	\$2	\$2	17.63	17.63	33.64
6116	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	MF	NC	9.9	48%	4.7	0.001	0.001	9	19	\$2	\$2	2.47	2.47	5.57
6117	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	NC	36.4	88%	32.2	0.005	0.005	9	19	\$2	\$2	16.86	16.86	32.20
6118	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Energy Efficient Kits	MF	NC	16.1	49%	7.9	0.001	0.001	9	19	\$3	\$3	2.47	2.47	5.57
6119	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Multifamily Market Rate	MF	NC	11.6	47%	5.5	0.001	0.001	9	19	\$4	\$4	1.03	1.03	2.92
6120	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) IJ DI	Energy Efficient Kits	MF	NC	53.8	88%	47.3	0.007	0.007	9	19	\$3	\$3	14.88	14.88	28.55
6121	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent)	Multifamily Market Rate	MF	NC	49.0	88%	42.9	0.006	0.006	9	19	\$4	\$4	8.12	8.12	16.07
6122	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	MF	NC	18.8	64%	12.0	0.002	0.002	9	19	\$3	\$3	3.78	3.78	7.99
6123	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Multifamily Market Rate	MF	NC	20.7	57%	11.8	0.002	0.002	9	19	\$2	\$2	4.76	4.76	9.83
6124	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	MF	NC	30.7	84%	25.6	0.004	0.004	9	19	\$3	\$3	8.05	8.05	15.90
6125	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	NC	14.3	31%	4.4	0.001	0.001	9	19	\$2	\$2	2.33	2.33	5.30
6126	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Multifamily Market Rate	MF	NC	10.3	30%	3.1	0.000	0.000	9	19	\$3	\$3	0.79	0.79	2.47
6127	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	MF	NC	54.6	85%	46.5	0.007	0.007	9	19	\$2	\$2	24.37	24.37	46.10
6128	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Multifamily Market Rate	MF	NC	39.1	83%	32.3	0.005	0.005	9	19	\$3	\$3	8.31	8.31	16.41
6129	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Energy Efficient Kits	MF	NC	54.6	85%	46.5	0.007	0.007	9	19	\$5	\$5	7.31	7.31	14.53
6130	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	NC	20.6	22%	4.6	0.001	0.001	9	19	\$2	\$2	2.42	2.42	5.48
6131	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	MF	NC	89.7	85%	75.8	0.011	0.011	9	19	\$3	\$3	19.86	19.86	37.76
6132	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	46.8	47%	22.0	0.003	0.003	12	19	\$0	\$0	46.65	46.65	92.45
6133	Lighting	Occupancy Sensor	N/A	MF	NC	94.7	30%	28.4	0.079	0.079	10	10	\$61	\$0	0.19	#DIV/0!	0.42
6134	Lighting	T8 Linear Fluorescent	N/A	MF	NC	70.1	29%	20.6	0.025	0.025	8	8	\$36	\$0	0.19	#DIV/0!	0.43
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	571.3	0%	0.0	0.000	0.000	10	10	\$235	\$235	0.00	0.00	1.00
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	571.3	0%	0.0	0.000	0.000	10	10	\$235	\$235	0.00	0.00	1.00
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63

Ameren MO		Residential Market-Rate Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	571.3	0%	0.0	0.000	0.000	10	10	\$235	\$235	0.00	0.00	1.00
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	571.3	0%	0.0	0.000	0.000	10	10	\$235	\$235	0.00	0.00	1.00
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	2,767.9	95%	2,620.7	0.233	0.233	13	13	\$588	\$500	2.24	2.64	5.79
8002	Water Heating	Solar Domestic Water Heater	N/A	SF	ROB	2,767.9	45%	1,245.5	0.420	0.420	13	20	\$4,500	\$0	0.20	#DIV/0!	0.42
8003	Water Heating	Water Heater Wrap	N/A	SF	Retrofit	2,767.9	6%	157.0	0.018	0.018	5	5	\$58	\$0	0.55	#DIV/0!	1.34
8004	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	2,767.9	1%	23.6	0.002	0.002	10	10	\$3	\$2	3.13	6.10	7.59
8005	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	Retrofit	2,767.9	0%	2.9	0.000	0.000	10	10	\$3	\$2	0.39	0.76	1.39
8006	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	Retrofit	2,767.9	1%	30.1	0.003	0.003	10	10	\$7	\$6	1.71	2.13	4.67
8007	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	Retrofit	2,767.9	2%	63.5	0.005	0.005	10	10	\$50	\$0	0.49	#DIV/0!	1.14
8008	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	Retrofit	2,767.9	0%	8.6	0.001	0.001	12	12	\$9	\$2	0.48	1.75	1.32
8009	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	2,767.9	8%	208.0	0.034	0.034	20	20	\$1,022	\$0	0.14	#DIV/0!	0.31
8010	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	ROB	2,767.9	44%	1,217.9	0.108	0.108	10	10	\$239	\$0	2.03	#DIV/0!	4.59
8011	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	2,767.9	95%	2,620.7	0.233	0.233	13	13	\$588	\$500	2.24	2.64	5.79
8012	Water Heating	Solar Domestic Water Heater	N/A	SF	NC	2,767.9	45%	1,245.5	0.420	0.420	13	20	\$4,500	\$0	0.20	#DIV/0!	0.42
8013	Water Heating	Water Heater Wrap	N/A	SF	NC	2,767.9	6%	157.0	0.018	0.018	5	5	\$58	\$0	0.55	#DIV/0!	1.34
8014	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	2,767.9	1%	23.6	0.002	0.002	10	10	\$3	\$2	3.13	6.10	7.59
8015	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	NC	2,767.9	0%	2.9	0.000	0.000	10	10	\$3	\$2	0.39	0.76	1.39
8016	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	NC	2,767.9	1%	30.1	0.003	0.003	10	10	\$7	\$6	1.71	2.13	4.67
8017	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	NC	2,767.9	2%	63.5	0.005	0.005	10	10	\$50	\$0	0.49	#DIV/0!	1.14
8018	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	NC	2,767.9	0%	8.6	0.001	0.001	12	12	\$9	\$2	0.48	1.75	1.32
8019	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	2,767.9	8%	208.0	0.034	0.034	20	20	\$1,022	\$0	0.14	#DIV/0!	0.31
8020	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	NC	2,767.9	44%	1,217.9	0.108	0.108	10	10	\$239	\$0	2.03	#DIV/0!	4.59
8021	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	1,752.2	95%	1,689.1	0.147	0.147	13	13	\$588	\$500	1.42	1.67	3.98
8022	Water Heating	Solar Domestic Water Heater	N/A	MF	ROB	1,752.2	45%	788.5	0.266	0.266	13	20	\$4,500	\$0	0.12	#DIV/0!	0.26
8023	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	1,752.2	9%	157.0	0.018	0.018	5	5	\$58	\$0	0.55	#DIV/0!	1.34
8024	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	1,752.2	5%	87.9	0.008	0.008	10	10	\$3	\$2	11.68	22.75	26.90
8025	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	1,752.2	5%	87.9	0.008	0.008	10	10	\$8	\$3	4.38	14.02	10.21
8026	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	Retrofit	1,752.2	1%	25.9	0.002	0.002	10	10	\$3	\$2	3.45	6.72	8.30
8027	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	Retrofit	1,752.2	1%	25.9	0.002	0.002	10	10	\$8	\$3	1.29	4.14	3.23
8028	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	Retrofit	1,752.2	2%	28.4	0.003	0.003	10	10	\$11	\$0	1.00	#DIV/0!	2.26
8029	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	Retrofit	1,752.2	10%	182.5	0.016	0.016	10	10	\$7	\$6	10.39	12.92	24.29
8030	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	Retrofit	1,752.2	9%	159.9	0.014	0.014	10	10	\$7	\$7	9.11	9.11	21.57
8031	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	Retrofit	1,752.2	3%	57.6	0.005	0.005	10	10	\$50	\$0	0.46	#DIV/0!	1.04
8032	Water Heating	Common Area Low Flow Showerhead	N/A	MF	Retrofit	1,752.2	12%	213.3	0.019	0.019	10	10	\$7	\$0	12.15	#DIV/0!	27.45
8033	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	Retrofit	1,752.2	6%	98.8	0.009	0.009	12	12	\$17	\$5	2.76	10.04	6.25
8034	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	1,752.2	8%	134.9	0.022	0.022	20	20	\$1,022	\$0	0.09	#DIV/0!	0.20
8035	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	ROB	1,752.2	44%	771.0	0.068	0.068	10	10	\$239	\$0	1.29	#DIV/0!	2.91
8036	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	1,752.2	95%	1,689.1	0.147	0.147	13	13	\$588	\$500	1.42	1.67	3.98
8037	Water Heating	Solar Domestic Water Heater	N/A	MF	NC	1,752.2	45%	788.5	0.266	0.266	13	20	\$4,500	\$0	0.12	#DIV/0!	0.26
8038	Water Heating	Water Heater Wrap	N/A	MF	NC	1,752.2	9%	157.0	0.018	0.018	5	5	\$58	\$0	0.55	#DIV/0!	1.34
8039	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	1,752.2	5%	87.9	0.008	0.008	10	10	\$3	\$2	11.68	22.75	26.90
8040	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	1,752.2	5%	87.9	0.008	0.008	10	10	\$8	\$3	4.38	14.02	10.21
8041	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	NC	1,752.2	1%	25.9	0.002	0.002	10	10	\$3	\$2	3.45	6.72	8.30
8042	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	NC	1,752.2	1%	25.9	0.002	0.002	10	10	\$8	\$3	1.29	4.14	3.23
8043	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	NC	1,752.2	2%	28.4	0.003	0.003	10	10	\$11	\$0	1.00	#DIV/0!	2.26
8044	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	NC	1,752.2	10%	182.5	0.016	0.016	10	10	\$7	\$6	10.39	12.92	24.29
8045	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	NC	1,752.2	9%	159.9	0.014	0.014	10	10	\$7	\$7	9.11	9.11	21.57
8046	Water Heating	Common Area Low Flow Showerhead	N/A	MF	NC	1,752.2	12%	213.3	0.019	0.019	10	10	\$7	\$0	12.15	#DIV/0!	27.45
8047	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	NC	1,752.2	3%	57.6	0.005	0.005	10	10	\$50	\$0	0.46	#DIV/0!	1.04
8048	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	NC	1,752.2	6%	98.8	0.009	0.009	12	12	\$17	\$5	2.76	10.04	6.25
8049	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	1,752.2	8%	134.9	0.022	0.022	20	20	\$1,022	\$0	0.09	#DIV/0!	0.20
8050	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	NC	1,752.2	44%	771.0	0.068	0.068	10	10	\$239	\$0	1.29	#DIV/0!	2.91
9001	ER Appliance	Refrigerator - early replacement	N/A	SF	ER1	985.2	57%	564.7	0.073	0.073	17	6	\$753	\$0	0.24	#DIV/0!	0.44

Ameren MO		Residential Market-Rate Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
9002	ER Appliance	Refrigerator - early replacement	N/A	SF	ER2	545.1	25%	136.3	0.021	0.021	17	11	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
9003	ER Appliance	Refrigerator - early replacement	N/A	SF	ER3	545.1	25%	136.3	0.021	0.021	17	17	\$140	\$0	0.48	#DIV/0!	1.31
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	891.2	53%	469.0	0.076	0.076	22	6	\$170	\$0	0.86	#DIV/0!	1.61
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	469.0	10%	46.8	0.008	0.008	22	16	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	469.0	10%	46.8	0.008	0.008	22	22	\$35	\$0	0.79	#DIV/0!	2.14
9007	ER Appliance	Refrigerator - early replacement	N/A	MF	ER1	985.2	57%	564.7	0.073	0.073	17	6	\$753	\$0	0.24	#DIV/0!	0.44
9008	ER Appliance	Refrigerator - early replacement	N/A	MF	ER2	545.1	25%	136.3	0.021	0.021	17	11	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
9009	ER Appliance	Refrigerator - early replacement	N/A	MF	ER3	545.1	25%	136.3	0.021	0.021	17	17	\$140	\$0	0.48	#DIV/0!	1.31
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	891.2	53%	469.0	0.076	0.076	22	6	\$170	\$0	0.86	#DIV/0!	1.61
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	469.0	10%	46.8	0.008	0.008	22	16	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	469.0	10%	46.8	0.008	0.008	22	22	\$35	\$0	0.79	#DIV/0!	2.14
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER1	19,739.8	59%	11,696.4	1.808	1.808	18	6	\$1,198	\$800	5.29	4.20	6.36
10002	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER2	18,604.1	55%	10,255.8	0.443	0.443	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10003	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER3	18,604.1	55%	10,255.8	0.443	0.443	18	18	\$438	\$800	12.82	7.02	34.67
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER1	19,739.8	63%	12,484.5	1.975	1.975	18	6	\$1,704	\$500	4.07	7.22	4.57
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER2	18,245.9	63%	11,441.7	1.784	1.784	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	18,245.9	63%	11,441.7	1.784	1.784	18	18	\$963	\$900	6.51	6.96	17.60
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER1	19,739.8	65%	12,741.1	2.218	2.218	18	6	\$2,431	\$1,050	2.98	3.61	3.49
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER2	19,413.3	61%	11,902.0	0.926	0.926	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	19,413.3	61%	11,902.0	0.926	0.926	18	18	\$1,690	\$1,050	3.86	6.21	10.50
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER1	10,192.4	70%	7,138.5	1.540	1.540	18	6	\$2,108	\$300	1.92	7.63	2.12
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER2	9,180.2	66%	6,081.3	0.534	0.534	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER3	9,180.2	66%	6,081.3	0.534	0.534	18	18	\$1,121	\$75	2.97	44.41	7.68
10013	ER HVAC Equipment	GSHF - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER1	34,570.5	77%	26,611.9	4.571	4.571	18	6	\$5,250	\$800	2.79	9.86	3.11
10014	ER HVAC Equipment	GSHF - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER2	31,159.4	34%	23,200.7	1.340	1.340	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10015	ER HVAC Equipment	GSHF - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER3	31,159.4	34%	23,200.7	1.340	1.340	18	18	\$3,200	\$800	3.97	15.88	10.42
10016	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER1	3,818.2	41%	1,572.0	1.489	0.000	18	6	\$455	\$300	2.66	3.83	2.68
10017	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER2	2,446.6	8%	200.4	0.190	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10018	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER3	2,446.6	8%	200.4	0.190	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10019	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER1	3,818.2	45%	1,720.2	1.630	0.000	18	6	\$400	\$400	3.41	3.14	3.51
10020	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER2	2,446.6	14%	348.6	0.330	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10021	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER3	2,446.6	14%	348.6	0.330	0.000	18	18	\$275	\$275	0.73	0.73	2.78
10022	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER1	3,818.2	49%	1,872.9	1.774	0.000	18	6	\$676	\$500	2.25	2.74	2.36
10023	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER2	2,446.6	20%	501.3	0.475	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10024	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER3	2,446.6	20%	501.3	0.475	0.000	18	18	\$221	\$300	1.30	0.96	4.54
10025	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER1	3,818.2	52%	1,979.2	1.875	0.000	18	6	\$1,082	\$600	1.49	2.41	1.62
10026	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER2	2,326.2	24%	547.4	0.519	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10027	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER3	2,326.2	24%	547.4	0.519	0.000	18	18	\$620	\$325	0.51	0.97	1.76
10028	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER1	2,482.9	73%	1,807.8	1.713	0.000	18	6	\$2,108	\$300	0.70	4.40	0.64
10029	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER2	1,203.2	44%	528.1	0.500	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10030	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER3	1,203.2	44%	528.1	0.500	0.000	18	18	\$1,545	\$200	0.20	1.52	0.61
10031	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER1	12,016.5	33%	3,917.4	1.791	1.791	18	6	\$1,191	\$500	1.65	3.55	2.34

Ameren MO		Residential Market-Rate Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
10032	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER2	9,119.9	7%	680.3	0.287	0.287	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10033	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER3	9,119.9	7%	680.3	0.287	0.287	18	18	\$438	\$500	0.85	0.75	3.32
10034	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER1	12,016.5	41%	4,986.7	2.103	2.103	18	6	\$1,751	\$800	1.52	2.70	2.12
10035	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER2	9,682.6	18%	1,725.8	0.518	0.518	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10036	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER3	9,682.6	18%	1,725.8	0.518	0.518	18	18	\$963	\$400	0.98	2.36	2.93
10037	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER1	12,016.5	44%	5,259.8	2.103	2.103	18	6	\$2,116	\$2,116	1.32	1.05	2.45
10038	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER2	9,682.6	21%	1,998.9	0.776	0.776	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10039	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER3	9,682.6	21%	1,998.9	0.776	0.776	18	18	\$1,690	\$1,690	0.65	0.65	2.66
10040	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER1	7,122.5	57%	4,068.6	1.419	1.419	18	6	\$1,982	\$400	1.02	4.00	1.40
10041	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER2	4,487.1	70%	1,433.2	0.500	0.500	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10042	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER3	4,487.1	70%	1,433.2	0.500	0.500	18	18	\$888	\$300	0.88	2.62	2.60
10043	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	9,852.8	65%	6,359.2	0.952	0.952	18	6	\$838	\$450	4.16	4.02	4.96
10044	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	10,483.2	55%	5,787.2	0.246	0.246	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10045	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	10,483.2	55%	5,787.2	0.246	0.246	18	18	\$237	\$450	13.40	7.04	36.22
10046	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	9,852.8	68%	6,741.6	1.067	1.067	18	6	\$1,363	\$500	2.75	3.90	3.25
10047	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	9,852.8	63%	6,178.5	0.963	0.963	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10048	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	9,852.8	63%	6,178.5	0.963	0.963	18	18	\$520	\$500	6.51	6.77	17.63
10049	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER1	9,852.8	70%	6,880.2	1.198	1.198	18	6	\$2,090	\$1,050	1.87	1.95	2.42
10050	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER2	10,483.2	61%	6,427.1	0.500	0.500	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10051	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER3	10,483.2	61%	6,427.1	0.500	0.500	18	18	\$1,690	\$1,050	2.08	3.35	5.96
10052	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER1	5,503.9	70%	3,854.8	0.831	0.831	18	6	\$1,590	\$250	1.38	4.94	1.57
10053	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER2	4,957.3	66%	3,283.9	0.288	0.288	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10054	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER3	4,957.3	66%	3,283.9	0.288	0.288	18	18	\$752	\$250	2.39	7.19	6.46
10055	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER1	2,503.7	43%	1,065.4	1.009	0.000	18	6	\$298	\$200	2.78	3.89	2.75
10056	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER2	1,604.3	10%	166.0	0.157	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10057	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER3	1,604.3	10%	166.0	0.157	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10058	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER1	2,503.7	45%	1,138.8	1.079	0.000	18	6	\$250	\$250	3.61	3.33	3.66
10059	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER2	1,619.7	14%	230.8	0.219	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10060	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER3	1,619.7	14%	230.8	0.219	0.000	18	18	\$250	\$250	0.53	0.53	2.29
10061	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER1	2,503.7	49%	1,223.3	1.159	0.000	18	6	\$525	\$300	1.88	2.98	1.93
10062	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER2	1,635.1	19%	306.6	0.290	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10063	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER3	1,635.1	19%	306.6	0.290	0.000	18	18	\$148	\$300	1.19	0.59	4.94
10064	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER1	2,503.7	52%	1,301.4	1.233	0.000	18	6	\$924	\$350	1.16	2.72	1.20
10065	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER2	1,635.1	24%	384.7	0.365	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10066	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER3	1,635.1	24%	384.7	0.365	0.000	18	18	\$436	\$350	0.51	0.63	2.04
10067	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER1	1,340.7	73%	976.2	0.925	0.000	18	6	\$1,413	\$300	0.57	2.38	0.62
10068	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER2	649.7	44%	285.2	0.270	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10069	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER3	649.7	44%	285.2	0.270	0.000	18	18	\$979	\$250	0.17	0.66	0.66
10070	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER1	7,619.8	30%	2,249.9	1.013	1.013	18	6	\$864	\$400	1.30	2.52	1.98
10071	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER2	5,228.6	7%	385.9	0.157	0.157	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10072	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER3	5,228.6	7%	385.9	0.157	0.157	18	18	\$237	\$450	0.89	0.47	4.19
10073	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER1	7,619.8	35%	2,692.8	1.135	1.135	18	6	\$1,389	\$500	1.03	2.33	1.49
10074	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER2	5,228.6	18%	931.9	0.279	0.279	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10075	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER3	5,228.6	18%	931.9	0.279	0.279	18	18	\$520	\$400	0.98	1.28	3.28
10076	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER1	7,619.8	37%	2,840.3	1.275	1.275	18	6	\$2,478	\$2,478	0.64	0.51	1.67
10077	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER2	5,228.6	21%	1,079.4	0.419	0.419	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10078	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER3	5,228.6	21%	1,079.4	0.419	0.419	18	18	\$913	\$913	0.65	0.65	2.66
10079	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER1	3,848.2	57%	2,197.0	0.766	0.766	18	6	\$1,440	\$250	0.76	3.46	1.06
10080	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER2	2,423.1	32%	773.9	0.270	0.270	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10081	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER3	2,423.1	32%	773.9	0.270	0.270	18	18	\$705	\$50	0.60	8.48	1.61

List of Acronyms

EE EUL: Replacement cycle, number of years (energy efficiency measure)

Ameren MO		Residential Market-Rate Measure Assumptions											Benefit-Cost Ratios				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
		MF: Multifamily															
		NC: New construction															
		NCP: Non-coincident peak															
		PA: Program Administrator															
		RC EUL: Replacement Cycle, number of years (baseline)															
		ROB: Replace-on-burnout															
		SF: Single-family															
		TRC: Total Resource Cost															
		UCT: Utility Cost Test															

Ameren MO		Program RAP Measure Savings			Incremental Annual Energy (MWh) Savings - NET																			
Measure #	End-Use	Measure Name	Program	Type	Construction																			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	Recycle	415	459	497	528	553	573	587	598	607	607	607	607	607	607	607	607	607	607	607	607
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	Recycle	815	901	975	1,037	1,086	1,124	1,153	1,175	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191	1,191
1003	Appliance	Freezer recycling	Appliance Recycling	Recycle	380	431	477	516	549	575	595	610	622	631	631	631	631	631	631	631	631	631	631	631
1004	Appliance	Dehumidifier recycling	Appliance Recycling	Recycle	66	84	106	131	157	182	207	229	247	263	275	285	292	298	302	302	302	302	302	302
1005	Appliance	Refrigerator	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	941	1,041	1,127	1,198	1,198
1006	Appliance	Freezers ENERGY STAR - replace on fail	N/A	ROB	58	67	76	84	91	49	51	53	54	55	56	56	56	56	56	56	56	56	56	56
1007	Appliance	ENERGY STAR Dehumidifier	Efficient Products	ROB	34	46	61	80	103	130	160	191	222	252	279	302	321	336	348	357	364	369	369	369
1008	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	ROB	0	0	0	0	0	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667
1009	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1010	Appliance	Heat Pump Dryer	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1011	Appliance	ENERGY STAR Clothes Dryer	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217	278	350	423	423
1012	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1013	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1014	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	ROB	292	367	451	540	629	713	789	854	907	950	984	1,009	1,028	1,042	1,042	1,042	1,042	1,042	1,042	
1015	Appliance	Water Cooler	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1016	Appliance	Refrigerator	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	81	136	162	162
1017	Appliance	Freezers ENERGY STAR - replace on fail	N/A	NC	4	6	7	8	8	8	8	8	9	9	9	8	8	7	7	6	11	11	11	11
1018	Appliance	ENERGY STAR Dehumidifier	Efficient Products	NC	1	3	4	5	6	8	9	12	14	16	18	18	31	36	38	38	51	51	50	50
1019	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	NC	0	0	0	0	0	12	14	15	17	18	18	18	16	16	28	31	42	44	43	43
1020	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1021	Appliance	Heat Pump Dryer	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1022	Appliance	ENERGY STAR Clothes Dryer	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	63	76	81	81
1023	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1024	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1025	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	NC	5	9	12	15	17	18	20	22	25	44	51	52	52	52	49	46	63	64	84	84
1026	Appliance	Water Cooler	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1027	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	Recycle	47	52	56	60	63	65	67	68	69	69	69	69	69	69	69	69	69	69	69	69
1028	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	Recycle	92	102	110	117	123	127	130	133	135	135	135	135	135	135	135	135	135	135	135	135
1029	Appliance	Freezer recycling	Appliance Recycling	Recycle	5	6	6	7	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9
1030	Appliance	Dehumidifier recycling	Appliance Recycling	Recycle	9	12	15	19	23	28	32	36	40	44	46	49	50	52	53	53	53	53	53	53
1031	Appliance	Refrigerator	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	109	121	131	131
1032	Appliance	Freezers ENERGY STAR - replace on fail	N/A	ROB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1033	Appliance	ENERGY STAR Dehumidifier	Efficient Products	ROB	4	6	8	11	14	18	23	28	33	39	44	49	53	56	59	61	62	63	64	64
1034	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	ROB	0	0	0	0	0	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
1035	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1036	Appliance	Heat Pump Dryer	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1037	Appliance	ENERGY STAR Clothes Dryer	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	38	49	61	61
1038	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1039	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1040	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	ROB	40	51	64	79	95	110	125	138	149	159	166	172	177	180	182	182	182	182	182	182
1041	Appliance	Water Cooler	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1042	Appliance	Refrigerator	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	9	16	19	19
1043	Appliance	Freezers ENERGY STAR - replace on fail	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1044	Appliance	ENERGY STAR Dehumidifier	Efficient Products	NC	0	0	0	1	1	1	1	2	2	3	3	3	5	6	6	6	9	9	9	9
1045	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	NC	0	0	0	0	0	2	2	2	2	2	3	2	2	4	4	6	6	6	6	6
1046	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1047	Appliance	Heat Pump Dryer	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1048	Appliance	ENERGY STAR Clothes Dryer	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11	14	14	14
1049	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1050	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1051	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	NC	1	1	2	2	3	3	3	4	4	7	9	9	9	9	8	11	11	11	15	15
1052	Appliance	Water Cooler	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	N/A	Retrofit	104	113	121	127	131	133	135	136	136	134	106	105	104	103	102	101	100	99	98	98
2002	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	N/A	Retrofit	114	122	128	132	135	136	137	137	135	133	106	105	103	102	101	100	99	98	97	97
2003	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	N/A	Retrofit	111	118	124	128	131	132	133	133	131	130	103	102	101	99	99	98	97	96	95	95
2004	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	43	44	45	46	46	47	46	46	45	45
2005	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	N/A	Retrofit	120	126	130	132	134	134	133	131	129	102	101	100	99	98	97	96	95	94	94	94
2006	Building Shell	Radiant Barrier	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	Building Shell	Cool Roof	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	Building Shell	Air Sealing - Tier 1	N/A	Retrofit	348	442	549	666	785	899	1,007	1,099	1,175	1,233	1,279	1,309	1,329	1,340	1,346	1,332	1,318	1,305	1,294	1,294
2009	Building Shell	Air Sealing - Tier 2	N/A	Retrofit	435	553	687	832	981	1,123	1,258	1,374	1,469	1,542	1,599	1,637	1,662	1,675	1,683	1,665	1,648	1,631	1,617	1,617
2010	Building Shell	Air Sealing - Tier 3	N/A	Retrofit	87	111	137	166	196	225	252	275	294	308	320	327	332	335	337	333	330	326	323	323
2011	Building Shell	Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	Building Shell	Storm Windows	N/A	Retrofit	1,794	2,175	2,568	2,947	3,292	3,581	3,830	4,019	4,156	4,249	4,316	4,349	4,363	4,318	4,278	4,233	4,190	4,147	4,112	4,112
2013	Building Shell	Insulated Cellular Shades	N/A	Retrofit	0	0	0	0	0	3,087	3,748	4,428	5,090	5,699	6,242	6,683	7,029	7,286	7,472	7,584	7,649	7,676	7,610	7,610

Ameren MO		Program RAP Measure Savings		Incremental Annual Energy (MWh) Savings - NET																			
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	Building Shell	Duct Insulation	N/A	Retrofit	522	633	747	857	957	1,042	1,114	1,169	1,209	1,236	1,255	1,265	1,269	1,256	1,244	1,231	1,219	1,206	1,196
2017	Building Shell	Duct Sealing	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018	Building Shell	Floor Insulation	N/A	Retrofit	41	50	59	67	75	82	87	92	95	97	98	99	100	99	98	97	96	95	94
2019	Building Shell	Foundation Sidewall Insulation	N/A	Retrofit	11	13	16	18	20	22	23	24	25	26	26	26	27	26	26	26	26	25	25
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	Building Shell	Basement Wall Insulation	N/A	Retrofit	330	400	472	542	605	658	704	739	764	781	793	799	802	794	786	778	770	762	756
2022	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	Retrofit	26	32	38	43	49	53	57	59	61	63	32	32	32	32	32	31	31	31	30
2023	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	Retrofit	28	34	41	47	52	57	61	64	66	67	34	34	35	34	34	34	33	33	33
2024	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	26	32	38	44	49	54	58	61	63
2025	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2026	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027	Building Shell	Radiant Barrier	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2028	Building Shell	Cool Roof	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2029	Building Shell	Air Sealing - Tier 1	N/A	Retrofit	60	76	95	115	135	155	174	190	203	213	221	226	229	231	232	230	227	225	223
2030	Building Shell	Air Sealing - Tier 2	N/A	Retrofit	75	95	118	143	169	194	217	237	253	266	276	282	287	289	290	287	284	281	279
2031	Building Shell	Air Sealing - Tier 3	N/A	Retrofit	15	19	24	29	34	39	43	47	51	53	55	56	57	58	58	57	57	56	56
2032	Building Shell	Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2033	Building Shell	Storm Windows	N/A	Retrofit	191	231	273	314	350	381	408	428	442	452	459	463	464	459	455	450	446	441	438
2034	Building Shell	Insulated Cellular Shades	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2035	Building Shell	Smart Window Coverings - Film/Transformer	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2036	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2037	Building Shell	Duct Insulation	N/A	Retrofit	47	57	67	77	86	94	100	105	109	111	113	114	114	113	112	111	110	109	108
2038	Building Shell	Duct Sealing	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2039	Building Shell	Floor Insulation	N/A	Retrofit	4	4	5	6	7	7	8	8	9	9	9	9	9	9	9	9	9	9	8
2040	Building Shell	Foundation Sidewall Insulation	N/A	Retrofit	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2042	Building Shell	Basement Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2043	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	N/A	Retrofit	250	273	292	306	316	321	326	328	328	324	321	317	314	311	308	152	151	149	148
2044	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	N/A	Retrofit	276	294	309	319	325	328	330	330	326	322	319	316	312	309	306	151	150	148	147
2045	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223	239	251	261	
2046	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2047	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2048	Building Shell	Radiant Barrier	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2049	Building Shell	Cool Roof	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2050	Building Shell	Air Sealing - Tier 1	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2051	Building Shell	Air Sealing - Tier 2	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2052	Building Shell	Air Sealing - Tier 3	N/A	Retrofit	0	0	0	0	0	31	38	45	52	58	63	68	71	74	76	77	78	78	77
2053	Building Shell	Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2054	Building Shell	Storm Windows	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2055	Building Shell	Insulated Cellular Shades	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2058	Building Shell	Duct Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2059	Building Shell	Duct Sealing	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2060	Building Shell	Floor Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25	30	34	
2061	Building Shell	Foundation Sidewall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2063	Building Shell	Basement Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	NC	151	246	303	373	408	423	445	487	526	555	549	522	472	450	423	374	656	651	648
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	NC	153	249	306	377	412	428	450	492	532	561	556	528	477	456	428	378	663	659	655
2066	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	Multifamily Market Rate	Retrofit	42	50	57	64	70	74	78	80	82	83	67	67	67	66	65	65	64	63	63
2067	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	Multifamily Market Rate	Retrofit	47	53	57	61	64	66	67	68	69	69	55	54	53	53	52	52	51	51	50
2068	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	Multifamily Market Rate	Retrofit	47	48	48	48	47	47	46	45	45	44	35	35	34	34	34	33	33	33	32
2069	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	15	15	15	15	15	14	14	14	
2070	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	Multifamily Market Rate	Retrofit	42	42	41	41	40	39	39	38	38	37	30	29	29	28	28	28	28	28	27
2071	Building Shell	Radiant Barrier	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2072	Building Shell	Cool Roof	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2073	Building Shell	Air Sealing - Tier 1	N/A	Retrofit	51	65	81	98	115	132	148	161	172	181	187	192	195	196	197	195	193	191	190

Ameren MO		Program RAP Measure Savings		Incremental Annual Energy (MWh) Savings - NET																			
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2074	Building Shell	Air Sealing - Tier 2	N/A	Retrofit	87	110	137	166	196	224	251	274	293	307	319	326	331	334	335	332	328	325	322
2075	Building Shell	Air Sealing - Tier 3	N/A	Retrofit	34	43	54	65	77	88	98	107	115	120	125	128	130	131	131	130	129	127	126
2076	Building Shell	Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2077	Building Shell	Storm Windows	N/A	Retrofit	223	278	337	397	456	508	555	593	623	644	660	670	675	677	671	664	657	651	645
2078	Building Shell	Insulated Cellular Shades	N/A	Retrofit	506	613	724	830	928	1,009	1,080	1,133	1,171	1,198	1,216	1,226	1,230	1,217	1,206	1,193	1,181	1,169	1,159
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2081	Building Shell	Duct Insulation	N/A	Retrofit	101	126	153	180	207	230	252	269	282	292	299	304	306	307	304	301	298	295	293
2082	Building Shell	Duct Sealing	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2083	Building Shell	Floor Insulation	N/A	Retrofit	9	11	14	16	19	21	23	25	26	27	27	28	28	28	28	27	27	27	27
2084	Building Shell	Foundation Sidewall Insulation	N/A	Retrofit	2	3	3	4	5	6	6	7	7	8	8	8	8	8	8	8	8	8	8
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2086	Building Shell	Basement Wall Insulation	N/A	Retrofit	33	41	50	58	67	75	82	87	92	95	97	99	99	100	99	98	97	96	95
2087	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	Retrofit	8	10	12	13	15	16	17	18	19	19	10	10	10	10	10	10	9	9	9
2088	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	Retrofit	9	10	12	13	14	15	16	16	17	17	8	9	8	8	8	8	8	8	8
2089	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	8	9	9	10	11	11	11	11	12
2090	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2091	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2092	Building Shell	Radiant Barrier	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2093	Building Shell	Cool Roof	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2094	Building Shell	Air Sealing - Tier 1	N/A	Retrofit	0	0	0	0	0	7	9	12	14	17	19	22	24	25	27	28	28	29	29
2095	Building Shell	Air Sealing - Tier 2	N/A	Retrofit	13	17	21	26	30	35	39	42	45	48	49	51	51	52	52	51	51	50	50
2096	Building Shell	Air Sealing - Tier 3	N/A	Retrofit	5	7	8	10	12	14	15	17	18	19	19	20	20	20	20	20	20	20	20
2097	Building Shell	Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2098	Building Shell	Storm Windows	N/A	Retrofit	20	24	28	33	37	40	43	45	46	47	48	48	48	48	47	47	47	46	46
2099	Building Shell	Insulated Cellular Shades	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2102	Building Shell	Duct Insulation	N/A	Retrofit	8	10	12	14	16	18	19	21	22	22	23	23	23	23	23	23	23	23	22
2103	Building Shell	Duct Sealing	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2104	Building Shell	Floor Insulation	N/A	Retrofit	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2105	Building Shell	Foundation Sidewall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2107	Building Shell	Basement Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2108	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	Multifamily Market Rate	Retrofit	15	19	24	29	34	39	44	48	51	54	56	57	58	58	59	29	29	28	28
2109	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	Multifamily Market Rate	Retrofit	20	25	30	36	41	45	50	53	56	58	59	60	60	61	60	30	29	29	29
2110	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	20	25	29	29
2111	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2112	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2113	Building Shell	Radiant Barrier	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2114	Building Shell	Cool Roof	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2115	Building Shell	Air Sealing - Tier 1	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2116	Building Shell	Air Sealing - Tier 2	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2117	Building Shell	Air Sealing - Tier 3	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2118	Building Shell	Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2119	Building Shell	Storm Windows	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2120	Building Shell	Insulated Cellular Shades	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2123	Building Shell	Duct Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2124	Building Shell	Duct Sealing	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
2125	Building Shell	Floor Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	3	3
2126	Building Shell	Foundation Sidewall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2128	Building Shell	Basement Wall Insulation	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	NC	25	41	50	62	68	70	74	81	87	92	91	87	78	75	70	62	109	108	107
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	Retrofit	19,952	21,036	21,846	22,408	22,772	22,946	23,047	22,819	22,591	22,370	22,178	21,976	21,785	21,598	21,427	21,241	21,063	20,889	20,730
3002	Cross-Cutting	Flexpay - high usage	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	Retrofit	293	397	534	713	939	1,218	1,553	1,936	2,356	2,791	3,222	3,620	3,969	4,260	4,492	4,663	4,787	4,870	4,925

Ameren MO		Program RAP Measure Savings			Incremental Annual Energy (MWh) Savings - NET																		
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	Retrofit	0	0	0	0	0	1,669	1,757	1,822	1,868	1,897	1,916	1,925	1,908	1,892	1,877	1,861	1,845	1,830	1,816
3005	Cross-Cutting	Flexpay - medium usage	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	Retrofit	0	0	0	0	0	24	33	45	59	78	102	130	162	197	234	270	304	333	358
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3008	Cross-Cutting	Flexpay - low usage	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	NC	41	101	167	240	312	380	446	509	573	638	700	758	808	856	900	938	1,010	1,081	1,151
3011	Cross-Cutting	Flexpay - high usage	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	NC	3	5	7	9	12	26	37	48	62	74	111	133	144	159	166	204	254	257	266
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	NC	0	0	0	0	0	28	34	41	47	54	61	66	71	75	79	82	88	95	101
3014	Cross-Cutting	Flexpay - medium usage	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	NC	0	0	0	0	0	1	1	1	2	2	4	5	6	7	9	12	16	18	19
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3017	Cross-Cutting	Flexpay - low usage	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	Retrofit	208	220	228	234	238	240	241	238	236	234	232	229	227	225	224	222	220	218	216
3020	Cross-Cutting	Flexpay - high usage	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	Retrofit	3	4	6	7	10	13	16	20	25	29	34	38	41	44	47	49	50	51	51
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	Retrofit	0	0	0	0	0	744	784	813	833	846	855	859	851	844	837	830	823	816	810
3023	Cross-Cutting	Flexpay - medium usage	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	Retrofit	0	0	0	0	0	11	15	20	26	35	45	58	72	88	104	121	136	149	160
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3026	Cross-Cutting	Flexpay - low usage	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	NC	0	1	2	3	3	4	5	5	6	7	7	8	8	9	9	10	11	11	12
3029	Cross-Cutting	Flexpay - high usage	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	NC	0	0	0	0	0	0	0	1	1	1	1	1	2	2	2	2	3	3	3
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	NC	0	0	0	0	0	12	15	18	21	24	27	30	32	33	35	37	39	42	45
3032	Cross-Cutting	Flexpay - medium usage	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	NC	0	0	0	0	0	0	0	0	1	1	2	2	3	3	4	5	7	8	9
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3035	Cross-Cutting	Flexpay - low usage	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4001	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	Retrofit	128	175	237	319	425	557	717	903	1,110	1,328	1,546	1,753	1,939	2,099	2,231	2,336	2,419	2,481	2,528
4002	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4003	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4004	Electronics	ENERGY STAR Display	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4005	Electronics	ENERGY STAR Laptop	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4006	Electronics	ENERGY STAR PC	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4007	Electronics	ENERGY STAR Sound Bar	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4008	Electronics	ENERGY STAR TV	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4009	Electronics	Smart Residential Outlet	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	NC	2	4	6	9	11	14	18	23	30	36	69	86	92	102	105	102	139	145	151
4011	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4012	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4013	Electronics	ENERGY STAR Display	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4014	Electronics	ENERGY STAR Laptop	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4015	Electronics	ENERGY STAR PC	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4016	Electronics	ENERGY STAR Sound Bar	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4017	Electronics	ENERGY STAR TV	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4018	Electronics	Smart Residential Outlet	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4019	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	Retrofit	6	8	10	14	19	24	31	40	49	58	68	77	85	92	98	103	106	109	111
4020	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	Retrofit	8	10	14	19	25	33	43	54	66	79	92	104	116	125	133	139	144	148	151
4021	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4022	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4023	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4024	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	Retrofit	70	83	97	110	122	132	140	147	152	156	159	161	161	161	161	161	161	161	161
4025	Electronics	ENERGY STAR Display	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4026	Electronics	ENERGY STAR Laptop	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4027	Electronics	ENERGY STAR PC	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4028	Electronics	ENERGY STAR Sound Bar	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4029	Electronics	ENERGY STAR TV	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Program RAP Measure Savings			Incremental Annual Energy (MWh) Savings - NET																		
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4030	Electronics	Smart Residential Outlet	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4031	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	NC	0	0	0	0	0	1	1	1	1	2	3	4	4	4	5	4	6	6	7
4032	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	NC	0	0	0	1	1	1	1	1	2	2	4	5	5	6	6	6	8	9	9
4033	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4035	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	NC	1	2	2	3	3	3	3	4	4	4	7	8	8	8	8	7	9	10	10
4037	Electronics	ENERGY STAR Display	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4038	Electronics	ENERGY STAR Laptop	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4039	Electronics	ENERGY STAR PC	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4040	Electronics	ENERGY STAR Sound Bar	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4041	Electronics	ENERGY STAR TV	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4042	Electronics	Smart Residential Outlet	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5001	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	Recycle	23	30	38	46	55	64	72	79	85	90	94	98	100	101	103	102	102	102	102
5002	HVAC Equipment	Dirty Filter Alarm_SF:Kits	Energy Efficient Kits	Retrofit	801	801	801	801	801	801	801	801	800	800	800	800	799	799	799	799	799	798	798
5003	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5004	HVAC Equipment	Smart Ceiling Fan	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5005	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	Retrofit	0	0	0	0	0	6,470	6,636	6,760	6,852	6,850	6,848	6,846	6,844	6,842	6,840	6,838	6,837	6,835	6,834
5006	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	Efficient Products	Retrofit	3,438	3,527	3,593	3,642	3,642	3,641	3,641	3,640	3,639	3,638	3,637	3,636	3,635	3,634	3,633	3,632	3,631	3,630	3,630
5007	HVAC Equipment	Smart Vents/Sensors - HP	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5008	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	Efficient Products	Retrofit	392	417	436	452	463	472	478	478	478	478	478	478	478	477	477	477	477	477	477
5009	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5010	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	Retrofit	1,332	1,416	1,483	1,535	1,574	1,604	1,626	1,625	1,625	1,625	1,624	1,624	1,623	1,623	1,622	1,622	1,621	1,621	1,621
5011	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	HVAC	ROB	836	946	1,043	1,126	1,194	1,245	1,283	1,309	1,328	1,340	1,337	1,333	1,330	1,327	1,324	1,321	1,319	1,316	1,314
5012	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	HVAC	ROB	913	1,032	1,139	1,229	1,303	1,358	1,400	1,429	1,449	1,463	1,459	1,455	1,452	1,448	1,445	1,442	1,440	1,437	1,434
5013	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	HVAC	ROB	956	1,054	1,138	1,207	1,260	1,298	1,326	1,345	1,357	1,351	1,347	1,344	1,340	1,337	1,335	1,332	1,329	1,327	1,324
5014	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	ROB	414	421	426	424	423	421	419	417	415	414	413	411	410	409	409	408	407	406	405
5015	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	HVAC	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5016	HVAC Equipment	AC Tune-up / refrigerant charge SF	HVAC	Retrofit	438	438	437	437	437	437	437	437	437	437	437	437	437	436	436	436	436	436	436
5017	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	HVAC	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5018	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	HVAC	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5019	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	HVAC	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5020	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	HVAC	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5021	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	HVAC	ROB	190	192	192	191	191	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5022	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	HVAC	ROB	0	0	0	0	0	202	201	200	200	199	198	198	197	197	196	196	195	195	195
5023	HVAC Equipment	Ductless AC - replace on fail SF	HVAC	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5024	HVAC Equipment	General HP tune-up (no charge or coil clean)	HVAC	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5025	HVAC Equipment	HP Tune-up / refrigerant charge SF	HVAC	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5026	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	HVAC	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5027	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	HVAC	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5028	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	HVAC	ROB	52	58	62	66	69	71	72	73	74	74	74	73	73	73	73	73	73	72	72
5029	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	HVAC	ROB	97	102	105	107	109	110	110	109	109	108	108	107	107	107	107	106	106	106	106
5030	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	ROB	120	132	143	151	158	163	166	168	170	169	169	168	168	167	167	167	167	166	166
5031	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	HVAC	ROB	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	30	30	30
5032	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	ROB	88	88	88	87	87	87	86	86	86	85	85	85	85	84	84	84	84	84	84
5033	HVAC Equipment	DFHP - SEER 19	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5034	HVAC Equipment	DFHP - SEER 20	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5035	HVAC Equipment	DFHP - SEER 21	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5036	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	ROB	7	10	13	18	24	31	40	50	62	73	85	96	106	115	122	127	131	135	137
5037	HVAC Equipment	Integrated Space and Water Heater	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5038	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5039	HVAC Equipment	Smart Ceiling Fan	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5040	HVAC Equipment	Smart Vents/Sensors - HP	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5041	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	Efficient Products	NC	72	103	112	124	125	121	121	126	131	136	220	242	234	239	231	214	283	288	294
5042	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5043	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	NC	29	42	46	51	51	50	49	51	54	55	90	99	96	98	94	88	116	118	120
5044	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	HVAC	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5045	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	HVAC	NC	70	95	98	105	102	49	48	49	51	53	51	48	43	42	39	35	62	62	96
5046	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	HVAC	NC	100	136	141	151	147	70	68	71	74	76	74	69	62	60	57	51	90	90	138
5047	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	HVAC	NC	0	0	0	0	0	149	146	151	157	162	157	148	133	128	121	108	191	191	294
5048	HVAC Equipment	Ductless AC - replace on fail SF	HVAC	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5049	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	HVAC	NC	27	39	44	50	51	50	51	54	56	58	56	53	48	46	43	39	68	68	105
5050	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	HVAC	NC	66	93	99	109	109	104	102	106	110	113	110	104	93	90	85	76	134	134	206

Ameren MO		Program RAP Measure Savings		Incremental Annual Energy (MWh) Savings - NET																			
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5051	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	NC	52	77	86	98	101	99	99	105	111	114	110	104	93	90	85	76	134	134	206
5052	HVAC Equipment	Ductless ASHP - replace on fail SF NC	HVAC	NC	43	57	59	63	62	59	57	60	62	64	62	58	52	50	48	42	75	75	116
5053	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	NC	60	80	83	89	87	82	81	84	87	89	87	82	73	71	67	60	105	106	162
5054	HVAC Equipment	DFHP - SEER 19	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5055	HVAC Equipment	DFHP - SEER 20	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5056	HVAC Equipment	DFHP - SEER 21	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5057	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	NC	0	0	0	1	1	1	1	2	2	5	6	7	7	8	8	8	11	11	15
5058	HVAC Equipment	Integrated Space and Water Heater	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5059	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	Recycle	4	5	6	7	9	10	11	13	14	14	15	15	16	16	16	16	16	16	16
5060	HVAC Equipment	Dirty Filter Alarm_MF:Kits	Energy Efficient Kits	Retrofit	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	Multifamily Market Rate	Retrofit	96	96	96	96	96	96	96	96	96	96	96	95	95	95	95	95	95	95	95
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5063	HVAC Equipment	Smart Ceiling Fan	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5064	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5065	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	Retrofit	416	484	549	607	657	698	731	757	776	791	801	801	801	801	800	800	800	800	800
5066	HVAC Equipment	Smart Vents/Sensors - HP	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5067	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	Retrofit	49	58	68	77	85	92	98	102	106	109	111	112	112	112	112	112	112	112	112
5068	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5069	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	Retrofit	85	88	90	92	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93
5070	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	HVAC	ROB	143	175	209	242	274	302	325	344	358	369	378	384	388	387	386	385	385	384	384
5071	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	HVAC	ROB	182	186	222	257	291	320	345	365	381	392	401	408	412	412	411	410	409	408	408
5072	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	N/A	ROB	137	167	200	232	262	289	311	329	343	354	362	368	372	371	370	370	369	368	367
5073	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	ROB	9	13	17	23	31	40	52	65	79	94	110	124	137	148	157	164	169	173	176
5074	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5075	HVAC Equipment	AC Tune-up / refrigerant charge / MFMR	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5076	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5077	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5078	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5079	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	ROB	5	5	6	7	7	8	8	8	8	8	9	9	9	8	8	8	8	8	8
5080	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	ROB	12	14	16	18	19	20	21	22	22	22	23	23	23	23	23	22	22	22	22
5081	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	ROB	7	8	9	9	10	10	11	11	11	11	11	11	11	11	11	11	11	11	11
5082	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5083	HVAC Equipment	General HP tune-up (no charge or coil clean)	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5084	HVAC Equipment	HP Tune-up / refrigerant charge MF	N/A	Retrofit	3	3	4	4	5	5	6	6	6	7	7	7	7	7	7	7	7	7	7
5085	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5086	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	N/A	Retrofit	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5087	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	ROB	1	1	1	2	2	3	3	4	5	6	7	8	9	10	10	11	11	11	12
5088	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	ROB	2	2	3	4	5	7	9	11	13	15	17	18	20	21	22	23	23	23	24
5089	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	ROB	2	2	3	4	6	7	10	12	15	17	20	23	25	27	29	30	31	32	33
5090	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	HVAC	ROB	3	4	4	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6
5091	HVAC Equipment	DFHP - SEER 19	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5092	HVAC Equipment	DFHP - SEER 20	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5093	HVAC Equipment	DFHP - SEER 21	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5094	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	ROB	1	1	1	1	2	3	3	4	5	6	7	8	9	10	10	11	11	11	11
5095	HVAC Equipment	Integrated Space and Water Heater	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5096	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5097	HVAC Equipment	Smart Ceiling Fan	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5098	HVAC Equipment	Smart Vents/Sensors - HP	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5099	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	NC	6	10	12	15	16	17	18	19	21	22	36	40	39	40	39	36	47	48	49
5100	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5101	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	NC	2	3	3	3	3	3	3	3	3	3	5	6	6	6	5	7	7	7	7
5102	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5103	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	NC	2	4	4	5	5	5	5	6	6	7	6	6	5	5	4	8	8	12	12
5104	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	NC	3	5	6	7	7	7	7	8	8	9	9	8	7	7	6	10	10	16	16
5105	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	NC	2	3	3	3	4	4	4	4	4	4	4	4	3	3	3	5	5	8	8
5106	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5107	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	NC	0	0	1	1	1	1	2	2	3	3	4	4	4	4	4	4	7	7	12
5108	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	NC	1	1	2	2	3	3	4	5	7	8	9	9	9	9	8	15	15	24	24
5109	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	NC	1	1	2	2	3	4	5	6	8	9	11	11	11	12	12	11	20	21	32
5110	HVAC Equipment	Ductless ASHP - replace on fail MF NC	HVAC	NC	2	4	4	5	5	5	5	6	6	6	6	6	5	5	4	8	8	12	12
5111	HVAC Equipment	DFHP - SEER 19	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5112	HVAC Equipment	DFHP - SEER 20	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5113	HVAC Equipment	DFHP - SEER 21	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5114	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	NC	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1

Ameren MO		Program RAP Measure Savings			Incremental Annual Energy (MWh) Savings - NET																		
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5115	HVAC Equipment	Integrated Space and Water Heater	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6001	Lighting	LED - 10W (CFL baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6002	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6003	Lighting	LED - 10W (Halogen baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6004	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6005	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6006	Lighting	LED - 12W (Replacing CFL)	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6007	Lighting	LED - 12W (Halogen baseline)	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6008	Lighting	LED - 15W (CFL baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6009	Lighting	LED - 15W (Halogen baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6010	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6011	Lighting	LED - 20W (CFL baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6012	Lighting	LED - 20W (Halogen baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6013	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	ROB	8	10	11	12	12	13	13	14	14	6	4	3	3	2	1	1	0	0	8
6014	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	ROB	91	104	115	124	132	138	143	147	150	60	48	37	27	20	13	9	5	2	91
6015	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	ROB	10	11	12	13	14	15	15	15	16	6	5	4	3	2	1	1	1	0	10
6016	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	ROB	87	99	110	119	126	132	137	140	143	58	46	35	26	19	13	8	5	2	87
6017	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6018	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6019	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	ROB	19	21	24	26	27	29	30	30	31	12	10	8	6	4	3	2	1	0	19
6020	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	ROB	40	46	50	55	58	61	63	65	66	26	21	16	12	9	6	4	2	1	40
6021	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	ROB	7	8	9	9	10	11	11	11	11	5	4	3	2	1	1	1	0	0	7
6022	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	ROB	73	83	92	99	105	110	114	117	119	48	38	29	22	16	11	7	4	2	73
6023	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6024	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	ROB	7	8	9	10	10	11	11	12	12	5	4	3	2	2	1	1	0	0	7
6025	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	ROB	119	135	149	162	172	180	186	191	195	78	62	48	36	26	17	11	6	3	119
6026	Lighting	LED Nightlights	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6027	Lighting	T8 Linear Fluorescent	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6028	Lighting	Occupancy Sensor	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6029	Lighting	LED - 10W (CFL baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6030	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6031	Lighting	LED - 10W (Halogen baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6032	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6033	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6034	Lighting	LED - 12W (Replacing CFL)	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6035	Lighting	LED - 12W (Halogen baseline)	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6036	Lighting	LED - 15W (CFL baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6037	Lighting	LED - 15W (Halogen baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6038	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6039	Lighting	LED - 20W (CFL baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6040	Lighting	LED - 20W (Halogen baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6041	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6042	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	NC	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6043	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6044	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	NC	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6045	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6046	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6047	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6048	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1
6049	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6050	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	NC	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6051	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6052	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6053	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	NC	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	2
6054	Lighting	LED Nightlights	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6055	Lighting	T8 Linear Fluorescent	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6056	Lighting	Occupancy Sensor	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Program RAP Measure Savings			Incremental Annual Energy (MWh) Savings - NET																		
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6057	Lighting	LED - 10W (CFL baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6058	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6059	Lighting	LED - 10W (CFL baseline)	Multifamily Market Rate	ROB	4	4	4	5	5	5	6	6	6	2	2	1	1	1	1	0	0	0	4
6060	Lighting	LED - 10W (Halogen baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6061	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6062	Lighting	LED - 10W (Halogen baseline)	Multifamily Market Rate	ROB	19	22	24	26	28	29	30	31	31	13	10	8	6	4	3	2	1	0	19
6063	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6064	Lighting	LED - 12W (Replacing CFL)	Multifamily Market Rate	ROB	5	5	6	6	7	0	0	0	0	-5	-5	-6	-6	-7	0	0	0	0	5
6065	Lighting	LED - 12W (Halogen baseline)	Multifamily Market Rate	ROB	20	22	25	27	28	30	31	31	32	13	10	8	6	4	3	2	1	0	20
6066	Lighting	LED - 15W (CFL baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6067	Lighting	LED - 15W (CFL baseline)	Multifamily Market Rate	ROB	5	5	6	6	7	7	7	7	8	3	2	2	1	1	1	0	0	0	5
6068	Lighting	LED - 15W (Halogen baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6069	Lighting	LED - 15W (Halogen baseline)	Multifamily Market Rate	ROB	24	27	30	32	34	36	37	38	39	16	12	10	7	5	3	2	1	1	24
6070	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6071	Lighting	LED - 20W (CFL baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6072	Lighting	LED - 20W (CFL baseline)	Multifamily Market Rate	ROB	5	6	7	7	8	8	9	9	4	3	2	2	1	1	1	0	0	0	5
6073	Lighting	LED - 20W (Halogen baseline)	Lighting	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6074	Lighting	LED - 20W (Halogen baseline)	Multifamily Market Rate	ROB	32	36	40	43	46	48	50	51	52	21	17	13	10	7	5	3	2	1	32
6075	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	ROB	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1
6076	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	ROB	7	7	8	9	9	10	10	10	11	4	3	3	2	1	1	1	0	0	7
6077	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	ROB	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1
6078	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	ROB	6	7	8	8	9	9	10	10	10	4	3	3	2	1	1	1	0	0	6
6079	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Energy Efficient Kits	ROB	1	1	1	1	1	1	1	2	2	1	0	0	0	0	0	0	0	0	1
6080	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Multifamily Market Rate	ROB	8	9	10	11	11	12	12	12	13	5	4	3	2	2	1	1	0	0	8
6081	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Energy Efficient Kits	ROB	6	6	7	8	8	9	9	9	9	4	3	2	2	1	1	1	0	0	6
6082	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent)	Multifamily Market Rate	ROB	61	69	76	83	88	92	95	98	100	40	32	25	18	13	9	6	3	1	61
6083	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	ROB	1	1	1	1	1	2	2	2	2	1	1	0	0	0	0	0	0	0	1
6084	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Multifamily Market Rate	ROB	12	13	15	16	17	18	19	19	19	8	6	5	4	3	2	1	1	0	12
6085	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	ROB	2	2	3	3	3	3	3	4	4	1	1	1	1	0	0	0	0	0	2
6086	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	ROB	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
6087	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Multifamily Market Rate	ROB	3	4	4	4	4	5	5	5	5	2	-2	-2	-2	-3	-3	-3	-3	-3	0
6088	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	ROB	4	4	5	5	6	6	6	6	6	3	2	2	1	1	1	0	0	0	4
6089	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Multifamily Market Rate	ROB	32	37	41	44	47	49	51	52	53	21	17	13	10	7	5	3	2	1	32
6090	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Energy Efficient Kits	ROB	4	4	5	5	6	6	6	6	6	3	2	2	1	1	1	0	0	0	4
6091	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	ROB	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
6092	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	ROB	6	7	8	9	9	10	10	10	11	4	3	3	2	1	1	1	0	0	6
6093	Lighting	LED Nightlights	Multifamily Market Rate	ROB	22	24	27	29	31	33	34	35	36	36	36	14	11	9	6	5	3	2	2
6094	Lighting	Occupancy Sensor	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6095	Lighting	T8 Linear Fluorescent	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6096	Lighting	LED - 10W (CFL baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6097	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6098	Lighting	LED - 10W (CFL baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6099	Lighting	LED - 10W (Halogen baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6100	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6101	Lighting	LED - 10W (Halogen baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6102	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6103	Lighting	LED - 12W (Replacing CFL)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6104	Lighting	LED - 12W (Halogen baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6105	Lighting	LED - 15W (CFL baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6106	Lighting	LED - 15W (CFL baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6107	Lighting	LED - 15W (Halogen baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6108	Lighting	LED - 15W (Halogen baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6109	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6110	Lighting	LED - 20W (CFL baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6111	Lighting	LED - 20W (CFL baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6112	Lighting	LED - 20W (Halogen baseline)	Lighting	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6113	Lighting	LED - 20W (Halogen baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6114	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6115	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Program RAP Measure Savings			Incremental Annual Energy (MWh) Savings - NET																		
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6116	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6117	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6118	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6119	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6120	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6121	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent)	Multifamily Market Rate	NC	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6122	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6123	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6124	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6125	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6126	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6127	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6128	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6129	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6130	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6131	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6132	Lighting	LED Nightlights	Multifamily Market Rate	NC	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6133	Lighting	Occupancy Sensor	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6134	Lighting	T8 Linear Fluorescent	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	ROB	522	692	906	1,163	1,462	1,792	2,140	2,486	2,813	3,104	3,360	3,570	3,738	3,870	3,970	4,045	4,100	4,099	4,099
8002	Water Heating	Solar Domestic Water Heater	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8003	Water Heating	Water Heater Wrap	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8004	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	Retrofit	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261
8005	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8006	Water Heating	Low Flow Showerheads	Energy Efficient Kits	Retrofit	360	383	401	415	426	434	440	440	440	440	440	440	440	440	440	440	440	440	440
8007	Water Heating	Thermostatic Restrictor Shower Valve	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8008	Water Heating	Pipe Insulation	Energy Efficient Kits	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8009	Water Heating	Gravity Film Heat Exchanger	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8010	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	ROB	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396
8011	Water Heating	Heat Pump Hot Water Heater	Efficient Products	NC	12	22	29	40	50	58	68	83	98	111	117	118	111	201	231	229	319	316	310
8012	Water Heating	Solar Domestic Water Heater	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8013	Water Heating	Water Heater Wrap	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8014	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	NC	15	20	21	22	22	21	21	21	22	23	38	41	40	41	40	37	48	49	50
8015	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8016	Water Heating	Low Flow Showerheads	Energy Efficient Kits	NC	19	28	30	34	34	33	34	36	37	60	66	64	65	63	58	77	78	80	80
8017	Water Heating	Thermostatic Restrictor Shower Valve	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8018	Water Heating	Pipe Insulation	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8019	Water Heating	Gravity Film Heat Exchanger	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8020	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	NC	1	1	1	2	2	2	2	2	2	3	4	5	4	5	4	4	5	6	6
8021	Water Heating	Heat Pump Hot Water Heater	Efficient Products	ROB	26	35	47	61	78	98	121	144	167	189	209	226	241	252	261	268	273	276	276
8022	Water Heating	Solar Domestic Water Heater	N/A	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8023	Water Heating	Water Heater Wrap	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8024	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8025	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8026	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8027	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO			Program RAP Measure Savings		Incremental Annual Energy (MWh) Savings - NET																		
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8028	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8029	Water Heating	Low Flow Showerheads	Energy Efficient Kits	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8030	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8031	Water Heating	Thermostatic Restrictor Shower Valve	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8032	Water Heating	Common Area Low Flow Showerhead	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8033	Water Heating	Pipe Insulation	Energy Efficient Kits	Retrofit	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
8034	Water Heating	Gravity Film Heat Exchanger	N/A	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8035	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	ROB	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
8036	Water Heating	Heat Pump Hot Water Heater	Efficient Products	NC	1	1	1	2	3	3	4	5	6	7	7	7	7	13	15	15	21	21	21
8037	Water Heating	Solar Domestic Water Heater	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8038	Water Heating	Water Heater Wrap	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8039	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8040	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	NC	3	4	4	4	4	4	4	4	4	4	7	7	7	7	7	7	9	9	9
8041	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8042	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	NC	1	1	2	2	2	2	1	2	2	2	3	3	3	3	3	3	4	4	4
8043	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8044	Water Heating	Low Flow Showerheads	Energy Efficient Kits	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8045	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	NC	7	9	9	10	10	9	9	9	10	10	16	18	18	18	17	16	21	22	22
8046	Water Heating	Common Area Low Flow Showerhead	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8047	Water Heating	Thermostatic Restrictor Shower Valve	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8048	Water Heating	Pipe Insulation	Energy Efficient Kits	NC	3	4	4	4	4	4	4	4	4	5	5	4	7	8	8	8	10	10	10
8049	Water Heating	Gravity Film Heat Exchanger	N/A	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8050	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	NC	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
9001	ER Appliance	Refrigerator - early replacement	N/A	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9002	ER Appliance	Refrigerator - early replacement	N/A	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9003	ER Appliance	Refrigerator - early replacement	N/A	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	ER1	0	0	0	0	0	336	391	443	490	531	564	591	611	627	639	648	648	648	648
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	ER2	0	0	0	0	0	0	0	0	0	0	33	39	44	49	53	56	59	61	61
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9007	ER Appliance	Refrigerator - early replacement	N/A	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9008	ER Appliance	Refrigerator - early replacement	N/A	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9009	ER Appliance	Refrigerator - early replacement	N/A	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	ER1	0	0	0	0	0	5	5	6	7	8	9	9	9	10	10	10	10	10	10
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	ER2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	ER1	1,696	1,871	2,020	2,141	2,236	2,304	2,353	2,386	2,407	2,396	2,390	2,384	2,378	2,372	2,368	2,363	2,358	2,354	2,349
10002	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	ER2	0	0	0	0	0	0	1,457	1,605	1,729	1,829	1,911	1,973	2,019	2,052	2,076	2,072	2,068	2,064	2,060
10003	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,409
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	ER1	1,714	1,817	1,898	1,959	2,004	2,033	2,052	2,042	2,032	2,023	2,018	2,013	2,008	2,003	1,999	1,995	1,991	1,987	1,983
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	ER2	0	0	0	0	0	0	1,540	1,629	1,698	1,749	1,790	1,819	1,840	1,836	1,832	1,828	1,825	1,821	1,818
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,489
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	ER1	1,799	1,942	2,059	2,150	2,220	2,267	2,299	2,320	2,309	2,298	2,293	2,286	2,281	2,276	2,271	2,266	2,262	2,258	2,253
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	ER2	0	0	0	0	0	0	1,647	1,775	1,878	1,957	2,021	2,068	2,102	2,126	2,122	2,117	2,113	2,109	2,105
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,593
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	ER1	862	901	930	951	966	975	971	966	962	957	955	952	950	948	946	944	942	940	939
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	ER2	0	0	0	0	0	0	720	750	773	789	802	811	809	807	806	804	803	801	800
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	696
10013	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	ER1	4,131	4,120	4,109	4,097	4,086	4,067	4,049	4,030	4,011	3,992	3,982	3,972	3,962	3,953	3,945	3,937	3,929	3,922	3,914
10014	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	ER2	0	0	0	0	0	0	3,530	3,513	3,497	3,480	3,472	3,463	3,454	3,446	3,440	3,432	3,426	3,419	3,413
10015	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,413
10016	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10017	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10018	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Program RAP Measure Savings			Incremental Annual Energy (MWh) Savings - NET																		
Measure #	End-Use	Measure Name	Program	Construction																			
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10019	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	ER1	3,709	3,750	3,740	3,730	3,719	3,702	3,686	3,668	3,651	3,634	3,625	3,615	3,607	3,598	3,591	3,584	3,577	3,570	3,563
10020	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	ER2	0	0	0	0	0	0	737	743	740	736	735	733	731	729	728	726	725	723	722
10021	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	712
10022	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	ER1	3,997	3,986	3,976	3,965	3,953	3,935	3,918	3,899	3,881	3,863	3,853	3,843	3,834	3,825	3,818	3,809	3,802	3,795	3,787
10023	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	ER2	0	0	0	0	0	0	1,049	1,044	1,039	1,034	1,031	1,029	1,026	1,024	1,022	1,020	1,018	1,016	1,014
10024	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,014
10025	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	ER1	4,224	4,212	4,201	4,190	4,178	4,159	4,140	4,121	4,101	4,082	4,072	4,061	4,051	4,042	4,034	4,026	4,018	4,010	4,002
10026	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	ER2	0	0	0	0	0	0	1,145	1,140	1,134	1,129	1,126	1,123	1,120	1,118	1,116	1,113	1,111	1,109	1,107
10027	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,107
10028	ER HVAC Equipment	Ductless AC - ER SF	HVAC	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10029	ER HVAC Equipment	Ductless AC - ER SF	HVAC	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10030	ER HVAC Equipment	Ductless AC - ER SF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10031	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	ER1	210	220	227	232	236	238	237	236	234	233	233	232	232	231	231	230	230	229	229
10032	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	ER2	0	0	0	0	0	0	36	37	38	39	40	40	40	40	40	40	40	40	40
10033	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
10034	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	ER1	275	288	297	304	309	311	310	309	307	306	305	304	303	303	302	301	301	300	300
10035	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	ER2	0	0	0	0	0	0	93	97	100	102	104	105	105	105	105	104	104	104	104
10036	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90
10037	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	ER1	199	219	237	251	262	270	276	280	282	281	280	280	279	278	278	277	277	276	276
10038	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	ER2	0	0	0	0	0	0	74	82	88	93	97	100	103	104	106	105	105	105	105
10039	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72
10040	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	ER1	84	84	84	84	83	83	83	82	82	82	81	81	81	81	81	80	80	80	80
10041	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	ER2	0	0	0	0	0	0	29	29	29	29	29	29	29	28	28	28	28	28	28
10042	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
10043	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	ER1	136	166	198	230	260	287	309	327	341	351	359	365	369	368	367	367	366	365	365
10044	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	ER2	0	0	0	0	0	0	121	148	176	204	231	255	275	292	305	315	322	328	332
10045	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
10046	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	ER1	132	162	193	224	253	279	300	318	331	341	349	355	359	358	357	357	356	355	355
10047	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	ER2	0	0	0	0	0	0	118	145	173	200	226	249	269	286	299	308	316	321	325
10048	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114
10049	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	ER1	19	25	35	46	61	80	103	129	158	188	218	246	272	294	312	326	336	344	350
10050	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	ER2	0	0	0	0	0	0	17	23	31	42	56	73	94	118	145	173	201	227	251
10051	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
10052	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	ER1	9	12	16	22	29	38	48	60	74	88	102	115	127	138	146	153	158	161	164
10053	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	ER2	0	0	0	0	0	0	7	10	13	18	24	31	40	50	62	74	86	97	107
10054	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
10055	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	ER1	70	81	92	102	110	116	121	125	127	129	130	130	130	129	129	129	128	128	128
10056	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	ER2	0	0	0	0	0	0	11	12	14	15	17	18	18	19	19	20	20	20	20
10057	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
10058	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	ER1	86	100	113	125	134	142	148	153	156	158	160	160	159	158	158	158	158	158	157

Ameren MO		Program RAP Measure Savings	Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Construction Type																			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10059	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	ER2	0	0	0	0	0	0	17	20	22	25	27	28	29	30	31	32	32	32	32
10060	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
10061	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	ER1	86	97	107	116	123	128	132	135	136	138	137	137	137	136	136	136	135	135	135
10062	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	ER2	0	0	0	0	0	0	21	24	26	28	30	31	32	33	34	34	34	34	34
10063	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
10064	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	ER1	87	94	100	104	108	110	111	112	112	111	111	111	111	110	110	110	110	109	109
10065	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	ER2	0	0	0	0	0	0	25	27	29	30	31	32	32	33	33	32	32	32	32
10066	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
10067	ER HVAC Equipment	Ductless AC - ER MF	HVAC	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10068	ER HVAC Equipment	Ductless AC - ER MF	HVAC	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10069	ER HVAC Equipment	Ductless AC - ER MF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10070	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	ER1	2	2	3	4	6	7	9	11	14	16	18	20	21	22	23	24	25	25	25
10071	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	ER2	0	0	0	0	0	0	0	0	1	1	1	1	2	2	2	3	3	3	4
10072	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10073	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	ER1	2	3	4	5	6	8	10	12	15	17	19	21	23	24	25	26	27	27	27
10074	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	ER2	0	0	0	0	0	0	1	1	1	2	2	3	3	4	5	6	6	7	8
10075	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10076	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10077	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10078	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10079	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10080	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10081	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO Program RAP Measure Costs			Incentives and Admin																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	\$102,056	\$113,438	\$131,394	\$131,803	\$138,718	\$144,305	\$148,777	\$152,352	\$155,228	\$156,014	\$156,807	\$157,608	\$158,418	\$159,236	\$160,061	\$160,895	\$161,738	\$162,588	\$163,448
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	\$149,504	\$166,452	\$181,358	\$194,034	\$204,550	\$213,136	\$220,100	\$225,756	\$230,391	\$231,934	\$233,492	\$235,065	\$236,654	\$238,259	\$239,880	\$241,517	\$243,170	\$244,841	\$246,527
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	\$71,829	\$81,937	\$91,198	\$99,335	\$106,246	\$111,970	\$116,635	\$120,410	\$123,467	\$125,965	\$126,770	\$127,584	\$128,406	\$129,236	\$130,074	\$130,921	\$131,776	\$132,639	\$133,512
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	\$9,761	\$12,663	\$16,077	\$19,916	\$24,023	\$28,195	\$32,221	\$35,929	\$39,206	\$42,010	\$44,353	\$46,285	\$47,868	\$49,171	\$50,255	\$50,666	\$51,081	\$51,500	\$51,923
1005	Appliance	Refrigerator	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1006	Appliance	Freezers ENERGY STAR - replace on fail	N/A	SF	ROB	\$36,349	\$42,405	\$48,170	\$53,389	\$57,908	\$30,838	\$32,363	\$33,569	\$34,508	\$35,235	\$35,795	\$36,871	\$37,947	\$38,025	\$38,103	\$38,182	\$38,262	\$38,342	\$38,423
1007	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	\$5,881	\$7,979	\$10,701	\$14,141	\$18,348	\$23,299	\$28,866	\$34,824	\$40,878	\$46,724	\$52,108	\$56,870	\$60,947	\$64,356	\$67,169	\$69,478	\$71,380	\$72,964	\$73,572
1008	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$355,509	\$356,370	\$357,240	\$358,119	\$359,007	\$359,904	\$360,809	\$361,724	\$362,648	\$363,581	\$364,523	\$365,475	\$366,436	\$367,407
1009	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1010	Appliance	Heat Pump Dryer	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1011	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1012	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1013	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1014	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	\$79,415	\$100,575	\$124,281	\$149,541	\$175,081	\$199,598	\$222,024	\$241,688	\$258,348	\$272,103	\$283,271	\$292,264	\$299,507	\$305,384	\$307,155	\$308,944	\$310,750	\$312,575	\$314,418
1015	Appliance	Water Cooler	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1016	Appliance	Refrigerator	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1017	Appliance	Freezers ENERGY STAR - replace on fail	N/A	SF	NC	\$2,544	\$3,783	\$4,269	\$4,878	\$5,013	\$4,959	\$5,014	\$5,335	\$5,661	\$5,856	\$5,720	\$5,404	\$4,880	\$4,718	\$4,480	\$4,014	\$7,126	\$7,165	\$7,203
1018	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	\$247	\$450	\$628	\$891	\$1,132	\$1,371	\$1,670	\$2,100	\$2,575	\$3,038	\$3,303	\$3,398	\$5,845	\$6,974	\$7,249	\$7,434	\$9,967	\$9,998	\$10,028
1019	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$6,632	\$7,234	\$8,179	\$9,105	\$9,867	\$9,981	\$9,677	\$8,908	\$8,734	\$15,386	\$16,973	\$23,196	\$23,988
1020	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1021	Appliance	Heat Pump Dryer	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1022	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1023	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1024	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1025	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	\$1,455	\$2,472	\$3,178	\$4,103	\$4,704	\$5,114	\$5,596	\$6,347	\$7,088	\$7,690	\$8,149	\$8,560	\$8,924	\$9,292	\$9,563	\$9,739	\$9,821	\$9,807	\$9,793
1026	Appliance	Water Cooler	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1027	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	\$11,568	\$12,859	\$13,987	\$14,940	\$15,724	\$16,357	\$16,864	\$17,270	\$17,596	\$17,685	\$17,775	\$17,865	\$17,957	\$18,050	\$18,143	\$18,238	\$18,333	\$18,430	\$18,527
1028	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	\$16,888	\$18,802	\$20,486	\$21,918	\$23,106	\$24,075	\$24,865	\$25,501	\$26,025	\$26,199	\$26,375	\$26,552	\$26,732	\$26,913	\$27,096	\$27,281	\$27,468	\$27,657	\$27,847
1029	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	\$923	\$1,081	\$1,233	\$1,372	\$1,495	\$1,599	\$1,685	\$1,755	\$1,812	\$1,858	\$1,896	\$1,908	\$1,920	\$1,933	\$1,945	\$1,958	\$1,971	\$1,983	\$1,997
1030	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	\$1,315	\$1,738	\$2,255	\$2,863	\$3,546	\$4,278	\$5,021	\$5,738	\$6,398	\$6,982	\$7,481	\$7,899	\$8,243	\$8,525	\$8,757	\$8,950	\$9,023	\$9,097	\$9,172
1031	Appliance	Refrigerator	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1032	Appliance	Freezers ENERGY STAR - replace on fail	N/A	MF	ROB	\$488	\$585	\$683	\$776	\$860	\$466	\$497	\$521	\$541	\$556	\$568	\$577	\$578	\$579	\$580	\$582	\$583	\$584	\$585
1033	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	\$754	\$1,032	\$1,401	\$1,878	\$2,482	\$3,221	\$4,090	\$5,067	\$6,113	\$7,176	\$8,202	\$9,148	\$9,984	\$10,700	\$11,298	\$11,792	\$12,198	\$12,532	\$12,810
1034	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$42,325	\$42,427	\$42,531	\$42,636	\$42,741	\$42,848	\$42,956	\$43,065	\$43,175	\$43,286	\$43,398	\$43,511	\$43,626	\$43,741
1035	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1036	Appliance	Heat Pump Dryer	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1037	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1038	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1039	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1040	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	\$10,802	\$13,979	\$17,704	\$21,878	\$26,325	\$30,822	\$35,138	\$39,087	\$42,550	\$45,484	\$47,907	\$49,875	\$51,460	\$52,736	\$53,772	\$54,085	\$54,402	\$54,721	\$55,044
1041	Appliance	Water Cooler	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1042	Appliance	Refrigerator	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1043	Appliance	Freezers ENERGY STAR - replace on fail	N/A	MF	NC	\$41	\$61	\$69	\$78	\$83	\$80	\$81	\$86	\$91	\$94	\$92	\$87	\$78	\$76	\$72	\$65	\$115	\$115	\$116
1044	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	\$32	\$58	\$82	\$118	\$153	\$189	\$237	\$306	\$385	\$467	\$520	\$547	\$567	\$577	\$579	\$582	\$583	\$584	\$585
1045	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$903	\$985	\$1,114	\$1,240	\$1,344	\$1,359	\$1,318	\$1,213	\$1,189	\$2,095	\$2,311	\$3,153	\$3,286	\$3,280
1046	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1047	Appliance	Heat Pump Dryer	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1048	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1049	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1050	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1051	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	\$198	\$344	\$453	\$600	\$707	\$790	\$886	\$1,027	\$1,167	\$1,212	\$2,500	\$2,573	\$2,618	\$2,610	\$2,530	\$2,400	\$3,275	\$3,365	\$4,447
1052	Appliance	Water Cooler	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2001	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	N/A	SF	Retrofit	\$17,899	\$19,763	\$21,351	\$															

Ameren MO Program RAP Measure Costs			Incentives and Admin																							
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
2038	Building Shell	Duct Sealing	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2039	Building Shell	Floor Insulation	N/A	SF	Retrofit	\$1,659	\$2,037	\$2,436	\$2,833	\$3,209	\$3,545	\$3,836	\$4,075	\$4,265	\$4,413	\$4,527	\$4,612	\$4,675	\$4,675	\$4,675	\$4,674	\$4,674	\$4,674	\$4,674	\$4,675	
2040	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	\$496	\$609	\$728	\$848	\$960	\$1,062	\$1,149	\$1,221	\$1,278	\$1,323	\$1,357	\$1,382	\$1,401	\$1,401	\$1,401	\$1,401	\$1,401	\$1,401	\$1,401	\$1,401	
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2042	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2043	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	N/A	SF	Retrofit	\$63,857	\$70,549	\$76,268	\$80,937	\$84,625	\$87,389	\$89,586	\$91,189	\$92,354	\$92,273	\$92,273	\$92,237	\$92,222	\$92,207	\$92,228	\$46,103	\$46,099	\$46,096	\$46,117	\$46,117	
2044	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	N/A	SF	Retrofit	\$75,576	\$81,716	\$86,752	\$90,720	\$93,763	\$95,976	\$97,726	\$98,979	\$98,889	\$98,808	\$98,808	\$98,773	\$98,757	\$98,743	\$98,763	\$49,371	\$49,367	\$49,363	\$49,384	\$49,384	
2045	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$77,431	\$83,811	\$89,079	\$93,329	\$93,329	
2046	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2047	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$26,883	\$33,030	\$39,512	\$45,990	\$52,125	\$57,659	\$62,407	\$66,330	\$69,464	\$71,909	\$73,765	\$75,158	\$76,191	\$76,202	\$76,202	
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2058	Building Shell	Duct Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,090	\$41,894	\$50,131	\$58,373	
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	\$58,064	\$95,659	\$118,990	\$148,496	\$164,681	\$173,448	\$184,601	\$204,324	\$223,398	\$238,569	\$238,561	\$229,100	\$209,259	\$201,849	\$191,274	\$170,985	\$302,875	\$303,816	\$304,868	\$304,868	
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	\$125,384	\$206,654	\$257,177	\$321,130	\$356,339	\$375,627	\$399,882	\$442,763	\$484,265	\$517,311	\$517,296	\$496,847	\$453,844	\$437,798	\$414,830	\$370,858	\$656,940	\$659,000	\$661,175	\$661,175	
2066	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	\$7,264	\$8,677	\$10,083	\$11,404	\$12,584	\$13,574	\$14,412	\$15,071	\$15,578	\$15,960	\$13,010	\$13,182	\$13,178	\$13,175	\$13,179	\$13,175	\$13,173	\$13,173	\$13,172	\$13,181	
2067	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	\$8,554	\$9,681	\$10,689	\$11,545	\$12,243	\$12,779	\$13,214	\$13,537	\$13,774	\$13,947	\$11,157	\$11,151	\$11,149	\$11,146	\$11,150	\$11,146	\$11,145	\$11,143	\$11,143	\$11,150	\$11,150
2068	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	\$9,031	\$9,250	\$9,408	\$9,517	\$9,496	\$9,466	\$9,457	\$9,444	\$9,432	\$9,421	\$7,536	\$7,533	\$7,531	\$7,529	\$7,531	\$7,529	\$7,528	\$7,528	\$7,528	\$7,532	\$7,532
2069	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,417	\$3,415	\$3,415	\$3,414	\$3,415	\$3,414	\$3,413	\$3,413	\$3,413	\$3,415	
2070	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	\$8,521	\$8,508	\$8,494	\$8,477	\$8,459	\$8,433	\$8,426	\$8,415	\$8,404	\$8,395	\$6,716	\$6,713	\$6,711	\$6,710	\$6,712	\$6,710	\$6,709	\$6,708	\$6,712	\$6,712	\$6,712
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2073	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	\$56,519	\$72,725	\$91,574	\$112,497	\$134,566	\$156,593	\$177,501	\$196,299	\$212,441	\$225,763	\$236,441	\$244,728	\$251,050	\$255,792	\$259,326	\$259,313	\$259,308	\$259,303	\$259,303	\$259,330	\$259,330
2074	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	\$51,995	\$66,888	\$84,201	\$103,408	\$123,654	\$143,827	\$163,008	\$180,236	\$195,020	\$207,214	\$217,014	\$224,604	\$230,399	\$234,743	\$237,997	\$237,974	\$237,966	\$237,958	\$237,958	\$238,004	\$238,004
2075	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	\$13,467	\$17,320	\$21,796	\$26,759	\$31,987	\$37,185	\$42,138	\$46,581	\$50,391	\$53,532	\$56,063	\$58,019	\$59,514	\$60,634	\$61,478	\$61,469	\$61,465	\$61,462	\$61,480	\$61,480	\$61,480
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	\$97,997	\$123,344	\$151,467	\$181,082	\$210,635	\$238,468	\$263,672	\$285,253	\$303,029	\$317,200	\$328,346	\$336,768	\$343,107	\$347,799	\$347,843	\$347,797	\$347,780	\$347,764	\$347,756	\$347,856	\$347,856
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	\$277,891	\$341,318	\$408,183	\$474,903	\$537,989	\$594,443	\$643,256	\$683,413	\$715,413	\$740,253	\$759,405	\$773,639	\$784,230	\$784,173	\$784,252	\$784,169	\$784,138	\$784,110	\$784,275	\$784,275	\$784,275
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	\$28,082	\$35,330	\$43,366	\$51,817	\$60,240	\$68,144	\$75,328	\$81,466	\$86,514	\$90,532	\$93,713	\$96,104	\$97,908	\$99,241	\$99,261	\$99,240	\$99,232	\$99,225	\$99,225	\$99,267	\$99,267
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	\$3,820	\$4,808	\$5,904	\$7,058	\$8,209	\$9,293	\$10,275	\$11,116	\$11,808	\$12,360	\$12,794	\$13,122	\$13,369	\$13,552	\$13,554	\$13,552	\$13,551	\$13,551	\$13,551	\$13,554	\$13,554
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	\$532	\$683	\$860	\$1,055	\$1,260	\$1,463	\$1,658	\$1,832	\$1,981	\$2,103	\$2,203	\$2,279	\$2,338	\$2,382	\$2,415	\$2,414	\$2,414	\$2,414	\$2,414	\$2,415	\$2,415
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	\$13,405	\$16,871	\$20,717	\$24,766	\$28,805	\$32,608	\$36,054	\$39,003	\$41,431	\$43,367	\$44,891	\$46,042	\$46,908	\$47,549	\$47,556	\$47,549	\$47,546	\$47,544	\$47,544	\$47,557	\$47,557
2087	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	MF	Retrofit	\$5,3																				

Ameren MO		Program RAP Measure Costs				Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	19																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
5087	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	ROB	\$547	\$748	\$1,017	\$1,370	\$1,824	\$2,393	\$3,082	\$3,884	\$4,776	\$5,719	\$6,665	\$7,563	\$8,374	\$9,074	\$9,655	\$10,122	\$10,489	\$10,772	\$10,987	
5088	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	ROB	\$1,113	\$1,513	\$2,039	\$2,715	\$3,564	\$4,591	\$5,788	\$7,119	\$8,526	\$9,936	\$11,279	\$12,492	\$13,540	\$14,412	\$15,115	\$15,668	\$16,096	\$16,424	\$16,674	
5089	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	ROB	\$2,061	\$2,821	\$3,833	\$5,163	\$6,874	\$9,015	\$11,609	\$14,630	\$17,989	\$21,538	\$25,096	\$28,473	\$31,520	\$34,147	\$36,326	\$38,076	\$39,447	\$40,503	\$41,305	
5090	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	HVAC	MF	ROB	\$1,679	\$1,988	\$2,223	\$2,463	\$2,670	\$2,841	\$2,979	\$3,087	\$3,171	\$3,234	\$3,289	\$3,295	\$3,300	\$3,306	\$3,312	\$3,318	\$3,324	\$3,330	\$3,330	
5091	HVAC Equipment	DFHP - SEER 19	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5092	HVAC Equipment	DFHP - SEER 20	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5093	HVAC Equipment	DFHP - SEER 21	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5094	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	ROB	\$521	\$713	\$969	\$1,307	\$1,741	\$2,284	\$2,944	\$3,712	\$4,566	\$5,470	\$6,379	\$7,243	\$8,025	\$8,701	\$9,264	\$9,719	\$10,078	\$10,357	\$10,571	
5095	HVAC Equipment	Integrated Space and Water Heater	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5096	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5097	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5098	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5099	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	\$1,750	\$2,823	\$3,435	\$4,199	\$4,870	\$4,740	\$4,979	\$5,460	\$5,932	\$6,312	\$10,479	\$11,762	\$11,450	\$11,749	\$11,392	\$10,615	\$14,090	\$14,439	\$14,820	
5100	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5101	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	\$893	\$1,243	\$1,331	\$1,459	\$1,452	\$1,389	\$1,370	\$1,432	\$1,500	\$1,553	\$2,525	\$2,790	\$2,711	\$2,777	\$2,687	\$2,499	\$3,310	\$3,386	\$3,468	
5102	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5103	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	NC	\$4,227	\$6,606	\$7,796	\$9,258	\$9,819	\$9,957	\$10,262	\$11,073	\$11,872	\$12,492	\$12,351	\$11,650	\$10,504	\$10,139	\$9,612	\$8,599	\$15,243	\$15,301	\$23,595	
5104	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	NC	\$2,721	\$4,255	\$5,024	\$5,970	\$6,335	\$6,427	\$6,627	\$7,154	\$7,673	\$8,076	\$7,990	\$7,541	\$6,803	\$6,571	\$6,234	\$5,581	\$9,899	\$9,943	\$15,343	
5105	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	NC	\$2,700	\$4,109	\$4,732	\$5,499	\$5,728	\$5,723	\$5,830	\$6,235	\$6,640	\$6,952	\$6,781	\$6,397	\$5,768	\$5,280	\$4,724	\$6,374	\$6,407	\$12,965	\$16,929	
5106	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5107	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	NC	\$190	\$349	\$493	\$713	\$930	\$1,163	\$1,473	\$1,935	\$2,485	\$3,072	\$3,490	\$3,733	\$3,725	\$3,893	\$3,925	\$3,679	\$6,754	\$6,958	\$10,937	
5108	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	NC	\$387	\$705	\$989	\$1,413	\$1,816	\$2,231	\$2,767	\$3,546	\$4,437	\$5,337	\$5,906	\$6,167	\$6,023	\$6,184	\$6,145	\$5,695	\$10,364	\$10,609	\$16,598	
5109	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	NC	\$714	\$1,310	\$1,853	\$2,678	\$3,491	\$4,367	\$5,532	\$7,264	\$9,331	\$11,532	\$13,098	\$14,009	\$13,974	\$14,604	\$14,720	\$13,795	\$25,317	\$26,077	\$40,982	
5110	HVAC Equipment	Ductless ASHP - replace on fail MF NC	HVAC	MF	NC	\$1,167	\$1,825	\$2,156	\$2,563	\$2,721	\$2,762	\$2,848	\$3,076	\$3,300	\$3,475	\$3,439	\$3,247	\$2,931	\$2,832	\$2,688	\$2,408	\$4,273	\$4,294	\$6,629	
5111	HVAC Equipment	DFHP - SEER 19	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5112	HVAC Equipment	DFHP - SEER 20	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5113	HVAC Equipment	DFHP - SEER 21	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5114	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	NC	\$13	\$24	\$34	\$50	\$65	\$81	\$103	\$135	\$174	\$233	\$353	\$461	\$518	\$566	\$596	\$604	\$597	\$840	\$882	\$1,183
5115	HVAC Equipment	Integrated Space and Water Heater	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6001	Lighting	LED - 10W (CFL baseline)	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6002	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6003	Lighting	LED - 10W (Halogen baseline)	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6004	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6005	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6006	Lighting	LED - 12W (Replacing CFL)	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6007	Lighting	LED - 12W (Halogen baseline)	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6008	Lighting	LED - 15W (CFL baseline)	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6009	Lighting	LED - 15W (Halogen baseline)	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6010	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6011	Lighting	LED - 20W (CFL baseline)	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6012	Lighting	LED - 20W (Halogen baseline)	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6013	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	SF	ROB	\$7,162	\$8,132	\$7,757	\$8,413	\$8,960	\$9,402	\$9,751	\$10,023	\$10,233	\$4,124	\$3,292	\$2,941	\$1,894	\$1,358	\$928	\$593	\$336	\$144	\$6,391	\$6,391
6014	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	SF	ROB	\$20,554	\$23,445	\$24,422	\$26,610	\$28,471	\$30,015	\$31,276	\$32,299	\$33,130	\$13,414	\$10,758	\$8,343	\$6,247	\$4,499	\$3,090	\$1,983	\$1,131	\$485	\$21,685	\$21,685
6015	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	SF	ROB	\$7,317	\$8,310	\$7,956	\$8,630	\$9,193	\$9,648	\$10,009	\$10,290	\$10,508	\$4,236	\$3,382	\$2,611	\$1,946	\$1,395	\$954	\$610	\$346	\$148	\$6,576	\$6,576
6016	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	SF	ROB	\$20,002	\$22,813	\$23,715	\$25,838	\$27,642	\$29,138	\$30,359	\$31,349	\$32,153	\$13,017	\$10,439	\$8,094	\$6,060	\$4,364	\$2,997	\$1,923	\$1,097	\$470	\$21,025	\$21,025
6017	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6018	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Lighting	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6019	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	SF	ROB	\$10,294	\$9,953	\$10,077	\$10,944	\$11,671	\$12,264	\$12,737	\$13,111	\$13,405	\$5,410	\$4,325	\$3,343	\$2,495	\$1,791	\$1,226	\$784	\$446	\$190	\$8,492	\$8,492
6020	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	SF	ROB	\$13,225	\$13,309	\$13,826	\$15,043	\$16,072	\$16,919	\$17,604	\$18,154	\$18,594	\$7,517	\$6,021	\$4,662	\$3,486	\$2,507	\$1,719	\$1,102	\$628	\$269	\$11,998	\$11,998
6021	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	SF	ROB	\$5,578	\$6,335	\$7,020	\$7,612	\$8,105	\$8,503	\$8,818	\$9,062	\$9,251	\$3,727	\$2,975	\$2,296	\$1,711	\$1,226	\$838	\$535	\$304	\$130	\$5,766	\$5,766
6022	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	SF	ROB	\$14,650	\$16,722	\$18,625	\$20,300	\$21,726	\$22,911	\$23,881	\$24,670	\$25,313	\$10,252	\$8,225	\$6,380	\$4,778	\$						

Ameren MO		Program RAP Measure Costs		Incentives and Admin																						
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	\$189,444	\$252,717	\$332,170	\$428,710	\$541,473	\$667,281	\$800,731	\$934,910	\$1,062,903	\$1,179,084	\$1,280,883	\$1,366,326	\$1,436,207	\$1,492,186	\$1,536,863	\$1,571,490	\$1,599,119	\$1,605,173	\$1,611,285	\$1,611,285	
8002	Water Heating	Solar Domestic Water Heater	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8003	Water Heating	Water Heater Wrap	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8004	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	\$35,286	\$35,469	\$35,653	\$35,839	\$36,027	\$36,217	\$36,409	\$36,602	\$36,798	\$36,996	\$37,195	\$37,397	\$37,600	\$37,806	\$38,014	\$38,223	\$38,435	\$38,649	\$38,865	\$38,865	
8005	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8006	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	Retrofit	\$92,707	\$98,808	\$103,765	\$107,708	\$110,803	\$113,215	\$115,098	\$116,425	\$117,256	\$117,689	\$117,626	\$117,677	\$117,110	\$117,457	\$117,808	\$118,162	\$118,520	\$118,881	\$119,246	\$119,246	
8007	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8008	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8009	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8010	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	ROB	\$67,082	\$67,443	\$67,806	\$68,174	\$68,545	\$68,920	\$69,298	\$69,680	\$70,067	\$70,457	\$70,850	\$71,248	\$71,650	\$72,056	\$72,466	\$72,880	\$73,298	\$73,720	\$74,147	\$74,147	
8011	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	\$4,395	\$7,866	\$10,757	\$14,897	\$18,425	\$21,654	\$25,561	\$31,098	\$36,934	\$42,293	\$44,784	\$45,036	\$42,657	\$77,374	\$89,542	\$89,035	\$124,322	\$123,855	\$122,006	\$122,006	
8012	Water Heating	Solar Domestic Water Heater	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8013	Water Heating	Water Heater Wrap	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8014	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	\$2,028	\$2,735	\$2,860	\$3,085	\$3,037	\$2,912	\$2,879	\$3,016	\$3,168	\$3,288	\$3,360	\$3,938	\$5,783	\$5,838	\$5,761	\$5,371	\$7,134	\$7,315	\$7,512	\$7,512	
8015	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8016	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	NC	\$5,002	\$7,153	\$7,816	\$8,705	\$8,769	\$8,545	\$8,545	\$8,930	\$9,355	\$9,685	\$15,750	\$17,405	\$16,911	\$17,320	\$16,762	\$15,589	\$20,651	\$21,123	\$21,637	\$21,637	
8017	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8018	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8019	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8020	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	NC	\$123	\$198	\$241	\$295	\$321	\$334	\$351	\$385	\$418	\$446	\$740	\$832	\$810	\$832	\$807	\$753	\$1,000	\$1,026	\$1,054	\$1,054	
8021	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	\$13,064	\$17,619	\$23,486	\$30,846	\$39,782	\$50,209	\$61,830	\$74,138	\$86,498	\$98,267	\$108,983	\$118,279	\$126,059	\$132,380	\$137,411	\$141,354	\$144,427	\$146,824	\$147,236	\$147,236	
8022	Water Heating	Solar Domestic Water Heater	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8023	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8024	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8025	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8026	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8027	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8028	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8029	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8030	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8031	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8032	Water Heating	Common Area Low Flow Showerhead	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8033	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	Retrofit	\$9,017	\$9,071	\$9,125	\$9,179	\$9,234	\$9,290	\$9,346	\$9,403	\$9,460	\$9,518	\$9,577	\$9,636	\$9,696	\$9,756	\$9,817	\$9,878	\$9,941	\$10,003	\$10,067	\$10,067	\$10,067
8034	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8035	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	ROB	\$6,625	\$6,654	\$6,682	\$6,710	\$6,739	\$6,769	\$6,798	\$6,828	\$6,858	\$6,888	\$6,919	\$6,950	\$6,981	\$7,013	\$7,045	\$7,077	\$7,109	\$7,142	\$7,176	\$7,176	
8036	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	\$301	\$845	\$796	\$1,065	\$1,345	\$1,619	\$1,961	\$2,450	\$2,986	\$3,502	\$3,786	\$3,874	\$3,720	\$6,821	\$7,956	\$7,957	\$11,157	\$11,257	\$11,078	\$11,078	
8037	Water Heating	Solar Domestic Water Heater	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8038	Water Heating	Water Heater Wrap	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8039	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8040	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	\$318	\$429	\$450	\$487	\$490	\$461	\$457	\$480	\$506	\$526	\$860	\$955	\$932	\$959	\$933	\$872	\$1,160	\$1,192	\$1,227	\$1,227	
8041	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8042	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	NC	\$201	\$272	\$284	\$306	\$301	\$289	\$285	\$299	\$314	\$326	\$531	\$588	\$572	\$587	\$570	\$531	\$705	\$723	\$742	\$742	
8043	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8044	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8045	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	NC	\$886	\$1,197	\$1,254	\$1,355	\$1,356	\$1,282	\$1,270	\$1,333	\$1,402	\$1,457	\$2,379										

Ameren MO		Program RAP Measure Costs				Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$390,715
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER1	\$137,865	\$144,873	\$150,699	\$155,341	\$159,041	\$161,818	\$162,411	\$162,985	\$163,561	\$164,148	\$164,984	\$165,804	\$166,655	\$167,523	\$168,456	\$169,365	\$170,298	\$171,244	\$171,244	\$172,203
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$81,262	\$85,551	\$89,020	\$91,807	\$94,248	\$96,243	\$96,969	\$97,708	\$98,503	\$99,277	\$100,072	\$100,878	\$100,878	\$101,695
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,019
10013	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER1	\$596,836	\$600,024	\$603,272	\$606,473	\$609,687	\$612,136	\$614,612	\$617,003	\$619,405	\$621,852	\$625,341	\$628,759	\$632,310	\$635,930	\$639,822	\$643,610	\$647,501	\$651,447	\$651,447	\$655,447
10014	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$398,431	\$400,517	\$402,610	\$404,744	\$407,786	\$410,765	\$413,861	\$417,017	\$420,410	\$423,712	\$427,105	\$430,545	\$430,545	\$434,032
10015	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$591,632
10016	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10017	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10018	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10019	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER1	\$1,837,985	\$1,866,873	\$1,870,525	\$1,874,121	\$1,877,733	\$1,880,484	\$1,883,266	\$1,885,953	\$1,888,651	\$1,891,401	\$1,895,322	\$1,899,162	\$1,903,152	\$1,907,220	\$1,911,593	\$1,915,848	\$1,920,221	\$1,924,655	\$1,924,655	\$1,929,149
10020	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$102,646	\$104,604	\$105,151	\$105,708	\$106,503	\$107,281	\$108,089	\$108,914	\$109,800	\$110,662	\$111,548	\$112,447	\$112,447	\$113,357
10021	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,040,736
10022	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER1	\$2,196,195	\$2,200,002	\$2,203,881	\$2,207,704	\$2,211,543	\$2,214,468	\$2,217,425	\$2,220,281	\$2,223,149	\$2,226,072	\$2,230,240	\$2,234,321	\$2,238,562	\$2,242,886	\$2,247,535	\$2,252,058	\$2,256,707	\$2,261,419	\$2,261,419	\$2,266,196
10023	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$146,093	\$146,858	\$147,626	\$148,408	\$149,523	\$150,616	\$151,751	\$152,908	\$154,152	\$155,363	\$156,607	\$157,869	\$157,869	\$159,147
10024	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$897,991
10025	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER1	\$2,560,289	\$2,564,312	\$2,568,411	\$2,572,451	\$2,576,508	\$2,579,599	\$2,582,723	\$2,585,742	\$2,588,773	\$2,591,862	\$2,596,266	\$2,600,579	\$2,605,061	\$2,609,630	\$2,614,542	\$2,619,323	\$2,624,235	\$2,629,215	\$2,629,215	\$2,634,263
10026	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$159,519	\$160,354	\$161,192	\$162,046	\$163,264	\$164,457	\$165,697	\$166,960	\$168,319	\$169,641	\$170,999	\$172,376	\$172,376	\$173,773
10027	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,260,308
10028	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10029	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10030	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10031	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER1	\$56,396	\$59,234	\$61,494	\$63,266	\$64,649	\$65,682	\$65,827	\$65,967	\$66,107	\$66,250	\$66,454	\$66,654	\$66,862	\$67,073	\$67,301	\$67,522	\$67,750	\$67,980	\$67,980	\$68,214
10032	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$4,039	\$4,252	\$4,424	\$4,563	\$4,684	\$4,783	\$4,819	\$4,856	\$4,895	\$4,934	\$4,973	\$5,013	\$5,013	\$5,054
10033	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,224
10034	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER1	\$85,325	\$89,584	\$92,966	\$95,609	\$97,661	\$99,193	\$99,383	\$99,566	\$99,750	\$99,937	\$100,204	\$100,466	\$100,738	\$101,015	\$101,313	\$101,603	\$101,901	\$102,203	\$102,203	\$102,509
10035	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$10,541	\$11,097	\$11,547	\$11,908	\$12,225	\$12,484	\$12,578	\$12,674	\$12,777	\$12,877	\$12,981	\$13,085	\$13,191	\$13,191
10036	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$39,509
10037	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER1	\$124,490	\$137,890	\$149,465	\$159,082	\$166,830	\$172,869	\$177,524	\$181,064	\$183,740	\$183,927	\$184,193	\$184,454	\$184,724	\$185,001	\$185,298	\$185,587	\$185,884	\$186,185	\$186,185	\$186,490
10038	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$9,062	\$10,077	\$10,965	\$11,717	\$12,363	\$12,891	\$13,324	\$13,680	\$13,981	\$14,091	\$14,204	\$14,318	\$14,318	\$14,434
10039	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$91,002
10040	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER1	\$19,507	\$19,572	\$19,639	\$19,704	\$19,770	\$19,820	\$19,871	\$19,919	\$19,968	\$20,018	\$20,090	\$20,160	\$20,232	\$20,306	\$20,386	\$20,463	\$20,543	\$20,623	\$20,623	\$20,705
10041	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$3,290	\$3,307	\$3,324	\$3,342	\$3,367	\$3,392	\$3,417	\$3,443	\$3,471	\$3,498	\$3,526	\$3,555	\$3,555	\$3,584
10042	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,483
10043	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	\$26,590	\$32,806	\$39,413	\$46,069	\$52,434	\$58,172	\$63,159	\$67,327	\$70,715	\$73,415	\$75,630	\$77,375	\$78,771	\$79,108	\$79,470	\$79,823	\$80,186	\$80,553	\$80,553	\$80,926
10044	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$13,649	\$16,862	\$20,283	\$23,741	\$27,117	\$30,215	\$32,954	\$35,294	\$37,265	\$38,877	\$40,202	\$41,293	\$41,293	\$42,201
10045	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,268
10046	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	\$26,428	\$32,603	\$39,166	\$45,777	\$52,097	\$57,795	\$62,745	\$66,882	\$70,244	\$72,921	\$75,114	\$76,841	\$78,220	\$78,548	\$78,901	\$79,244	\$79,597	\$79,954	\$79,954	\$80,316
10047	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$13,367	\$16,514	\$19,864	\$23,251	\$26,558	\$29,591	\$32,274	\$34,566	\$36,495	\$38,074	\$39,372	\$40,440	\$40,440	\$41,329
10048	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,971
10049	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER1	\$5,771	\$7,912	\$10,776	\$14,543	\$19,399	\$25,480	\$32,864	\$41,476	\$51,074	\$61,241	\$71,511	\$81,303	\$90,197	\$97,928	\$104,422	\$109,701	\$113,916	\$117,239	\$117,239	\$119,845
10050	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$2,092	\$2,875	\$3,925	\$5,311	\$7,119	\$9,400	\$12,190	\$15,471	\$19,167	\$23,116	\$27,130	\$31,005	\$31,005	\$34,575
10051	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,897
10052	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER1	\$1,651	\$2,267	\$3,092	\$4,179	\$5,582	\$7,339	\$9,475	\$11,971	\$14,755	\$17,711	\$20,710	\$23,579	\$26,196	\$28,483	\$30,419	\$32,004	\$33,285	\$34,309	\$34,309	\$35,125
10053	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$825	\$1,134	\$1,548	\$2,095	\$2,808	\$3,707	\$4,808	\$6,102	\$7,560	\$9,118	\$10,701	\$12,229	\$12,229	\$13,637
10054	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER3	\$0	\$0	\$0	\$0																

Ameren MO		Program RAP Measure Costs		Incentives and Admin																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10065	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$3,521	\$3,831	\$4,094	\$4,310	\$4,495	\$4,645	\$4,769	\$4,871	\$4,911	\$4,949	\$4,989	\$5,029	\$5,070
10066	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$40,580
10067	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10068	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10069	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10070	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER1	\$608	\$827	\$1,116	\$1,488	\$1,955	\$2,521	\$3,181	\$3,916	\$4,695	\$5,476	\$6,223	\$6,901	\$7,489	\$7,980	\$8,381	\$8,699	\$8,948	\$9,143	\$9,295
10071	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$35	\$47	\$64	\$86	\$113	\$147	\$186	\$231	\$279	\$327	\$374	\$417	\$455
10072	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$282
10073	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER1	\$672	\$915	\$1,234	\$1,646	\$2,162	\$2,788	\$3,517	\$4,330	\$5,190	\$6,053	\$6,879	\$7,627	\$8,277	\$8,819	\$9,261	\$9,612	\$9,887	\$10,101	\$10,268
10074	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$75	\$103	\$139	\$186	\$246	\$318	\$404	\$500	\$603	\$708	\$809	\$902	\$985
10075	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$453
10076	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10077	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10078	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10079	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10080	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10081	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Ameren MO		Program RAP Participants by Measure			Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	Building Shell	Duct Insulation	N/A	SF	Retrofit	302	371	444	518	587	649	703	747	782	810	830	846	858	858	858	858	858	858	858
2017	Building Shell	Duct Sealing	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018	Building Shell	Floor Insulation	N/A	SF	Retrofit	15	18	22	26	29	32	35	37	39	40	41	42	42	42	42	42	42	42	42
2019	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	10	13	15	18	20	22	24	26	27	28	29	29	30	30	30	30	30	30	30
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	326	401	479	558	633	700	758	805	844	873	896	913	925	925	925	925	925	925	925
2022	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	SF	Retrofit	30	37	45	52	59	65	71	75	79	81	82	83	83	83	83	83	83	83	83
2023	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	SF	Retrofit	30	37	45	52	59	65	71	75	79	81	82	83	83	83	83	83	83	83	83
2024	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	30	37	45	52	59	65	71	75	79
2025	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2026	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2027	Building Shell	Radiant Barrier	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2028	Building Shell	Cool Roof	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2029	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	96	124	156	192	230	268	304	336	363	386	405	419	430	438	444	444	444	444	444
2030	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	60	78	98	120	144	167	190	210	227	241	253	262	269	274	277	277	277	277	277
2031	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	7	9	12	14	17	20	23	25	27	29	30	31	32	33	33	33	33	33	33
2032	Building Shell	Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2033	Building Shell	Storm Windows	N/A	SF	Retrofit	181	223	266	310	352	389	421	448	469	485	498	507	514	514	514	514	514	514	514
2034	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2035	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2036	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2037	Building Shell	Duct Insulation	N/A	SF	Retrofit	61	75	89	104	118	131	141	150	157	163	167	170	173	173	173	173	173	173	
2038	Building Shell	Duct Sealing	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2039	Building Shell	Floor Insulation	N/A	SF	Retrofit	3	4	4	5	6	6	7	7	8	8	8	8	9	9	9	9	9	9	9
2040	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	2	3	3	4	4	4	5	5	5	6	6	6	6	6	6	6	6	6	6
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2042	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2043	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	N/A	SF	Retrofit	329	363	393	418	438	453	465	474	480	480	480	480	480	480	480	240	240	240	240
2044	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	N/A	SF	Retrofit	337	364	387	406	420	431	439	445	445	445	445	445	445	445	445	222	222	222	222
2045	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	308	333	354	371	
2046	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2047	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	0	0	0	0	0	100	122	146	170	193	214	231	246	258	267	274	279	283	283
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2058	Building Shell	Duct Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	89	107	124	
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	40	67	83	104	115	121	129	143	156	167	167	161	147	142	134	120	212	213	214
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	86	142	177	221	245	259	276	305	334	357	357	343	313	302	286	256	454	455	456
2066	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	27	33	38	43	48	52	55	58	60	61	50	51	51	51	51	51	51	51	51
2067	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	29	32	36	39	41	43	45	46	47	47	38	38	38	38	38	38	38	38	38
2068	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	27	28	28	29	29	29	29	29	29	29	23	23	23	23	23	23	23	23	23
2069	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	19	19	19	19	19	19	19	19	19
2070	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	23	23	23	23	23	23	23	23	23	23	19	19	19	19	19	19	19	19	19
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2073	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	130	167	210	258	309	360	408	451	489	519	544	563	578	589	597	597	597	597	597

Ameren MO			Program RAP Participants by Measure		Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Replacement																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2074	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	110	142	179	220	263	306	347	384	415	442	462	479	491	500	507	507	507	507	507
2075	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	26	33	42	52	62	72	82	90	98	104	109	113	116	118	119	119	119	119	119
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	241	303	373	446	519	588	651	705	749	784	812	833	849	860	860	860	860	860	860
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	325	399	478	556	631	697	755	802	840	870	892	909	922	922	922	922	922	922	922
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	118	148	182	218	254	288	318	344	366	383	397	407	415	421	421	421	421	421	421
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	7	9	10	13	15	17	18	20	21	22	23	23	24	24	24	24	24	24	24
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	6	8	10	12	15	17	19	21	23	24	26	26	27	28	28	28	28	28	28
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	95	120	147	176	205	232	257	278	295	309	320	328	335	339	339	339	339	339	339
2087	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	MF	Retrofit	9	11	14	16	18	20	22	23	24	25	13	13	13	13	13	13	13	13	13
2088	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	MF	Retrofit	9	11	13	14	16	17	18	19	20	20	10	11	11	11	11	11	11	11	11
2089	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	9	10	11	12	13	13	14	14	14
2090	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2091	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2094	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	0	0	0	0	0	23	30	38	47	56	65	74	82	88	94	98	102	104	106
2095	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	20	26	32	40	47	55	63	69	75	80	84	86	89	90	92	92	92	92	92
2096	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	5	6	8	9	11	13	15	16	18	19	20	20	21	21	22	22	22	22	22
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	40	49	59	69	78	86	93	99	104	108	110	113	114	114	114	114	114	114	114
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	18	23	28	33	39	44	49	53	56	59	61	62	64	64	64	64	64	64	64
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	1	1	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	1	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2108	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	20	26	32	40	48	55	63	69	75	80	84	87	89	90	92	46	46	46	46
2109	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	24	31	38	45	53	60	66	72	76	80	82	85	86	87	87	44	44	44	44
2110	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	28	35	42	
2111	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2112	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	39	39	39	39
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7	8	9	
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	12	19	24	30	33	35	37	41	45	48	48	46	42	41	38	34	61	61	61
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	507	693	941	1,266	1,684	2,208	2,842	3,579	4,399	5,264	6,129	6,948	7,686	8,320	8,843	9,262	9,587	9,835	10,021

Ameren MO		Program RAP Participants by Measure			Incremental Annual Participants																						
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																					
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	0	0	0	0	0	24,893	26,460	27,711	28,685	29,427	29,984	30,397	30,397	30,397	30,397	30,397	30,397	30,397	30,397	30,397	30,397	30,397
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	0	0	0	0	0	81	110	150	202	268	352	453	570	701	839	977	1,107	1,225	1,326			
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	319	794	1,327	1,925	2,528	3,113	3,692	4,250	4,834	5,436	6,023	6,577	7,076	7,557	8,013	8,420	9,142	9,866	10,593			
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	4	8	12	17	22	47	68	90	117	140	212	254	280	311	327	406	508	520	541			
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	0	0	0	0	0	412	512	618	727	839	947	1,048	1,128	1,204	1,277	1,342	1,457	1,573	1,688			
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	0	0	0	0	0	2	3	4	5	7	12	17	21	26	31	43	59	65	72			
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	1,631	1,733	1,815	1,879	1,928	1,964	1,991	1,991	1,991	1,991	1,991	1,991	1,991	1,991	1,991	1,991	1,991	1,991	1,991	1,991	1,991	
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	5	7	10	13	18	23	30	37	46	55	64	73	80	87	92	97	100	103	105			
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	0	0	0	0	0	11,102	11,801	12,359	12,793	13,124	13,373	13,557	13,557	13,557	13,557	13,557	13,557	13,557	13,557	13,557	13,557	
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	0	0	0	0	0	36	49	67	90	120	157	202	254	313	374	436	494	546	591			
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	3	8	14	20	26	33	39	44	50	57	63	69	74	79	84	88	95	103	111			
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	0	0	0	0	0	0	1	1	1	1	2	3	3	3	3	4	5	5	6			
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	0	0	0	0	0	184	228	275	324	374	422	467	503	537	570	599	650	701	753			
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	0	0	0	0	0	1	1	2	2	3	5	7	9	12	14	19	26	29	32			
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4001	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	1,066	1,458	1,980	2,664	3,545	4,646	5,980	7,532	9,257	11,077	12,897	14,622	16,174	17,508	18,609	19,490	20,175	20,697	21,088			
4002	Electronics	Advanced Tier 1 Power Strips - Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4003	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4004	Electronics	ENERGY STAR Display	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4005	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4006	Electronics	ENERGY STAR PC	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4007	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4008	Electronics	ENERGY STAR TV	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4009	Electronics	Smart Residential Outlet	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4010	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	19	35	49	71	92	116	146	192	246	304	375	448	526	609	697	790	888	990	1,108	1,221	1,326	
4011	Electronics	Advanced Tier 1 Power Strips - Kits - Unknown Location	Energy Efficient Kits	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4012	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4013	Electronics	ENERGY STAR Display	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4014	Electronics	ENERGY STAR Laptop	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4015	Electronics	ENERGY STAR PC	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4016	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4017	Electronics	ENERGY STAR TV	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4018	Electronics	Smart Residential Outlet	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4019	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	47	64	87	117	156	204	263	331	406	486	566	642	710	769	817	856	886	909	926			
4020	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	MF	Retrofit	47	64	87	117	156	205	264	332	408	488	569	645	713	772	821	859	890	913	930			
4021	Electronics	Advanced Tier 1 Power Strips - Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4022	Electronics	Advanced Tier 1 Power Strips - Kits - Unknown Location	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4023	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4024	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	928	1,111	1,293	1,466	1,622	1,756	1,866	1,954	2,023	2,075	2,115	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	
4025	Electronics	ENERGY STAR Display	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4026	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4027	Electronics	ENERGY STAR PC	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4028	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4029	Electronics	ENERGY STAR TV	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Ameren MO			Program RAP Participants by Measure		Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4030	Electronics	Smart Residential Outlet	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4031	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	NC	1	2	2	3	4	5	6	8	11	13	25	32	34	37	38	37	51	53	55
4032	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	MF	NC	1	2	2	3	4	5	6	8	11	13	25	32	34	37	38	37	51	53	55
4033	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4035	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	NC	17	27	33	40	43	45	47	51	55	58	96	107	104	106	102	95	126	128	131
4037	Electronics	ENERGY STAR Display	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4038	Electronics	ENERGY STAR Laptop	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4039	Electronics	ENERGY STAR PC	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4040	Electronics	ENERGY STAR Sound Bar	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4041	Electronics	ENERGY STAR TV	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4042	Electronics	Smart Residential Outlet	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5001	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	SF	Recycle	101	130	163	201	240	280	317	351	379	403	422	437	449	457	463	463	463	463	
5002	HVAC Equipment	Dirty Filter Alarm_SF:Kits	Energy Efficient Kits	SF	Retrofit	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	11,020	
5003	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5004	HVAC Equipment	Smart Ceiling Fan	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5005	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	SF	Retrofit	0	0	0	0	0	3,279	3,364	3,428	3,475	3,475	3,475	3,475	3,475	3,475	3,475	3,475	3,475	3,475	
5006	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	Efficient Products	SF	Retrofit	4,300	4,411	4,495	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556	
5007	HVAC Equipment	Smart Vents/Sensors - HP	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5008	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	Efficient Products	SF	Retrofit	751	798	836	865	888	905	917	917	917	917	917	917	917	917	917	917	917	917	
5009	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5010	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	SF	Retrofit	8,098	8,608	9,015	9,332	9,573	9,754	9,889	9,889	9,889	9,889	9,889	9,889	9,889	9,889	9,889	9,889	9,889	9,889	
5011	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	HVAC	SF	ROB	104	117	130	141	149	156	162	166	169	172	172	172	172	172	172	172	172	172	
5012	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	HVAC	SF	ROB	101	115	127	137	146	153	158	163	166	168	168	168	168	168	168	168	168	168	
5013	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	HVAC	SF	ROB	102	113	122	130	136	141	144	147	149	149	149	149	149	149	149	149	149	149	
5014	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	SF	ROB	86	88	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	
5015	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	HVAC	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5016	HVAC Equipment	AC Tune-up / refrigerant charge SF	HVAC	SF	Retrofit	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	1,310	
5017	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	HVAC	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5018	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	HVAC	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5019	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	HVAC	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5020	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	HVAC	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5021	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	HVAC	SF	ROB	594	602	602	602	602	0	0	0	0	0	0	0	0	0	0	0	0	0	
5022	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	HVAC	SF	ROB	0	0	0	0	0	588	588	588	588	588	588	588	588	588	588	588	588	588	
5023	HVAC Equipment	Ductless AC - replace on fail SF	HVAC	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5024	HVAC Equipment	General HP tune-up (no charge or coil clean)	HVAC	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5025	HVAC Equipment	HP Tune-up / refrigerant charge SF	HVAC	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5026	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	HVAC	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5027	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	HVAC	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5028	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	HVAC	SF	ROB	97	108	117	124	130	134	138	140	142	142	142	142	142	142	142	142	142	142	
5029	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	HVAC	SF	ROB	72	75	78	80	81	82	82	82	82	82	82	82	82	82	82	82	82	82	
5030	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	SF	ROB	76	84	91	97	101	105	108	110	111	111	111	111	111	111	111	111	111	111	
5031	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	HVAC	SF	ROB	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	
5032	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	SF	ROB	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	
5033	HVAC Equipment	DFHP - SEER 19	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5034	HVAC Equipment	DFHP - SEER 20	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5035	HVAC Equipment	DFHP - SEER 21	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5036	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	SF	ROB	251	344	467	628	836	1,096	1,411	1,777	2,183	2,613	3,042	3,449	3,815	4,129	4,389	4,597	4,758	4,882	
5037	HVAC Equipment	Integrated Space and Water Heater	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5038	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5039	HVAC Equipment	Smart Ceiling Fan	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5040	HVAC Equipment	Smart Vents/Sensors - HP	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5041	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	Efficient Products	SF	NC	138	196	214	238	239	232	231	241	252	260	422	465	450	460	444	411	543	554	
5042	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5043	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	SF	NC	179	255	278	309	310	301	301	313	327	338	548	603	585	597	576	534	705	719	
5044	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	HVAC	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5045	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	HVAC	SF	NC	313	426	443	475	466	222	218	228	238	245	239	226	203	196	186	166	294	295	
5046	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	HVAC	SF	NC	313	426	443	475	466	222	218	228	238	245	239	226	203	196	186	166	294	295	
5047	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	HVAC	SF	NC	0	0	0	0	0	433	426	444	464	479	467	440	397	383	363	324	574	576	
5048	HVAC Equipment	Ductless AC - replace on fail SF	HVAC	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5049	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	HVAC	SF	NC	50	73	83	94	97	96	96	102	108	112	109	103	93	89	85	76	134	135	
5050	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	HVAC	SF	NC	49	68	73	81	81	78	77	80	84	86	84	79	71	69	65	58	103	104	

Ameren MO			Program RAP Participants by Measure		Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5051	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	SF	NC	33	49	55	63	65	64	64	68	72	75	73	69	62	60	56	50	89	90	138
5052	HVAC Equipment	Ductless ASHP - replace on fail SF NC	HVAC	SF	NC	38	51	53	56	55	53	52	54	56	58	57	54	48	47	44	39	70	70	108
5053	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	SF	NC	19	25	26	28	27	26	26	27	28	29	28	26	24	23	22	19	34	35	53
5054	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5055	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5056	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5057	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	SF	NC	6	12	16	24	31	39	49	64	83	168	219	246	268	282	285	282	396	415	555
5058	HVAC Equipment	Integrated Space and Water Heater	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5059	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	16	21	26	32	38	44	50	56	60	64	67	69	71	72	73	73	73	73	73
5060	HVAC Equipment	Dirty Filter Alarm_MF:Kits	Energy Efficient Kits	MF	Retrofit	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	Multifamily Market Rate	MF	Retrofit	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	1,268	
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5064	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5065	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	931	1,084	1,229	1,360	1,472	1,564	1,638	1,696	1,740	1,773	1,797	1,797	1,797	1,797	1,797	1,797	1,797	1,797	1,797
5066	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5067	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	142	169	197	224	247	268	285	298	309	317	323	327	327	327	327	327	327	327	327
5068	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5069	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	563	582	598	609	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617
5070	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	HVAC	MF	ROB	31	38	46	54	61	67	73	77	81	84	86	88	89	89	89	89	89	89	89
5071	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	HVAC	MF	ROB	31	38	46	53	60	67	72	77	81	83	86	87	88	88	88	88	88	88	88
5072	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	N/A	MF	ROB	27	33	40	46	52	58	63	67	70	72	74	76	77	77	77	77	77	77	77
5073	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	MF	ROB	4	5	7	9	12	16	20	26	32	38	44	50	55	60	63	66	69	70	72
5074	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5075	HVAC Equipment	AC Tune-up / refrigerant charge / MFMR	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5076	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5077	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5078	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5079	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	ROB	31	36	41	46	49	52	55	57	58	59	60	60	60	60	60	60	60	60	60
5080	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	ROB	62	73	82	91	99	105	110	114	117	119	120	120	120	120	120	120	120	120	120
5081	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	ROB	28	32	35	38	41	42	44	45	46	47	47	47	47	47	47	47	47	47	47
5082	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5083	HVAC Equipment	General HP tune-up (no charge or coil clean)	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5084	HVAC Equipment	HP Tune-up / refrigerant charge MF	N/A	MF	Retrofit	4	5	6	7	8	9	10	10	11	11	12	12	12	12	12	12	12	12	12
5085	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5086	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	N/A	MF	Retrofit	4	5	6	7	8	9	9	10	10	11	11	11	11	11	11	11	11	11	11
5087	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	ROB	2	3	4	5	7	9	11	14	18	21	25	28	31	33	35	37	38	39	40
5088	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	ROB	2	3	4	6	7	10	12	15	18	21	23	26	28	30	31	32	33	34	34
5089	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	ROB	2	3	4	5	7	9	11	14	18	21	25	28	31	34	36	37	39	40	40
5090	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	HVAC	MF	ROB	5	6	7	8	8	9	9	10	10	10	10	10	10	10	10	10	10	10	10
5091	HVAC Equipment	DFHP - SEER 19	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5092	HVAC Equipment	DFHP - SEER 20	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5093	HVAC Equipment	DFHP - SEER 21	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5094	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	ROB	21	28	39	52	69	91	117	147	181	216	252	286	316	342	364	381	394	404	412
5095	HVAC Equipment	Integrated Space and Water Heater	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5096	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5097	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5098	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5099	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	18	30	36	44	47	49	51	56	60	64	106	118	114	117	113	104	138	140	143
5100	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5101	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	13	18	19	21	21	20	19	20	21	22	35	39	38	39	37	35	46	47	48
5102	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5103	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	NC	16	25	29	34	36	37	38	41	44	46	46	43	39	37	35	32	56	56	87
5104	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	NC	16	25	29	34	36	37	38	41	44	46	46	43	39	37	35	32	56	56	87
5105	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	NC	7	11	12	14	15	15	15	16	17	18	18	17	15	14	14	12	22	22	34
5106	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5107	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	NC	1	1	2	3	3	4	5	7	9	11	13	14	14	14	14	14	25	25	40
5108	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	NC	1	1	2	3	4	5	6	7	9	11	12	13	12	13	13	12	21	22	34
5109	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	NC	1	1	2	3	3	4	5	7	9	11	13	14	14	14	14	25	25	40	
5110	HVAC Equipment	Ductless ASHP - replace on fail MF NC	HVAC	MF	NC	4	6	7	8	9	9	10	10	11	11	10	9	9	8	7	13	13	20	
5111	HVAC Equipment	DFHP - SEER 19	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5112	HVAC Equipment	DFHP - SEER 20	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5113	HVAC Equipment	DFHP - SEER 21	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5114	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	NC	1	1	1	2	3	3	4	5	7	14	18	20	22	23	24	23	33	34	46

Ameren MO		Program RAP Participants by Measure			Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6057	Lighting	LED - 10W (CFL baseline)	Lighting	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6058	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6059	Lighting	LED - 10W (CFL baseline)	Multifamily Market Rate	MF	ROB	869	985	1,090	1,179	1,254	1,313	1,359	1,394	1,421	571	455	351	261	187	127	81	46	20	869
6060	Lighting	LED - 10W (Halogen baseline)	Lighting	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6061	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6062	Lighting	LED - 10W (Halogen baseline)	Multifamily Market Rate	MF	ROB	869	985	1,090	1,179	1,254	1,313	1,359	1,394	1,421	571	455	351	261	187	127	81	46	20	869
6063	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6064	Lighting	LED - 12W (Replacing CFL)	Multifamily Market Rate	MF	ROB	869	985	1,090	1,179	1,254	0	0	0	0	-869	-985	-1,090	-1,179	-1,254	0	0	0	0	869
6065	Lighting	LED - 12W (Halogen baseline)	Multifamily Market Rate	MF	ROB	869	985	1,090	1,179	1,254	1,313	1,359	1,394	1,421	571	455	351	261	187	127	81	46	20	869
6066	Lighting	LED - 15W (CFL baseline)	Lighting	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6067	Lighting	LED - 15W (CFL baseline)	Multifamily Market Rate	MF	ROB	869	985	1,090	1,179	1,254	1,313	1,359	1,394	1,421	571	455	351	261	187	127	81	46	20	869
6068	Lighting	LED - 15W (Halogen baseline)	Lighting	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6069	Lighting	LED - 15W (Halogen baseline)	Multifamily Market Rate	MF	ROB	869	985	1,090	1,179	1,254	1,313	1,359	1,394	1,421	571	455	351	261	187	127	81	46	20	869
6070	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6071	Lighting	LED - 20W (CFL baseline)	Lighting	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6072	Lighting	LED - 20W (CFL baseline)	Multifamily Market Rate	MF	ROB	869	985	1,090	1,179	1,254	1,313	1,359	1,394	1,421	571	455	351	261	187	127	81	46	20	869
6073	Lighting	LED - 20W (Halogen baseline)	Lighting	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6074	Lighting	LED - 20W (Halogen baseline)	Multifamily Market Rate	MF	ROB	869	985	1,090	1,179	1,254	1,313	1,359	1,394	1,421	571	455	351	261	187	127	81	46	20	869
6075	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	MF	ROB	284	322	356	386	410	429	444	456	464	187	149	115	85	61	42	27	15	6	284
6076	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	ROB	379	429	475	514	546	572	592	608	619	249	198	153	114	81	55	35	20	9	379
6077	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	MF	ROB	284	322	356	386	410	429	444	456	464	187	149	115	85	61	42	27	15	6	284
6078	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	ROB	379	429	475	514	546	572	592	608	619	249	198	153	114	81	55	35	20	9	379
6079	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Energy Efficient Kits	MF	ROB	237	268	297	321	342	358	370	380	387	156	124	96	71	51	35	22	13	5	237
6080	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Multifamily Market Rate	MF	ROB	1,420	1,610	1,781	1,928	2,049	2,146	2,222	2,279	2,322	934	744	573	426	305	208	133	75	32	1,420
6081	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Energy Efficient Kits	MF	ROB	237	268	297	321	342	358	370	380	387	156	124	96	71	51	35	22	13	5	237
6082	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent)	Multifamily Market Rate	MF	ROB	1,420	1,610	1,781	1,928	2,049	2,146	2,222	2,279	2,322	934	744	573	426	305	208	133	75	32	1,420
6083	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	MF	ROB	167	189	210	227	241	252	261	268	273	110	88	67	50	36	24	16	9	4	167
6084	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Multifamily Market Rate	MF	ROB	1,003	1,137	1,257	1,361	1,447	1,515	1,568	1,609	1,639	659	525	405	301	215	147	94	53	23	1,003
6085	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	MF	ROB	167	189	210	227	241	252	261	268	273	110	88	67	50	36	24	16	9	4	167
6086	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	ROB	167	189	210	227	241	252	261	268	273	110	88	67	50	36	24	16	9	4	167
6087	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Multifamily Market Rate	MF	ROB	1,003	1,137	1,257	1,361	1,447	1,515	1,568	1,609	1,639	659	-583	-703	-807	-893	-961	-1,014	-1,055	-1,085	-105
6088	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	MF	ROB	167	189	210	227	241	252	261	268	273	110	88	67	50	36	24	16	9	4	167
6089	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Multifamily Market Rate	MF	ROB	1,003	1,137	1,257	1,361	1,447	1,515	1,568	1,609	1,639	659	525	405	301	215	147	94	53	23	1,003
6090	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Energy Efficient Kits	MF	ROB	167	189	210	227	241	252	261	268	273	110	88	67	50	36	24	16	9	4	167
6091	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	ROB	167	189	210	227	241	252	261	268	273	110	88	67	50	36	24	16	9	4	167
6092	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	MF	ROB	167	189	210	227	241	252	261	268	273	110	88	67	50	36	24	16	9	4	167
6093	Lighting	LED Nightlights	Multifamily Market Rate	MF	ROB	979	1,110	1,228	1,329	1,413	1,479	1,531	1,571	1,601	1,623	1,623	644	513	395	294	210	143	91	
6094	Lighting	Occupancy Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6095	Lighting	T8 Linear Fluorescent	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6096	Lighting	LED - 10W (CFL baseline)	Lighting	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6097	Lighting	LED - 10W (CFL baseline)	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6098	Lighting	LED - 10W (CFL baseline)	Multifamily Market Rate	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	8	8	13	13	13	13
6099	Lighting	LED - 10W (Halogen baseline)	Lighting	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6100	Lighting	LED - 10W (Halogen baseline)	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6101	Lighting	LED - 10W (Halogen baseline)	Multifamily Market Rate	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	8	8	13	13	13	13
6102	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	Lighting	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6103	Lighting	LED - 12W (Replacing CFL)	Multifamily Market Rate	MF	NC	4	7	8	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6104	Lighting	LED - 12W (Halogen baseline)	Multifamily Market Rate	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	8	8	13	13	13	13
6105	Lighting	LED - 15W (CFL baseline)	Lighting	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6106	Lighting	LED - 15W (CFL baseline)	Multifamily Market Rate	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	8	8	13	13	13	13
6107	Lighting	LED - 15W (Halogen baseline)	Lighting	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6108	Lighting	LED - 15W (Halogen baseline)	Multifamily Market Rate	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	8	8	13	13	13	13
6109	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	Lighting	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6110	Lighting	LED - 20W (CFL baseline)	Lighting	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6111	Lighting	LED - 20W (CFL baseline)	Multifamily Market Rate	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	8	8	13	13	13	13
6112	Lighting	LED - 20W (Halogen baseline)	Lighting	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6113	Lighting	LED - 20W (Halogen baseline)	Multifamily Market Rate	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	8	8	13	13	13	13
6114	Lighting	LED - 4W Candelabra (CFL baseline)	Energy Efficient Kits	MF	NC	1	2	2	3	3	3	3	3	3	4	4	3	3	3	3	2	4	4	4
6115	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	NC	2	3	3	4	4	4	4	4	5	5	5	4	4	4	4	3	6	6	6

Ameren MO		Program RAP Participants by Measure			Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Replacement																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6116	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	MF	NC	1	2	2	3	3	3	3	3	3	4	4	3	3	3	3	2	4	4	4
6117	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	NC	2	3	3	4	4	4	4	4	5	5	5	4	4	4	4	3	6	6	6
6118	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Energy Efficient Kits	MF	NC	1	2	2	2	2	2	3	3	3	3	3	3	3	2	2	2	4	4	4
6119	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Multifamily Market Rate	MF	NC	7	11	12	14	15	15	15	16	17	18	18	17	15	14	14	12	22	22	22
6120	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Energy Efficient Kits	MF	NC	1	2	2	2	2	2	3	3	3	3	3	3	2	2	2	4	4	4	
6121	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent)	Multifamily Market Rate	MF	NC	7	11	12	14	15	15	15	16	17	18	18	17	15	14	14	12	22	22	22
6122	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	MF	NC	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	3	3	3	
6123	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Multifamily Market Rate	MF	NC	5	8	9	10	11	11	11	11	12	13	12	12	11	10	10	9	15	15	15
6124	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	MF	NC	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	3	3	3	
6125	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	NC	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	3	3	3	
6126	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Multifamily Market Rate	MF	NC	5	8	9	10	11	11	11	11	12	13	4	4	4	3	3	3	5	5	5
6127	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	MF	NC	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	3	3	3	
6128	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Multifamily Market Rate	MF	NC	5	8	9	10	11	11	11	11	12	13	12	12	11	10	10	9	15	15	15
6129	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Energy Efficient Kits	MF	NC	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	3	3	3	
6130	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	NC	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	3	3	3	
6131	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	MF	NC	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	3	3	3	
6132	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	21	32	36	42	44	44	45	48	51	53	52	49	44	43	40	36	64	64	64
6133	Lighting	Occupancy Sensor	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6134	Lighting	T8 Linear Fluorescent	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	246	328	429	553	696	855	1,024	1,192	1,351	1,495	1,618	1,720	1,801	1,864	1,913	1,949	1,976	1,976	
8002	Water Heating	Solar Domestic Water Heater	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8003	Water Heating	Water Heater Wrap	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8004	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	11,064	
8005	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8006	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	Retrofit	11,985	12,739	13,341	13,810	14,168	14,436	14,634	14,634	14,634	14,634	14,634	14,634	14,634	14,634	14,634	14,634	14,634	14,634	
8007	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8008	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8009	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8010	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	ROB	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	
8011	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	6	10	14	19	24	28	33	40	47	54	57	53	97	111	110	154	152	150	
8012	Water Heating	Solar Domestic Water Heater	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8013	Water Heating	Water Heater Wrap	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8014	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	636	853	888	952	933	889	875	912	952	983	1,594	1,757	1,702	1,738	1,677	1,555	2,054	2,094	
8015	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8016	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	NC	647	922	1,005	1,116	1,121	1,090	1,087	1,132	1,183	1,221	1,980	2,181	2,113	2,158	2,082	1,931	2,550	2,600	
8017	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8018	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8019	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8020	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	NC	1	1	1	1	2	2	2	2	2	2	3	4	4	4	4	3	4	5	
8021	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	19	26	35	46	59	74	91	109	127	144	159	172	183	192	199	204	208		
8022	Water Heating	Solar Domestic Water Heater	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8023	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8024	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8025	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8026	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8027	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Ameren MO			Program RAP Participants by Measure		Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8028	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8029	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8030	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8031	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8032	Water Heating	Common Area Low Flow Showerhead	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8033	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	Retrofit	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	
8034	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8035	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	ROB	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
8036	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	0	1	1	2	2	2	3	4	4	5	6	6	5	10	11	11	16	16	
8037	Water Heating	Solar Domestic Water Heater	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8038	Water Heating	Water Heater Wrap	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8039	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8040	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	30	41	42	45	44	42	42	43	45	47	76	84	81	83	80	74	98	100	
8041	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8042	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	NC	41	56	58	62	61	58	57	59	62	64	104	114	111	113	109	101	134	136	
8043	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8044	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8045	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	NC	41	55	57	62	60	58	57	59	62	64	103	114	110	112	108	101	133	135	
8046	Water Heating	Common Area Low Flow Showerhead	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8047	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8048	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	NC	30	41	42	45	44	42	42	43	45	47	46	43	69	78	78	77	100	99	
8049	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8050	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	NC	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	
9001	ER Appliance	Refrigerator - early replacement	N/A	SF	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9002	ER Appliance	Refrigerator - early replacement	N/A	SF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9003	ER Appliance	Refrigerator - early replacement	N/A	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	0	0	0	0	0	967	1,126	1,277	1,412	1,529	1,625	1,702	1,761	1,807	1,841	1,867	1,867	1,867	
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	0	0	0	0	0	0	0	0	0	0	967	1,126	1,277	1,412	1,529	1,625	1,702	1,761	
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9007	ER Appliance	Refrigerator - early replacement	N/A	MF	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9008	ER Appliance	Refrigerator - early replacement	N/A	MF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9009	ER Appliance	Refrigerator - early replacement	N/A	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	0	0	0	0	0	13	16	18	21	23	25	26	27	28	29	30	30	30	
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	0	0	0	0	0	0	0	0	0	0	13	16	18	21	23	25	26	27	
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER1	184	204	220	234	245	254	260	265	269	269	269	269	269	269	269	269	269	269	
10002	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER2	0	0	0	0	0	0	184	204	220	234	245	254	260	265	269	269	269	269	
10003	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184	
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER1	174	185	194	201	206	210	213	213	213	213	213	213	213	213	213	213	213	213	
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER2	0	0	0	0	0	0	174	185	194	201	206	210	213	213	213	213	213	213	
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174	
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER1	179	194	206	216	224	229	234	237	237	237	237	237	237	237	237	237	237	237	
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER2	0	0	0	0	0	0	179	194	206	216	224	229	234	237	237	237	237	237	
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179	
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER1	153	161	166	170	174	176	176	176	176	176	176	176	176	176	176	176	176	176	
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER2	0	0	0	0	0	0	153	161	166	170	174	176	176	176	176	176	176	176	
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	153	
10013	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER1	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	
10014	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER2	0	0	0	0	0	0	197	197	197	197	197	197	197	197	197	197	197	197	
10015	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	197	
10016	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10017	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10018	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Ameren MO		Program RAP Participants by Measure			Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Replacement																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10019	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER1	3,378	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424
10020	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER2	0	0	0	0	0	0	3,378	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424	3,424
10021	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,378
10022	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER1	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343
10023	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER2	0	0	0	0	0	0	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343
10024	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,343
10025	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER1	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343
10026	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER2	0	0	0	0	0	0	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343
10027	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,343
10028	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10029	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10030	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10031	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER1	68	71	74	76	77	78	78	78	78	78	78	78	78	78	78	78	78	78	78
10032	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER2	0	0	0	0	0	0	68	71	74	76	77	78	78	78	78	78	78	78	78
10033	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
10034	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER1	70	73	76	78	79	80	80	80	80	80	80	80	80	80	80	80	80	80	80
10035	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER2	0	0	0	0	0	0	70	73	76	78	79	80	80	80	80	80	80	80	80
10036	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70
10037	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER1	48	53	57	61	64	66	68	69	70	70	70	70	70	70	70	70	70	70	70
10038	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER2	0	0	0	0	0	0	48	53	57	61	64	66	68	69	70	70	70	70	70
10039	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
10040	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER1	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
10041	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER2	0	0	0	0	0	0	26	26	26	26	26	26	26	26	26	26	26	26	26
10042	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
10043	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	27	33	40	46	53	58	63	67	70	72	74	76	77	77	77	77	77	77	77
10044	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	0	0	0	0	0	0	27	33	40	46	53	58	63	67	70	72	74	76	77
10045	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
10046	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	25	31	36	42	48	53	58	61	64	66	68	69	70	70	70	70	70	70	70
10047	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	0	0	0	0	0	0	25	31	36	42	48	53	58	61	64	66	68	69	70
10048	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
10049	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER1	3	5	6	9	11	15	19	24	30	36	42	47	52	57	60	63	65	67	68
10050	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER2	0	0	0	0	0	0	3	5	6	9	11	15	19	24	30	36	42	47	52
10051	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10052	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER1	3	4	5	7	10	13	16	20	25	30	35	40	44	47	50	53	55	56	57
10053	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER2	0	0	0	0	0	0	3	4	5	7	10	13	16	20	25	30	35	40	44
10054	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10055	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER1	103	120	136	151	163	173	181	188	193	196	199	199	199	199	199	199	199	199	199
10056	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER2	0	0	0	0	0	0	103	120	136	151	163	173	181	188	193	196	199	199	199
10057	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103
10058	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER1	118	138	156	173	187	199	208	215	221	225	228	228	228	228	228	228	228	228	228

Ameren MO		Program RAP Participants by Measure			Incremental Annual Participants																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
10059	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER2	0	0	0	0	0	0	118	138	156	173	187	199	208	215	221	225	228	228	228	
10060	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118	
10061	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER1	110	125	138	149	159	166	172	177	180	182	182	182	182	182	182	182	182	182	182	182
10062	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER2	0	0	0	0	0	0	110	125	138	149	159	166	172	177	180	182	182	182	182	
10063	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	
10064	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER1	105	114	121	127	131	134	137	139	139	139	139	139	139	139	139	139	139	139	139	
10065	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER2	0	0	0	0	0	0	105	114	121	127	131	134	137	139	139	139	139	139	139	
10066	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	
10067	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10068	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10069	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10070	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER1	1	1	2	3	3	4	5	7	8	9	10	11	12	13	14	14	15	15	15	
10071	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER2	0	0	0	0	0	0	1	1	2	3	3	4	5	7	8	9	10	11	12	
10072	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
10073	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER1	1	1	2	2	3	4	5	6	7	8	9	10	11	12	12	13	13	13	14	
10074	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER2	0	0	0	0	0	0	1	1	2	2	3	4	5	6	7	8	9	10	11	
10075	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
10076	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10077	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10078	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10079	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10080	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10081	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Ameren MO			Program MAP Adoption Rates by Measure		Program MAP Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	7%	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%
1005	Appliance	Refrigerator	N/A	SF	ROB	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
1006	Appliance	Freezers ENERGY STAR - replace on fail	N/A	SF	ROB	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%
1007	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	5%	7%	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	
1008	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1009	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1010	Appliance	Heat Pump Dryer	N/A	SF	ROB	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	
1011	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	
1012	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1013	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1014	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	
1015	Appliance	Water Cooler	N/A	SF	ROB	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1016	Appliance	Refrigerator	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1017	Appliance	Freezers ENERGY STAR - replace on fail	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1018	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	5%	7%	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	
1019	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1020	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1021	Appliance	Heat Pump Dryer	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1022	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1023	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1024	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1025	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	
1026	Appliance	Water Cooler	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
1027	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1028	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1029	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
1030	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	7%	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
1031	Appliance	Refrigerator	N/A	MF	ROB	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1032	Appliance	Freezers ENERGY STAR - replace on fail	N/A	MF	ROB	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
1033	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	5%	7%	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
1034	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1035	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1036	Appliance	Heat Pump Dryer	N/A	MF	ROB	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	
1037	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	
1038	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1039	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1040	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	
1041	Appliance	Water Cooler	N/A	MF	ROB	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1042	Appliance	Refrigerator	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1043	Appliance	Freezers ENERGY STAR - replace on fail	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1044	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	5%	7%	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
1045	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1046	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1047	Appliance	Heat Pump Dryer	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1048	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1049	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1050	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1051	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	
1052	Appliance	Water Cooler	N/A	MF	NC	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
2001	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2002	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2003	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2004	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2005	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2008	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2009	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2010	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	
2013	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	15%	22%	29%	37%	44%	50%	55%	59%	61%	63%	64%	65%	65%	65%	65%	65%	65%	65%	

Ameren MO			Program MAP Adoption Rates by Measure			Program MAP Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2074	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2075	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2087	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2088	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2089	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2090	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2091	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2094	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2095	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2096	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2108	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2109	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2110	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2111	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2112	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	13%	18%	24%	31%	37%	42%	47%	49%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%

Ameren MO			Program MAP Adoption Rates by Measure		Program MAP Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	6%	10%	15%	21%	30%	40%	51%	61%	70%	77%	82%	85%	88%	89%	90%	90%	90%	90%	90%
4001	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	5%	7%	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%
4002	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4003	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	SF	Retrofit	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4004	Electronics	ENERGY STAR Display	N/A	SF	ROB	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%
4005	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
4006	Electronics	ENERGY STAR PC	N/A	SF	ROB	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4007	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4008	Electronics	ENERGY STAR TV	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
4009	Electronics	Smart Residential Outlet	N/A	SF	ROB	5%	7%	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%
4010	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	5%	7%	11%	15%	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%
4011	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4012	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4013	Electronics	ENERGY STAR Display	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4014	Electronics	ENERGY STAR Laptop	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4015	Electronics	ENERGY STAR PC	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4016	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4017	Electronics	ENERGY STAR TV	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4018	Electronics	Smart Residential Outlet	N/A	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
4019	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	5%	7%	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%
4020	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	MF	Retrofit	5%	7%	11%	16%	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%
4021	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
4022	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Multifamily Market Rate	MF	Retrofit	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
4023	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	MF	Retrofit	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
4024	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
4025	Electronics	ENERGY STAR Display	N/A	MF	ROB	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%
4026	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
4027	Electronics	ENERGY STAR PC	N/A	MF	ROB	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
4028	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
4029	Electronics	ENERGY STAR TV	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%

Ameren MO			Program MAP Adoption Rates by Measure			Program MAP Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5051	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	SF	NC	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
5052	HVAC Equipment	Ductless ASHP - replace on fail SF NC	HVAC	SF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5053	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	SF	NC	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
5054	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
5055	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
5056	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
5057	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	SF	NC	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
5058	HVAC Equipment	Integrated Space and Water Heater	N/A	SF	NC	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
5059	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%
5060	HVAC Equipment	Dirty Filter Alarm_MF:Kits	Energy Efficient Kits	MF	Retrofit	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	Multifamily Market Rate	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5064	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5065	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5066	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5067	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5068	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5069	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5070	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	HVAC	MF	ROB	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5071	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	HVAC	MF	ROB	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5072	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	N/A	MF	ROB	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5073	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	MF	ROB	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
5074	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	Multifamily Market Rate	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5075	HVAC Equipment	AC Tune-up / refrigerant charge / MFMR	Multifamily Market Rate	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5076	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	Multifamily Market Rate	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5077	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	Multifamily Market Rate	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5078	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	ROB	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5079	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	ROB	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5080	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	ROB	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5081	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	ROB	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5082	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	ROB	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5083	HVAC Equipment	General HP tune-up (no charge or coil clean)	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5084	HVAC Equipment	HP Tune-up / refrigerant charge MF	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5085	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5086	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	N/A	MF	Retrofit	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5087	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	ROB	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
5088	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	ROB	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
5089	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	ROB	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
5090	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	HVAC	MF	ROB	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5091	HVAC Equipment	DFHP - SEER 19	N/A	MF	ROB	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5092	HVAC Equipment	DFHP - SEER 20	N/A	MF	ROB	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5093	HVAC Equipment	DFHP - SEER 21	N/A	MF	ROB	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5094	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	ROB	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
5095	HVAC Equipment	Integrated Space and Water Heater	N/A	MF	ROB	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5096	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5097	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5098	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5099	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5100	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5101	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5102	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	NC	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5103	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	NC	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5104	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	NC	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5105	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	NC	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5106	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5107	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	NC	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
5108	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	NC	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
5109	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	NC	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
5110	HVAC Equipment	Ductless ASHP - replace on fail MF NC	HVAC	MF	NC	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5111	HVAC Equipment	DFHP - SEER 19	N/A	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5112	HVAC Equipment	DFHP - SEER 20	N/A	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5113	HVAC Equipment	DFHP - SEER 21	N/A	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
5114	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	NC	4%</																		

Ameren MO		Program MAP Adoption Rates by Measure			Program MAP Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6116	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6117	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6118	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6119	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Multifamily Market Rate	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6120	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6121	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent)	Multifamily Market Rate	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6122	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6123	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Multifamily Market Rate	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6124	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6125	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6126	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Multifamily Market Rate	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6127	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6128	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Multifamily Market Rate	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6129	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6130	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6131	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6132	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6133	Lighting	Occupancy Sensor	N/A	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6134	Lighting	T8 Linear Fluorescent	N/A	MF	NC	49%	58%	67%	73%	78%	81%	83%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	4%	7%	10%	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%
8002	Water Heating	Solar Domestic Water Heater	N/A	SF	ROB	4%	7%	10%	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%
8003	Water Heating	Water Heater Wrap	N/A	SF	Retrofit	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8004	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
8005	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	Retrofit	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8006	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	Retrofit	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8007	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	Retrofit	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8008	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8009	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	7%	10%	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%
8010	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	ROB	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
8011	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	4%	7%	10%	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%
8012	Water Heating	Solar Domestic Water Heater	N/A	SF	NC	7%	10%	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%
8013	Water Heating	Water Heater Wrap	N/A	SF	NC	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8014	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
8015	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	NC	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8016	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	NC	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8017	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	NC	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8018	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8019	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	7%	10%	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%
8020	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	NC	7%	10%	14%	20%	27%	34%	41%	47%	52%	55%	57%	59%	60%	60%	60%	60%	60%	60%	60%
8021	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	4%	6%	9%	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%
8022	Water Heating	Solar Domestic Water Heater	N/A	MF	ROB	4%	6%	9%	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%
8023	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8024	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
8025	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8026	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	Retrofit	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8027	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Ameren MO			Program MAP Adoption Rates by Measure		Program MAP Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8028	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	Retrofit	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8029	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	Retrofit	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8030	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8031	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	Retrofit	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
8032	Water Heating	Common Area Low Flow Showerhead	N/A	MF	Retrofit	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8033	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8034	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8035	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	ROB	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
8036	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	4%	6%	9%	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	
8037	Water Heating	Solar Domestic Water Heater	N/A	MF	NC	9%	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%
8038	Water Heating	Water Heater Wrap	N/A	MF	NC	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8039	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
8040	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8041	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	NC	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8042	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8043	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	NC	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8044	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	NC	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8045	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8046	Water Heating	Common Area Low Flow Showerhead	N/A	MF	NC	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8047	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	NC	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
8048	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8049	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
8050	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	NC	13%	18%	24%	30%	36%	42%	46%	49%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
9001	ER Appliance	Refrigerator - early replacement	N/A	SF	ER1	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
9002	ER Appliance	Refrigerator - early replacement	N/A	SF	ER2	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
9003	ER Appliance	Refrigerator - early replacement	N/A	SF	ER3	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	22%	29%	37%	44%	51%	55%	59%	62%	63%	64%	65%	65%	65%	65%	65%	65%	65%	65%	65%
9007	ER Appliance	Refrigerator - early replacement	N/A	MF	ER1	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
9008	ER Appliance	Refrigerator - early replacement	N/A	MF	ER2	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
9009	ER Appliance	Refrigerator - early replacement	N/A	MF	ER3	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	22%	30%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER1	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10002	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER2	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10003	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER3	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER1	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER2	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER1	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER2	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER1	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER2	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER3	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10013	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER1	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10014	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER2	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10015	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER3	5%	7%	11%	16%	22%	30%	38%	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%
10016	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER1	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10017	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER2	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10018	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER3	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%

Ameren MO		Program MAP Adoption Rates by Measure				Program MAP Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10019	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER1	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10020	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER2	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10021	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER3	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10022	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER1	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10023	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER2	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10024	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER3	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10025	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER1	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10026	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER2	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10027	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER3	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10028	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER1	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10029	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER2	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10030	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER3	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10031	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER1	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10032	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER2	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10033	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER3	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10034	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER1	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10035	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER2	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10036	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER3	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10037	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER1	45%	52%	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10038	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER2	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10039	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER3	57%	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10040	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
10041	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER2	60%	63%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
10042	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER3	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10043	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10044	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10045	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10046	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10047	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10048	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10049	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER1	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10050	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER2	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10051	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER3	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10052	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER1	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10053	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER2	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10054	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER3	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10055	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER1	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10056	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER2	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10057	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER3	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10058	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER1	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%

Ameren MO		Program MAP Adoption Rates by Measure				Program MAP Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10059	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER2	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10060	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER3	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10061	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER1	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10062	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER2	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10063	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER3	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10064	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER1	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10065	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER2	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10066	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER3	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10067	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER1	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10068	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER2	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10069	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER3	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10070	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER1	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10071	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER2	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10072	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER3	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10073	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER1	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10074	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER2	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10075	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER3	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10076	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER1	4%	7%	10%	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%
10077	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER2	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10078	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER3	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10079	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER1	15%	21%	28%	36%	43%	49%	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10080	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER2	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
10081	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER3	53%	57%	59%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%

Ameren MO			Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Program RAP Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	24%	27%	29%	31%	32%	34%	34%	35%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	24%	27%	29%	31%	32%	34%	34%	35%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	21%	24%	27%	29%	31%	32%	34%	34%	35%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	8%	11%	14%	17%	20%	23%	26%	29%	32%	34%	35%	37%	38%	38%	39%	39%	39%	39%	39%
1005	Appliance	Refrigerator	N/A	SF	ROB	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1006	Appliance	Freezers ENERGY STAR - replace on fail	N/A	SF	ROB	21%	24%	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	
1007	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	5%	6%	9%	11%	14%	18%	22%	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	
1008	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1009	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1010	Appliance	Heat Pump Dryer	N/A	SF	ROB	9%	11%	14%	17%	21%	24%	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	
1011	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	9%	11%	14%	17%	21%	24%	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	
1012	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1013	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1014	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	13%	16%	20%	23%	27%	31%	34%	37%	39%	41%	43%	44%	45%	45%	45%	45%	45%	45%	
1015	Appliance	Water Cooler	N/A	SF	ROB	64%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1016	Appliance	Refrigerator	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1017	Appliance	Freezers ENERGY STAR - replace on fail	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1018	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	5%	6%	9%	11%	14%	18%	22%	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	
1019	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1020	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1021	Appliance	Heat Pump Dryer	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1022	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1023	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1024	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1025	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	13%	16%	20%	23%	27%	31%	34%	37%	39%	41%	43%	44%	45%	45%	45%	45%	45%	45%	
1026	Appliance	Water Cooler	N/A	SF	NC	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1027	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	27%	30%	33%	35%	36%	38%	39%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1028	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	27%	30%	33%	35%	36%	38%	39%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
1029	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	21%	24%	27%	30%	33%	35%	36%	38%	39%	39%	40%	40%	40%	40%	40%	40%	40%	40%	
1030	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	7%	10%	12%	16%	19%	23%	27%	30%	33%	36%	38%	40%	42%	43%	43%	44%	44%	44%	
1031	Appliance	Refrigerator	N/A	MF	ROB	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1032	Appliance	Freezers ENERGY STAR - replace on fail	N/A	MF	ROB	20%	24%	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	
1033	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	4%	5%	7%	10%	13%	16%	20%	25%	30%	35%	40%	44%	47%	50%	53%	55%	56%	58%	
1034	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1035	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1036	Appliance	Heat Pump Dryer	N/A	MF	ROB	8%	10%	13%	16%	20%	24%	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	
1037	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	8%	10%	13%	16%	20%	24%	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	
1038	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1039	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
1040	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	11%	14%	18%	22%	26%	31%	35%	39%	42%	44%	46%	48%	49%	50%	51%	51%	51%	51%	
1041	Appliance	Water Cooler	N/A	MF	ROB	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	
1042	Appliance	Refrigerator	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1043	Appliance	Freezers ENERGY STAR - replace on fail	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1044	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	4%	5%	7%	10%	13%	16%	20%	25%	30%	35%	40%	44%	47%	50%	53%	55%	56%	58%	
1045	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1046	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1047	Appliance	Heat Pump Dryer	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1048	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1049	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1050	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
1051	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	11%	14%	18%	22%	26%	31%	35%	39%	42%	44%	46%	48%	49%	50%	51%	51%	51%	51%	
1052	Appliance	Water Cooler	N/A	MF	NC	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
2001	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	N/A	SF	Retrofit	13%	14%	16%	17%	17%	18%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	
2002	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	N/A	SF	Retrofit	13%	15%	15%	16%	17%	17%	17%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	
2003	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	N/A	SF	Retrofit	12%	13%	14%	15%	15%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	
2004	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	N/A	SF	Retrofit	12%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	
2005	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	N/A	SF	Retrofit	13%	14%	14%	15%	15%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	
2008	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	13%	16%	21%	26%	31%	36%	40%	45%	48%	51%	54%	56%	57%	58%	59%	59%	59%	59%	
2009	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	13%	16%	21%	26%	31%	36%	40%	45%	48%	51%	54%	56%	57%	58%	59%	59%	59%	59%	
2010	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	13%	16%	21%	26%	31%	36%	40%	45%	48%	51%	54%	56%	57%	58%	59%	59%	59%	59%	
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	
2013	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	

Ameren MO		Program RAP Adoption Rates by Measure				Program RAP Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2016	Building Shell	Duct Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2017	Building Shell	Duct Sealing	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2018	Building Shell	Floor Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2019	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2021	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2022	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2023	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2024	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2025	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2026	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2027	Building Shell	Radiant Barrier	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2028	Building Shell	Cool Roof	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2029	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	13%	16%	21%	26%	31%	36%	40%	45%	48%	51%	54%	56%	57%	58%	59%	59%	59%	59%	59%
2030	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	13%	16%	21%	26%	31%	36%	40%	45%	48%	51%	54%	56%	57%	58%	59%	59%	59%	59%	59%
2031	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	13%	16%	21%	26%	31%	36%	40%	45%	48%	51%	54%	56%	57%	58%	59%	59%	59%	59%	59%
2032	Building Shell	Wall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2033	Building Shell	Storm Windows	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2034	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2035	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2036	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2037	Building Shell	Duct Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2038	Building Shell	Duct Sealing	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2039	Building Shell	Floor Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2040	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2042	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2043	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	N/A	SF	Retrofit	13%	14%	16%	17%	17%	18%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
2044	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	N/A	SF	Retrofit	13%	15%	15%	16%	17%	17%	17%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
2045	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	N/A	SF	Retrofit	12%	13%	14%	15%	15%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
2046	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	N/A	SF	Retrofit	12%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
2047	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	N/A	SF	Retrofit	13%	14%	14%	15%	15%	15%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2058	Building Shell	Duct Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%
2066	Building Shell	Ceiling Insulation R5-R30 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	12%	14%	17%	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%
2067	Building Shell	Ceiling Insulation R5-R38 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	13%	14%	16%	17%	18%	19%	20%	20%	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
2068	Building Shell	Ceiling Insulation R5-R49 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	12%	12%	12%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
2069	Building Shell	Ceiling Insulation R11-R49 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2070	Building Shell	Ceiling Insulation R5-R60 MFMR electric furnace base	Multifamily Market Rate	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	12%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%
2073	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	12%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%

Ameren MO			Program RAP Adoption Rates by Measure		Program RAP Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2074	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	12%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%
2075	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	12%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	11%	12%	13%	14%	15%	16%	17%	17%	17%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	11%	14%	17%	21%	24%	27%	30%	33%	35%	36%	38%	39%	39%	40%	40%	40%	40%	40%	40%
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	13%	16%	19%	22%	25%	27%	30%	32%	33%	34%	35%	36%	36%	36%	36%	36%	36%	36%	36%
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	13%	16%	20%	24%	28%	32%	35%	38%	40%	42%	43%	45%	45%	46%	46%	46%	46%	46%	46%
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	11%	12%	12%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	11%	14%	18%	21%	25%	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	10%	13%	17%	21%	25%	29%	32%	36%	39%	41%	43%	45%	46%	47%	47%	47%	47%	47%	47%
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	12%	15%	18%	22%	25%	29%	32%	35%	37%	38%	40%	41%	42%	42%	42%	42%	42%	42%	42%
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	11%	14%	18%	21%	25%	28%	31%	34%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%
2087	Building Shell	Ceiling Insulation R5-R30 MFMR heat pump base	N/A	MF	Retrofit	11%	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%
2088	Building Shell	Ceiling Insulation R5-R38 MFMR heat pump base	N/A	MF	Retrofit	11%	13%	15%	17%	19%	21%	22%	23%	24%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
2089	Building Shell	Ceiling Insulation R5-R49 MFMR heat pump base	N/A	MF	Retrofit	11%	12%	13%	14%	15%	16%	17%	17%	17%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
2090	Building Shell	Ceiling Insulation R11-R49 MFMR heat pump base	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2091	Building Shell	Ceiling Insulation R5-R60 MFMR heat pump base	N/A	MF	Retrofit	10%	11%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2094	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	12%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%
2095	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	12%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%
2096	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	12%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	10%	13%	15%	18%	20%	22%	24%	26%	27%	28%	28%	29%	29%	29%	29%	29%	29%	29%	29%
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	11%	13%	15%	16%	18%	19%	20%	21%	21%	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	11%	12%	12%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	10%	13%	15%	18%	20%	22%	24%	26%	27%	28%	29%	29%	29%	29%	29%	29%	29%	29%	29%
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	12%	14%	17%	20%	22%	25%	27%	28%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	12%	13%	15%	16%	17%	18%	18%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	11%	12%	13%	14%	15%	15%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	
2108	Building Shell	Ceiling Insulation R5-R30 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	10%	13%	17%	21%	25%	29%	33%	36%	39%	42%	44%	45%	46%	47%	48%	48%	48%	48%	
2109	Building Shell	Ceiling Insulation R5-R38 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	13%	16%	20%	24%	27%	31%	34%	37%	40%	41%	43%	44%	45%	46%	46%	46%	46%	46%	46%
2110	Building Shell	Ceiling Insulation R5-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	12%	15%	18%	22%	25%	29%	32%	34%	36%	38%	39%	40%	41%	42%	42%	42%	42%	42%	42%
2111	Building Shell	Ceiling Insulation R11-R49 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	11%	14%	16%	19%	22%	24%	26%	28%	29%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%
2112	Building Shell	Ceiling Insulation R5-R60 MFMR gas heat and electric cool base	Multifamily Market Rate	MF	Retrofit	11%	14%	17%	20%	23%	26%	29%	32%	34%	35%	36%	37%	38%	39%	39%	39%	39%	39%	39%
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	11%	12%	13%	13%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	11%	13%	16%	20%	23%	26%	29%	31%	33%	35%	36%	37%	38%	38%	38%	38%	38%	38%	38%
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	12%	15%	19%	23%	26%	30%	33%	36%	38%	40%	41%	42%	43%	44%	44%	44%	44%	44%	44%
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	12%	14%	16%	18%	20%	22%	24%	25%	26%	26%	27%	27%	27%	27%	27%	27%	27%	27%	27%
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	12%	13%	15%	16%	17%	18%	19%	19%	19%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	11%	12%	14%	16%	17%	18%	19%	19%	20%	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	12%	14%	17%	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	11%	14%	17%	20%	22%	25%	27%	28%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	11%	12%	13%	14%	14%	15%	15%	15%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	10%	11%	12%	13%	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	12%	15%	18%	21%	24%	26%	28%	30%	32%	33%	34%	35%	35%	35%	35%	35%	35%	35%	35%
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	74%	78%	82%	85%	87%	88%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%

Ameren MO			Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Program RAP Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
4001	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	2%	3%	4%	5%	7%	10%	12%	15%	19%	23%	26%	30%	33%	36%	38%	40%	41%	42%	43%
4002	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%
4003	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	SF	Retrofit	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%
4004	Electronics	ENERGY STAR Display	N/A	SF	ROB	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%
4005	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
4006	Electronics	ENERGY STAR PC	N/A	SF	ROB	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
4007	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	19%	22%	25%	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	37%	37%
4008	Electronics	ENERGY STAR TV	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
4009	Electronics	Smart Residential Outlet	N/A	SF	ROB	2%	3%	3%	5%	6%	8%	10%	13%	16%	19%	22%	25%	28%	30%	32%	34%	35%	36%	36%
4010	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	2%	3%	4%	5%	7%	10%	12%	15%	19%	23%	26%	30%	33%	36%	38%	40%	41%	42%	43%
4011	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	NC	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%
4012	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	N/A	SF	NC	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%
4013	Electronics	ENERGY STAR Display	N/A	SF	NC	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
4014	Electronics	ENERGY STAR Laptop	N/A	SF	NC	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
4015	Electronics	ENERGY STAR PC	N/A	SF	NC	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
4016	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
4017	Electronics	ENERGY STAR TV	N/A	SF	NC	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
4018	Electronics	Smart Residential Outlet	N/A	SF	NC	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%
4019	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	2%	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	38%	41%	43%	45%	47%	48%	49%
4020	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	MF	Retrofit	2%	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	38%	41%	43%	45%	47%	48%	49%
4021	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%	58%	58%	58%	58%	58%	58%	58%	58%	58%
4022	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Multifamily Market Rate	MF	Retrofit	25%	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%	58%	58%	58%	58%	58%	58%	58%	58%
4023	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	MF	Retrofit	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%	58%	58%	58%	58%	58%	58%	58%	58%	58%
4024	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	25%	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%	58%	58%	58%	58%	58%	58%	58%	58%
4025	Electronics	ENERGY STAR Display	N/A	MF	ROB	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%	81%
4026	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
4027	Electronics	ENERGY STAR PC	N/A	MF	ROB	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
4028	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%
4029	Electronics	ENERGY STAR TV	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%

Ameren MO			Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Program RAP Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4030	Electronics	Smart Residential Outlet	N/A	MF	ROB	2%	3%	4%	5%	7%	9%	12%	15%	18%	21%	25%	28%	31%	34%	36%	38%	39%	40%	41%
4031	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	NC	2%	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	38%	41%	43%	45%	47%	48%	49%
4032	Electronics	Advanced Tier 2 Power Strips - Average	Multifamily Market Rate	MF	NC	2%	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	38%	41%	43%	45%	47%	48%	49%
4033	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	NC	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%	58%	58%	58%	58%	58%	58%	58%	58%	58%
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Multifamily Market Rate	MF	NC	25%	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%	58%	58%	58%	58%	58%	58%	58%	58%
4035	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Energy Efficient Kits	MF	NC	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%	58%	58%	58%	58%	58%	58%	58%	58%	58%
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	NC	25%	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%	58%	58%	58%	58%	58%	58%	58%	58%
4037	Electronics	ENERGY STAR Display	N/A	MF	NC	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
4038	Electronics	ENERGY STAR Laptop	N/A	MF	NC	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
4039	Electronics	ENERGY STAR PC	N/A	MF	NC	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
4040	Electronics	ENERGY STAR Sound Bar	N/A	MF	NC	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
4041	Electronics	ENERGY STAR TV	N/A	MF	NC	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
4042	Electronics	Smart Residential Outlet	N/A	MF	NC	31%	34%	36%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
5001	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	SF	Recycle	10%	13%	16%	20%	24%	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%
5002	HVAC Equipment	Dirty Filter Alarm_SF:Kits	Energy Efficient Kits	SF	Retrofit	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
5003	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	Retrofit	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5004	HVAC Equipment	Smart Ceiling Fan	N/A	SF	Retrofit	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5005	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	SF	Retrofit	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5006	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	Efficient Products	SF	Retrofit	42%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
5007	HVAC Equipment	Smart Vents/Sensors - HP	N/A	SF	Retrofit	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5008	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	Efficient Products	SF	Retrofit	37%	39%	41%	42%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
5009	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	SF	Retrofit	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5010	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	SF	Retrofit	37%	39%	41%	42%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
5011	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	HVAC	SF	ROB	39%	44%	48%	52%	56%	58%	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
5012	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	HVAC	SF	ROB	38%	43%	47%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
5013	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	HVAC	SF	ROB	38%	42%	46%	48%	51%	52%	54%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5014	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	SF	ROB	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
5015	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	HVAC	SF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5016	HVAC Equipment	AC Tune-up / refrigerant charge SF	HVAC	SF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5017	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	HVAC	SF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5018	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	HVAC	SF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5019	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	HVAC	SF	ROB	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
5020	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	HVAC	SF	ROB	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
5021	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	HVAC	SF	ROB	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
5022	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	HVAC	SF	ROB	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
5023	HVAC Equipment	Ductless AC - replace on fail SF	HVAC	SF	ROB	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
5024	HVAC Equipment	General HP tune-up (no charge or coil clean)	HVAC	SF	Retrofit	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5025	HVAC Equipment	HP Tune-up / refrigerant charge SF	HVAC	SF	Retrofit	33%	38%	42%	45%	48%	51%	52%	54%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5026	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	HVAC	SF	Retrofit	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5027	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	HVAC	SF	Retrofit	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5028	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	HVAC	SF	ROB	44%	48%	52%	56%	58%	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
5029	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	HVAC	SF	ROB	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
5030	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	SF	ROB	44%	48%	52%	56%	58%	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
5031	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	HVAC	SF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5032	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	SF	ROB	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
5033	HVAC Equipment	DFHP - SEER 19	N/A	SF	ROB	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
5034	HVAC Equipment	DFHP - SEER 20	N/A	SF	ROB	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
5035	HVAC Equipment	DFHP - SEER 21	N/A	SF	ROB	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
5036	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	SF	ROB	3%	4%	6%	8%	11%	14%	18%	23%	28%	33%	39%	44%	48%	52%	56%	58%	60%	62%	63%
5037	HVAC Equipment	Integrated Space and Water Heater	N/A	SF	ROB	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
5038	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	NC	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5039	HVAC Equipment	Smart Ceiling Fan	N/A	SF	NC	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5040	HVAC Equipment	Smart Vents/Sensors - HP	N/A	SF	NC	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5041	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	Efficient Products	SF	NC	37%	39%	41%	42%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
5042	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	SF	NC	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5043	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	SF	NC	37%	39																	

Ameren MO			Program RAP Adoption Rates by Measure		Program RAP Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5051	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	N/A	SF	NC	44%	48%	52%	56%	58%	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
5052	HVAC Equipment	Ductless ASHP - replace on fail SF NC	HVAC	SF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5053	HVAC Equipment	GSHP EER 23 Replace at Fail GSHP	HVAC	SF	NC	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
5054	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5055	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5056	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5057	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	SF	NC	3%	4%	6%	8%	11%	14%	18%	23%	28%	33%	39%	44%	48%	52%	56%	58%	60%	62%	63%
5058	HVAC Equipment	Integrated Space and Water Heater	N/A	SF	NC	32%	35%	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
5059	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	10%	13%	16%	20%	24%	28%	32%	35%	38%	40%	42%	44%	45%	46%	46%	46%	46%	46%	46%
5060	HVAC Equipment	Dirty Filter Alarm_MF:Kits	Energy Efficient Kits	MF	Retrofit	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	Multifamily Market Rate	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	16%	18%	20%	21%	22%	23%	23%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5064	HVAC Equipment	Smart Vents/Sensors - elec furnace / central AC	N/A	MF	Retrofit	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
5065	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%
5066	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	Retrofit	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5067	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	18%	22%	26%	29%	32%	35%	37%	39%	40%	41%	42%	42%	42%	42%	42%	42%	42%	42%	42%
5068	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	Retrofit	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5069	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	38%	39%	40%	41%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
5070	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	HVAC	MF	ROB	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%
5071	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	HVAC	MF	ROB	20%	24%	29%	34%	38%	42%	46%	49%	51%	53%	54%	55%	56%	56%	56%	56%	56%	56%	56%
5072	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	N/A	MF	ROB	17%	21%	25%	29%	33%	37%	40%	42%	44%	46%	47%	48%	49%	49%	49%	49%	49%	49%	49%
5073	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	HVAC	MF	ROB	2%	3%	4%	6%	8%	10%	13%	16%	20%	24%	28%	32%	35%	38%	40%	42%	44%	45%	46%
5074	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	Multifamily Market Rate	MF	Retrofit	18%	20%	22%	24%	25%	27%	28%	28%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
5075	HVAC Equipment	AC Tune-up / refrigerant charge / MFMR	Multifamily Market Rate	MF	Retrofit	19%	24%	28%	33%	37%	41%	45%	48%	50%	52%	53%	54%	55%	55%	55%	55%	55%	55%	55%
5076	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	Multifamily Market Rate	MF	Retrofit	16%	18%	20%	21%	22%	23%	23%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5077	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	Multifamily Market Rate	MF	Retrofit	20%	23%	27%	31%	34%	37%	39%	41%	43%	44%	44%	45%	45%	45%	45%	45%	45%	45%	45%
5078	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	ROB	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5079	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	ROB	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5080	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	ROB	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5081	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	ROB	26%	30%	33%	36%	38%	40%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
5082	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	ROB	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%
5083	HVAC Equipment	General HP tune-up (no charge or coil clean)	N/A	MF	Retrofit	19%	22%	26%	29%	33%	35%	37%	39%	41%	42%	42%	43%	43%	43%	43%	43%	43%	43%	43%
5084	HVAC Equipment	HP Tune-up / refrigerant charge MF	N/A	MF	Retrofit	19%	23%	28%	32%	37%	40%	44%	46%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%
5085	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	N/A	MF	Retrofit	18%	21%	24%	28%	31%	33%	35%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%
5086	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	N/A	MF	Retrofit	18%	22%	26%	30%	34%	38%	41%	44%	46%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%
5087	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	ROB	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
5088	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	ROB	3%	4%	6%	8%	10%	13%	17%	20%	24%	28%	32%	36%	39%	41%	43%	44%	46%	47%	47%
5089	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	ROB	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
5090	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	HVAC	MF	ROB	15%	17%	19%	22%	23%	25%	26%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5091	HVAC Equipment	DFHP - SEER 19	N/A	MF	ROB	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5092	HVAC Equipment	DFHP - SEER 20	N/A	MF	ROB	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
5093	HVAC Equipment	DFHP - SEER 21	N/A	MF	ROB	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
5094	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	ROB	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
5095	HVAC Equipment	Integrated Space and Water Heater	N/A	MF	ROB	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
5096	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	16%	18%	20%	21%	22%	23%	23%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5097	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5098	HVAC Equipment	Smart Vents/Sensors - HP	N/A	MF	NC	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5099	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	18%	22%	26%	29%	32%	35%	37%	39%	40%	41%	42%	42%	42%	42%	42%	42%	42%	42%	42%
5100	HVAC Equipment	Smart Vents/Sensors - gas furnace / central AC	N/A	MF	NC	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5101	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	38%	39%	40%	41%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
5102	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	HVAC	MF	NC	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5103	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	HVAC	MF	NC	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5104	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	HVAC	MF	NC	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
5105	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	HVAC	MF	NC	26%	30%	33%	36%	38%	40%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
5106	HVAC Equipment	Ductless AC - replace on fail MF	HVAC	MF	NC	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5107	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	HVAC	MF	NC	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
5108	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	HVAC	MF	NC	3%	4%	6%	8%	10%	13%	17%	20%	24%	28%	32%	36%	39%	41%	43%	44%	46%	47%	47%
5109	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	N/A	MF	NC	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
5110	HVAC Equipment	Ductless ASHP - replace on fail MF NC	HVAC	MF	NC	15%	17%	19%	22%	23%	25%	26%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5111	HVAC Equipment	DFHP - SEER 19	N/A	MF	NC	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%
5112	HVAC Equipment	DFHP - SEER 20	N/A	MF	NC	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5113	HVAC Equipment	DFHP - SEER 21	N/A	MF	NC	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
5114	HVAC Equipment	ENERGY STAR Room AC (kWh w inst rate)	Efficient Products	MF	NC	3%	4%	5%	7%	9%	12%	16%</												

Ameren MO		Program RAP Adoption Rates by Measure			Program RAP Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6116	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6117	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6118	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6119	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	Multifamily Market Rate	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6120	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6121	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent)	Multifamily Market Rate	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6122	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6123	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	Multifamily Market Rate	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6124	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6125	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6126	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	Multifamily Market Rate	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6127	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6128	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	Multifamily Market Rate	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6129	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6130	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6131	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	Energy Efficient Kits	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6132	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	52%	58%	65%	70%	74%	78%	81%	83%	84%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
6133	Lighting	Occupancy Sensor	N/A	MF	NC	51%	55%	59%	62%	64%	65%	67%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
6134	Lighting	T8 Linear Fluorescent	N/A	MF	NC	51%	55%	59%	62%	64%	65%	67%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	3%	4%	5%	6%	8%	10%	12%	14%	15%	17%	18%	20%	21%	21%	22%	22%	23%	23%	
8002	Water Heating	Solar Domestic Water Heater	N/A	SF	ROB	2%	2%	3%	4%	5%	6%	8%	9%	10%	11%	12%	13%	14%	14%	14%	15%	15%	15%	
8003	Water Heating	Water Heater Wrap	N/A	SF	Retrofit	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%	
8004	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	
8005	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	Retrofit	16%	19%	22%	25%	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	
8006	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	Retrofit	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	
8007	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	Retrofit	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%	
8008	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
8009	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	6%	8%	9%	10%	11%	12%	13%	14%	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%	
8010	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	ROB	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	
8011	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	3%	4%	5%	6%	8%	10%	12%	14%	15%	17%	18%	20%	21%	21%	22%	22%	23%	23%	
8012	Water Heating	Solar Domestic Water Heater	N/A	SF	NC	6%	8%	9%	10%	11%	12%	13%	14%	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%	
8013	Water Heating	Water Heater Wrap	N/A	SF	NC	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%	
8014	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	
8015	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	SF	NC	16%	19%	22%	25%	28%	30%	32%	34%	35%	36%	36%	37%	37%	37%	37%	37%	37%	37%	
8016	Water Heating	Low Flow Showerheads	Energy Efficient Kits	SF	NC	38%	41%	43%	44%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	
8017	Water Heating	Thermostatic Restrictor Shower Valve	N/A	SF	NC	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%	
8018	Water Heating	Pipe Insulation	Energy Efficient Kits	SF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
8019	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	6%	8%	9%	10%	11%	12%	13%	14%	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%	
8020	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	SF	NC	6%	8%	9%	10%	11%	12%	13%	14%	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%	
8021	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	3%	4%	5%	7%	9%	11%	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	32%	32%	
8022	Water Heating	Solar Domestic Water Heater	N/A	MF	ROB	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
8023	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	12%	15%	18%	21%	24%	26%	28%	30%	32%	33%	34%	34%	35%	35%	35%	35%	35%	35%	
8024	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	
8025	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
8026	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	Retrofit	12%	15%	19%	23%	26%	30%	33%	36%	38%	40%	41%	42%	43%	43%	43%	43%	43%	43%	
8027	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Ameren MO			Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Program RAP Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8028	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	Retrofit	12%	15%	18%	20%	23%	26%	28%	30%	31%	32%	33%	33%	34%	34%	34%	34%	34%	34%	34%
8029	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	Retrofit	36%	39%	41%	43%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
8030	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8031	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	Retrofit	16%	20%	23%	26%	29%	31%	33%	35%	36%	37%	37%	38%	38%	38%	38%	38%	38%	38%	38%
8032	Water Heating	Common Area Low Flow Showerhead	N/A	MF	Retrofit	13%	16%	20%	24%	28%	32%	35%	38%	40%	42%	44%	45%	46%	46%	46%	46%	46%	46%	46%
8033	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
8034	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	
8035	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	ROB	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	
8036	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	3%	4%	5%	7%	9%	11%	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	32%	32%	
8037	Water Heating	Solar Domestic Water Heater	N/A	MF	NC	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	
8038	Water Heating	Water Heater Wrap	N/A	MF	NC	12%	15%	18%	21%	24%	26%	28%	30%	32%	33%	34%	34%	35%	35%	35%	35%	35%	35%	
8039	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	
8040	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
8041	Water Heating	Kit Faucet Aerator (Bathroom)	Energy Efficient Kits	MF	NC	12%	15%	19%	23%	26%	30%	33%	36%	38%	40%	41%	42%	43%	43%	43%	43%	43%	43%	
8042	Water Heating	Faucet Aerators (Bathroom) MFMR	Multifamily Market Rate	MF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
8043	Water Heating	Common Area Low Flow Bathroom Faucet Aerator	N/A	MF	NC	12%	15%	18%	20%	23%	26%	28%	30%	31%	32%	33%	33%	34%	34%	34%	34%	34%	34%	
8044	Water Heating	Low Flow Showerheads	Energy Efficient Kits	MF	NC	36%	39%	41%	43%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	
8045	Water Heating	Low Flow Showerhead MFMR	Multifamily Market Rate	MF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
8046	Water Heating	Common Area Low Flow Showerhead	N/A	MF	NC	13%	16%	20%	24%	28%	32%	35%	38%	40%	42%	44%	45%	46%	46%	46%	46%	46%	46%	
8047	Water Heating	Thermostatic Restrictor Shower Valve	N/A	MF	NC	16%	20%	23%	26%	29%	31%	33%	35%	36%	37%	37%	38%	38%	38%	38%	38%	38%	38%	
8048	Water Heating	Pipe Insulation	Energy Efficient Kits	MF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
8049	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	
8050	Water Heating	Desuperheater - Geothermal Heat Pump	N/A	MF	NC	13%	16%	19%	22%	25%	27%	30%	31%	33%	34%	35%	36%	36%	36%	36%	36%	36%	36%	
9001	ER Appliance	Refrigerator - early replacement	N/A	SF	ER1	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
9002	ER Appliance	Refrigerator - early replacement	N/A	SF	ER2	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
9003	ER Appliance	Refrigerator - early replacement	N/A	SF	ER3	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	21%	24%	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	21%	24%	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	21%	24%	27%	30%	33%	35%	36%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	
9007	ER Appliance	Refrigerator - early replacement	N/A	MF	ER1	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
9008	ER Appliance	Refrigerator - early replacement	N/A	MF	ER2	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
9009	ER Appliance	Refrigerator - early replacement	N/A	MF	ER3	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	20%	24%	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	20%	24%	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	20%	24%	27%	31%	34%	37%	40%	41%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER1	39%	43%	46%	49%	52%	54%	55%	56%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	
10002	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER2	3%	4%	6%	8%	10%	13%	17%	20%	24%	28%	32%	35%	38%	41%	43%	44%	45%	47%	
10003	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	HVAC	SF	ER3	3%	4%	6%	8%	11%	14%	18%	23%	28%	33%	39%	44%	48%	52%	56%	58%	60%	63%	
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER1	37%	39%	41%	42%	43%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER2	3%	4%	6%	8%	10%	13%	17%	20%	24%	28%	32%	35%	38%	41%	43%	44%	45%	47%	
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	3%	4%	6%	8%	10%	14%	18%	22%	27%	32%	38%	43%	47%	51%	55%	57%	59%	62%	
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER1	38%	41%	44%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER2	3%	4%	6%	8%	10%	13%	17%	20%	24%	28%	32%	35%	38%	41%	43%	44%	45%	47%	
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	HVAC	SF	ER3	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	38%	42%	46%	48%	51%	52%	55%	
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER1	32%	34%	35%	36%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	37%	
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER2	3%	4%	6%	8%	10%	13%	17%	20%	24%	28%	32%	35%	38%	41%	43%	44%	45%	47%	
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	HVAC	SF	ER3	3%	4%	6%	7%	9%	12%	14%	17%	20%	23%	25%	27%	29%	30%	31%	32%	33%	33%	
10013	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER1	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	
10014	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER2	3%	4%	6%	8%	10%	13%	17%	20%	24%	28%	32%	35%	38%	41%	43%	44%	45%	47%	
10015	ER HVAC Equipment	GSHP - EER 23 - replace electric furnace / CAC ER	HVAC	SF	ER3	3%	4%	5%	7%	9%	12%	15%	19%	22%	26%	30%	33%	36%	38%	40%	41%	42%	43%	
10016	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER1	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
10017	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER2	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	
10018	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	HVAC	SF	ER3	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	

Ameren MO		Program RAP Adoption Rates by Measure				Program RAP Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10019	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER1	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
10020	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER2	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
10021	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	HVAC	SF	ER3	58%	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
10022	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER1	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
10023	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER2	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
10024	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	HVAC	SF	ER3	58%	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
10025	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER1	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
10026	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER2	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
10027	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	HVAC	SF	ER3	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
10028	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER1	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
10029	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER2	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
10030	ER HVAC Equipment	Ductless AC - ER SF	HVAC	SF	ER3	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
10031	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER1	43%	45%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10032	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER2	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
10033	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	HVAC	SF	ER3	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
10034	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER1	44%	46%	48%	49%	50%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
10035	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER2	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
10036	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	HVAC	SF	ER3	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
10037	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER1	44%	48%	52%	56%	58%	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
10038	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER2	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
10039	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	N/A	SF	ER3	52%	56%	58%	60%	62%	63%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
10040	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
10041	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER2	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
10042	ER HVAC Equipment	Ductless ASHP ER SF	HVAC	SF	ER3	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
10043	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	18%	22%	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	51%	51%	51%	51%	51%	51%	51%
10044	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
10045	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
10046	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER1	17%	20%	24%	28%	32%	36%	39%	41%	43%	45%	46%	47%	47%	47%	47%	47%	47%	47%	47%
10047	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER2	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
10048	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	HVAC	MF	ER3	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	38%	42%	46%	49%	51%	53%	54%	55%
10049	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER1	2%	3%	4%	6%	8%	10%	13%	16%	20%	24%	28%	32%	35%	38%	40%	42%	44%	45%	46%
10050	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER2	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
10051	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	N/A	MF	ER3	2%	3%	4%	6%	8%	11%	14%	17%	21%	25%	29%	33%	37%	40%	42%	44%	46%	47%	48%
10052	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER1	2%	3%	4%	5%	6%	8%	11%	14%	17%	20%	23%	26%	29%	32%	34%	35%	37%	37%	38%
10053	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER2	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%
10054	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	HVAC	MF	ER3	2%	3%	4%	6%	8%	10%	13%	16%	20%	24%	28%	32%	35%	38%	40%	42%	44%	45%	46%
10055	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER1	25%	30%	34%	37%	40%	43%	45%	46%	48%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%
10056	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER2	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10057	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	HVAC	MF	ER3	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10058	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER1	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%

Ameren MO		Program RAP Adoption Rates by Measure				Program RAP Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
10059	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER2	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10060	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	HVAC	MF	ER3	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10061	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER1	27%	31%	34%	37%	39%	41%	42%	44%	44%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
10062	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER2	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10063	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	HVAC	MF	ER3	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10064	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER1	26%	28%	30%	31%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
10065	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER2	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10066	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	HVAC	MF	ER3	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%
10067	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER1	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%
10068	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER2	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10069	ER HVAC Equipment	Ductless AC - ER MF	HVAC	MF	ER3	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%
10070	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER1	3%	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	33%	36%	38%	40%	42%	43%	44%	44%	
10071	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER2	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10072	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	HVAC	MF	ER3	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10073	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER1	3%	4%	5%	7%	9%	11%	14%	17%	21%	24%	27%	30%	32%	34%	36%	37%	38%	39%	40%	
10074	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER2	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10075	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	HVAC	MF	ER3	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
10076	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER1	3%	4%	5%	7%	9%	12%	16%	20%	24%	29%	34%	39%	43%	46%	49%	51%	53%	55%	56%	
10077	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER2	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10078	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	N/A	MF	ER3	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10079	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER1	13%	16%	18%	21%	23%	25%	26%	27%	28%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
10080	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER2	53%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
10081	ER HVAC Equipment	Ductless ASHP ER MF	HVAC	MF	ER3	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%

APPENDIX D: BUSINESS DETAIL

Ameren MO		Business Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Construction Type	Program	Replacement Type	Cost Type:	% Elec Savings	Per Unit Elec Savings	Per Unit Summer CP kW	Per Unit NCP kW	Measure Life	Measure Cost	Incentive Cost	Cost/Unit Descriptor	TRC	UCT	Participant Test
						1=Full 2=Inc.											
1	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	42%	105	0.020	0.020	15	\$26.63	\$9.60	Fixture	2.84	7.89	5.22
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	41%	105	0.020	0.020	10	\$37.82	\$9.56	Unit	1.40	5.53	2.75
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	41%	1498	0.284	0.284	10	\$225.59	\$136.88	Unit	3.36	5.53	6.59
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	80%	514	0.098	0.098	15	\$48.00	\$46.96	Fixture	7.71	7.89	14.18
5	Interior Lighting	High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	65%	1185	0.225	0.225	15	\$291.52	\$108.31	Fixture	2.93	7.89	5.38
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	52%	354	0.067	0.067	15	\$118.85	\$32.34	Fixture	2.15	7.89	3.94
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	52%	651	0.124	0.124	15	\$415.45	\$59.49	Fixture	1.13	7.89	2.07
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	24%	649	0.123	0.123	10	\$211.71	\$59.31	Unit	1.55	5.53	3.04
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Both	Custom	Retrofit	1	24%	249	0.047	0.047	10	\$46.76	\$22.79	Unit	2.70	5.53	5.29
10	Interior Lighting	Smart Web-based lighting Mgmt System	Both	Custom	ROB	2	35%	3	0.001	0.001	10	\$1.15	\$0.28	per Sqft	1.33	5.48	2.97
11	Interior Lighting	Smart Advanced Lighting Controls	Both	Custom	ROB	2	47%	2	0.001	0.001	10	\$1.51	\$0.18	per Sqft	0.72	6.12	1.45
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	Both	Custom	ROB	2	43%	195	0.022	0.022	16	\$20.00	\$15.60	per door	5.91	7.58	13.37
13	Interior Lighting	Stairwell Bi-Level Control	Both	Custom	Retrofit	1	55%	4809	0.549	0.549	8	\$274.00	\$274.00	per kW cont	5.73	5.73	14.13
14	Interior Lighting	Switching Controls for Multi-Level Lighting	Both	Custom	ROB	2	15%	5838	2.196	2.196	12	\$3,000.00	\$467.04	10,000 SF	1.33	8.52	2.18
15	Interior Lighting	Lighting Power Density - New Construction	New Construction	Custom	ROB	2	10%	2269	1.000	1.000	15	\$220.00	\$181.52	per kW redu	9.09	11.01	13.54
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	Both	Standard	Retrofit	1	80%	89	0.017	0.017	17	\$15.64	\$10.45	per measure	4.50	6.74	8.30
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	Both	Standard	Retrofit	1	78%	153	0.029	0.029	17	\$19.64	\$18.29	per measure	6.20	6.66	11.44
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	Both	Standard	Retrofit	1	85%	204	0.039	0.039	11	\$48.27	\$24.07	per measure	2.33	4.68	4.60
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	Both	Standard	Retrofit	1	81%	165	0.031	0.031	11	\$36.64	\$21.27	per measure	2.48	4.28	4.95
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	Both	Standard	Retrofit	1	82%	256	0.049	0.049	11	\$74.64	\$30.79	per measure	1.89	4.59	3.74
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	Both	Standard	Retrofit	1	64%	576	0.110	0.110	11	\$191.39	\$68.85	per measure	1.66	4.63	3.29
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	Both	Standard	Retrofit	1	65%	703	0.134	0.134	11	\$233.64	\$83.96	per measure	1.66	4.63	3.29
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	Both	Standard	Retrofit	1	69%	1209	0.230	0.230	11	\$361.64	\$144.41	per measure	1.85	4.63	3.65
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	Both	Standard	Retrofit	1	90%	253	0.048	0.048	16	\$45.25	\$30.23	per measure	4.24	6.35	7.89
25	Interior Lighting	LED Replacing Interior T5 Fluorescent	Both	Standard	Retrofit	1	53%	223	0.042	0.042	8	\$29.64	\$26.59	per measure	3.06	3.41	6.51
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	Both	Standard	Retrofit	1	52%	85	0.016	0.016	9	\$29.64	\$9.84	per measure	1.31	3.94	2.70
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	Both	Standard	Retrofit	1	60%	125	0.024	0.024	11	\$29.64	\$14.88	per measure	2.32	4.63	4.59
28	Interior Lighting	LED Specialty Lamp	Both	Standard	Retrofit	1	87%	102	0.019	0.019	11	\$11.94	\$7.98	per measure	4.73	7.08	8.99
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	Both	Standard	Retrofit	1	24%	108	0.020	0.020	10	\$116.33	\$37.00	per measure	0.47	1.47	1.15
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	Both	Standard	Retrofit	1	24%	310	0.059	0.059	10	\$116.33	\$37.00	per measure	1.35	4.24	2.72
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >50 and <=120 Watts	Both	Standard	Retrofit	1	24%	86	0.016	0.016	11	\$42.35	\$13.47	per measure	1.12	3.53	2.29
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	Both	Standard	Retrofit	1	24%	445	0.085	0.085	11	\$119.56	\$53.14	per measure	2.06	4.63	4.06
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	Both	Standard	Retrofit	1	24%	445	0.085	0.085	8	\$128.00	\$53.14	per measure	1.42	3.41	3.02
34	Interior Lighting	Central Lighting Controls	Both	Standard	ROB	2	20%	8341	3.120	3.120	12	\$2,700.00	\$858.76	10,000 SF	2.10	6.60	3.54
35	Interior Lighting	Illuminated Signs to LED	Both	Standard	ROB	2	18%	6	0.001	0.001	10	\$4.00	\$2.67	per watt redu	0.64	0.95	1.95
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	Both	Standard	ROB	2	43%	6	0.001	0.001	12	\$0.90	\$0.32	per watt redu	3.34	9.29	6.97
37	Interior Lighting	LED Case Lighting (retrofit)	Both	Standard	ROB	2	51%	460	0.053	0.053	16	\$356.00	\$0.00	per door	0.79	0.00	1.67
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	Both	Custom	Retrofit	1	42%	912	0.126	0.126	15	\$380.00	\$66.44	Fixture	1.47	8.41	3.13
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	Both	Custom	Retrofit	1	80%	136	0.019	0.019	15	\$20.00	\$9.90	Fixture	4.16	8.41	8.87
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	Both	Custom	Retrofit	1	66%	1805	0.249	0.249	15	\$427.65	\$131.51	Fixture	2.59	8.41	5.51
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	Both	Custom	Retrofit	1	52%	1045	0.144	0.144	15	\$118.85	\$76.16	Fixture	5.39	8.41	11.48
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	Both	Custom	Retrofit	1	52%	1477	0.204	0.204	15	\$729.18	\$107.60	Fixture	1.24	8.41	2.64

Ameren MO		Business Measure Assumptions											Benefit-Cost Ratios				
Measure #	End-Use	Measure Name	Construction Type	Program	Replacement Type	Cost	% Elec Savings	Per Unit Elec Savings	Per Unit Summer CP kW	Per Unit NCP kW	Measure Life	Measure Cost	Incentive Cost	Cost/Unit Descriptor	TRC	UCT	Participant Test
						Type: 1=Full 2=Inc.											
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Both	Custom	Retrofit	1	41%	55	0.000	0.000	10	\$10.00	\$3.33	Unit	1.69	5.07	5.27
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Both	Custom	Retrofit	1	66%	1095	0.006	0.006	15	\$400.00	\$66.48	Fixture	1.21	7.26	3.54
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Both	Custom	Retrofit	1	52%	302	0.002	0.002	15	\$53.50	\$18.35	Fixture	2.49	7.26	7.31
46	Exterior Lighting	Exterior BiLevel Controls	Both	Custom	ROB	2	40%	955	0.221	0.221	8	\$274.00	\$76.36	per fixture	0.85	3.05	2.89
47	Exterior Lighting	Garage BiLevel Controls	Both	Custom	ROB	2	29%	1936	0.221	0.221	10	\$274.00	\$154.88	per fixture	2.14	3.78	6.93
48	Exterior Lighting	Lighting Power Density - Exterior	Both	Custom	ROB	2	10%	0	0.000	0.000	15	\$220.00	\$0.01	per kW redu	0.00	5.42	0.00
49	Exterior Lighting	Lighting Power Density - Parking Garage	Both	Custom	ROB	2	10%	1	0.000	0.000	15	\$220.00	\$0.04	per kW redu	0.00	5.42	0.00
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	Both	Standard	Retrofit	1	66%	1077	0.149	0.149	6	\$191.39	\$95.25	per measure	1.47	2.95	3.78
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	Both	Standard	Retrofit	1	64%	1048	0.006	0.006	9	\$233.64	\$63.61	per measure	1.25	4.58	3.98
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	Both	Standard	Retrofit	1	57%	2453	0.338	0.338	6	\$361.64	\$144.41	per measure	1.77	4.43	4.35
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	Both	Standard	Retrofit	1	64%	1077	0.149	0.149	6	\$191.39	\$95.25	per measure	1.47	2.95	3.78
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	Both	Standard	Retrofit	1	65%	1314	0.181	0.181	6	\$233.64	\$116.16	per measure	1.47	2.95	3.78
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	Both	Standard	Retrofit	1	69%	2453	0.338	0.338	6	\$361.64	\$216.83	per measure	1.77	2.95	4.55
57	Exterior Lighting	LED Auto Traffic Signals	Both	Standard	Retrofit	1	85%	293	0.033	0.033	10	\$50.00	\$0.00	per lamp	1.77	0.00	5.27
59	Exterior Lighting	LED Pedestrian Signals	Both	Standard	ROB	2	85%	946	0.108	0.108	10	\$100.00	\$0.00	per Lamp	2.86	0.00	8.52
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	Both	Custom	Retrofit	1	33%	136	0.123	0.123	15	\$58.62	\$24.84	HP	3.84	9.07	3.28
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	Both	Custom	Retrofit	1	41%	2591	2.360	2.360	20	\$1,968.50	\$474.72	Ton	2.70	11.21	2.22
62	Space Cooling	Chiller Control Optimization - Cooling	Both	Custom	Retrofit	1	8%	388	0.353	0.353	15	\$100.13	\$71.02	Ton	6.43	9.07	5.48
63	Space Cooling	CRAC Unit Upgrade - Cooling	Both	Custom	Retrofit	1	11%	5330	4.854	4.854	15	\$3,572.42	\$976.47	Ton	2.48	9.07	2.11
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	Both	Custom	Retrofit	1	11%	2864	2.608	2.608	15	\$1,056.13	\$524.66	Ton	4.51	9.07	3.84
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	Both	Custom	Retrofit	1	24%	35817	32.618	32.618	15	\$15,949.27	\$6,561.77	Sq. Ft. of Insv	3.73	9.07	3.18
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	Both	Custom	Retrofit	1	11%	1252	1.140	1.140	15	\$410.18	\$229.37	Ton	5.07	9.07	4.32
67	Space Cooling	VFD for Chiller - Cooling	Both	Custom	Retrofit	1	30%	1694	1.543	1.543	15	\$968.51	\$310.31	Ton	2.91	9.07	2.48
68	Space Cooling	VFD for Fan - Cooling	Both	Custom	Retrofit	1	30%	1352	1.232	1.232	10	\$347.31	\$247.75	HP	4.56	6.40	4.22
69	Space Cooling	VFD for Pump - Cooling	Both	Custom	Retrofit	1	30%	1400	1.275	1.275	15	\$200.43	\$200.43	HP	11.61	11.61	9.61
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	Both	Custom	Retrofit	1	29%	533	0.485	0.485	20	\$307.90	\$97.64	Ton	3.55	11.21	2.92
71	Space Cooling	Water Loop Heat Pump - Cooling	Both	Custom	Retrofit	1	25%	937	0.853	0.853	15	\$363.99	\$171.66	Ton	4.28	9.07	3.65
72	Space Cooling	VFD for Process Fans -CRAC units	Both	Custom	Retrofit	1	43%	2279	0.333	0.333	15	\$200.00	\$200.00	per HP	7.23	7.23	15.05
73	Space Cooling	VRV-Variable Refrigerant Volume System	Both	Custom	ROB	2	25%	1981	2.390	2.390	20	\$10,864.30	\$356.64	10 Ton VRF P	0.40	12.32	0.31
74	Space Cooling	Wall Insulation - Building Shell	Both	Custom	Retrofit	1	2%	3991	1.772	1.772	20	\$4,276.29	\$412.05	Sq. Ft. of Insv	1.22	12.64	1.50
75	Space Cooling	Building Operator Certification	Both	Custom	Retrofit	1	1%	23535	2.687	2.687	5	\$1,200.00	\$1,200.00	per participa	4.18	4.18	10.71
76	Space Cooling	Commercial EMS	Both	Custom	Retrofit	1	10%	2049	0.032	0.032	15	\$7.07	\$7.07	1000 sq ft co	142.34	142.34	358.26
77	Space Cooling	Commissioning	New Construction	Custom	ROB	2	13%	1	0.000	0.000	7	\$0.12	\$0.12	sq ft	2.44	2.44	5.68
78	Space Cooling	EMS Optimization / Continuous Commissioning	Both	Custom	ROB	2	1%	664	0.038	0.038	20	\$25.00	\$25.00	1000 sq ft co	17.81	17.81	40.96
79	Space Cooling	Zoning	Both	Custom	Retrofit	1	20%	664	0.059	0.059	15	\$15.00	\$15.00	ton	25.27	25.27	55.55
80	Space Cooling	Integrated Building Design	New Construction	Custom	ROB	2	30%	2	0.000	0.000	20	\$0.11	\$0.11	sq ft	16.33	16.33	29.19
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	Both	RCx	Retrofit	1	10%	967879	881.432	881.432	20	\$213,486.00	\$176,338.46	Ton	9.31	11.27	7.65
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	Both	RCx	Retrofit	1	10%	2902	2.643	2.643	15	\$738.22	\$528.80	1000 Sq. Ft. C	6.53	9.12	5.56
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	Both	RCx	Retrofit	1	10%	2560	2.331	2.331	15	\$553.11	\$466.35	Ton	7.69	9.12	6.55
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	Both	RCx	Retrofit	1	10%	34244	31.185	31.185	15	\$7,561.00	\$6,238.93	Ton	7.53	9.12	6.41
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	Both	RCx	Retrofit	1	10%	1020	0.929	0.929	10	\$284.60	\$185.82	HP	4.20	6.43	3.88
86	Space Cooling	Air Source Heat Pump	Both	Standard	Retrofit	1	33%	3779	1.678	1.678	15	\$4,038.00	\$704.05	per measure	0.99	5.65	1.33
87	Space Cooling	Improved Duct Sealing - Cooling AC	Both	Standard	Retrofit	1	5%	14	0.007	0.007	10	\$53.96	\$1.67	ton	0.19	6.06	0.26
88	Space Cooling	Packaged DX 240 - 760kbtu	Both	Standard	ROB	2	5%	67	0.061	0.061	15	\$100.00	\$12.12	per ton	1.11	9.12	0.94
89	Space Cooling	Packaged DX 65 -135kbtu	Both	Standard	ROB	2	8%	99	0.090	0.090	15	\$100.00	\$17.96	per ton	1.64	9.12	1.40
90	Space Cooling	Packaged DX >760kbtu	Both	Standard	ROB	2	5%	71	0.064	0.064	15	\$100.00	\$12.90	per ton	1.18	9.12	1.00
91	Space Cooling	Packaged DX <65kbtu	Both	Standard	ROB	2	7%	69	0.063	0.063	15	\$100.00	\$12.64	per ton	1.15	9.12	0.98
92	Space Cooling	PTAC	Both	Standard	ROB	2	26%	144	0.131	0.131	15	\$1,047.00	\$404.32	per ton	0.23	0.59	0.56
93	Space Cooling	PTHP	Both	Standard	ROB	2	24%	357	0.325	0.325	15	\$1,047.00	\$404.32	per ton	0.57	1.47	0.81

Ameren MO		Business Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Construction Type	Program	Replacement Type	Cost	% Elec Savings	Per Unit Elec Savings	Per Unit Summer CP kW	Per Unit NCP kW	Measure Life	Measure Cost	Incentive Cost	Cost/Unit Descriptor	TRC	UCT	Participant Test
						Type: 1=Full 2=Inc.											
94	Space Cooling	Air Cooled Chiller	Both	Standard	ROB	2	41%	411	0.374	0.374	20	\$106.23	\$74.86	per ton	7.94	11.27	6.53
95	Space Cooling	Small Commercial Programmable Thermostats	Both	Standard	Retrofit	1	3%	0	0.000	0.000	8	\$0.02	\$0.02	per measure	1.25	1.51	1.82
96	Space Cooling	Ceiling Insulation	Both	Standard	Retrofit	1	8%	292	0.149	0.149	30	\$600.00	\$35.05	1000 sq ft roc	0.80	13.76	0.99
97	Space Cooling	Cool Roof	Both	Standard	Retrofit	1	15%	322	0.157	0.157	20	\$8,454.67	\$38.64	1000 sq ft roc	0.05	10.40	0.06
98	Space Cooling	EMS Pump Scheduling Controls	Both	Standard	ROB	2	10%	2819	0.259	0.259	15	\$507.50	\$338.30	pump Hp	3.19	4.79	7.52
99	Space Cooling	Energy Efficient Windows	Both	Standard	ROB	2	14%	3208	0.000	0.000	25	\$75.00	\$75.00	per Window	29.54	29.54	74.91
100	Space Cooling	Roof Insulation	Both	Standard	ROB	2	8%	72	0.008	0.008	20	\$1.40	\$1.40	per 1000 sqft	38.50	38.50	78.34
101	Space Cooling	Window Improvements	Both	Standard	Retrofit	1	14%	1215	0.590	0.590	25	\$1,500.00	\$145.78	100SF	1.17	12.04	1.50
102	Space Heating	General HVAC Equipment Upgrades - Heating	Both	Custom	Retrofit	1	11%	2864	0.000	0.000	15	\$1,056.13	\$144.93	Ton	1.28	9.33	3.48
103	Space Heating	GSHP <135kbtu; ≥17EER	Both	Standard	ROB	2	4%	65	0.033	0.033	15	\$180.00	\$0.00	per ton	0.41	0.00	0.44
104	Space Heating	GSHP <135kbtu; ≥19EER	Both	Standard	ROB	2	8%	143	0.105	0.105	15	\$180.00	\$25.72	per ton	1.13	7.93	1.12
105	Space Heating	ASHP 65 - 135kbtu	Both	Standard	ROB	2	7%	160	0.087	0.087	15	\$100.00	\$17.44	per ton	1.89	10.86	2.15
106	Space Heating	ASHP 135 - 240kbtu	Both	Standard	ROB	2	10%	227	0.039	0.039	15	\$100.00	\$17.44	per ton	1.59	9.10	2.98
107	Space Heating	ASHP >240kbtu	Both	Standard	ROB	2	11%	267	0.126	0.126	15	\$100.00	\$25.14	per ton	2.90	11.54	3.55
108	Space Heating	ASHP <65kbtu	Both	Standard	ROB	2	5%	131	0.063	0.063	15	\$100.00	\$22.85	per ton	1.44	6.32	1.85
109	Space Heating	Learning Thermostat	Both	Standard	Retrofit	1	16%	438	0.187	0.187	10	\$224.00	\$74.67	per measure	1.42	4.25	2.10
110	Space Heating	Wall Insulation - Building Shell	Both	Custom	Retrofit	1	2%	3991	1.772	1.772	20	\$4,276.29	\$412.05	Sq. Ft. of Insu	1.21	12.61	1.50
111	Space Heating	Building Operator Certification	Both	Custom	ROB	2	1%	23535	2.687	2.687	5	\$1,200.00	\$1,200.00	per participa	4.32	4.32	10.71
112	Space Heating	Commercial EMS	Both	Custom	Retrofit	1	10%	2049	0.032	0.032	15	\$7.07	\$7.07	1000 sq ft coi	142.57	142.57	358.26
113	Space Heating	Commissioning	New Construction	Custom	ROB	2	13%	1	0.000	0.000	7	\$0.12	\$0.10	sq ft	2.58	3.07	5.53
114	Space Heating	EMS Optimization / Continuous Commissioning	Both	Custom	ROB	2	1%	664	0.038	0.038	20	\$25.00	\$25.00	1000 sq ft coi	18.11	18.11	40.96
115	Space Heating	Zoning	Both	Custom	Retrofit	1	20%	664	0.059	0.059	15	\$15.00	\$15.00	ton	25.98	25.98	55.55
116	Space Heating	Integrated Building Design	New Construction	Custom	ROB	2	30%	2	0.000	0.000	20	\$0.11	\$0.11	sq ft	17.25	17.25	29.19
117	Space Heating	Ceiling Insulation	Both	Standard	ROB	2	8%	292	0.149	0.149	30	\$600.00	\$35.05	1000 sq ft roc	0.88	15.11	0.99
118	Space Heating	Cool Roof	Both	Standard	Retrofit	1	15%	322	0.157	0.157	20	\$8,454.67	\$38.64	1000 sq ft roc	0.05	11.41	0.06
119	Space Heating	EMS Pump Scheduling Controls	Both	Standard	ROB	2	10%	2819	0.259	0.259	15	\$507.50	\$338.30	pump Hp	3.29	4.93	7.52
120	Space Heating	Energy Efficient Windows	Both	Standard	ROB	2	14%	3208	0.000	0.000	25	\$75.00	\$75.00	per Window	29.35	29.35	74.91
121	Space Heating	Roof Insulation	Both	Standard	ROB	2	8%	72	0.008	0.008	20	\$1.40	\$1.40	per 1000 sqft	39.84	39.84	78.34
122	Space Heating	Window Improvements	Both	Standard	Retrofit	1	14%	1215	0.590	0.590	25	\$1,500.00	\$145.78	100SF	1.28	13.20	1.50
123	Ventilation	Advanced RTU Compressor Controller - HVAC (Ventilation)	Both	Custom	Retrofit	1	33%	2460	1.092	1.092	15	\$858.69	\$266.47	HP	3.01	9.70	3.84
124	Ventilation	Air Cooled Chiller Upgrade - HVAC (Ventilation)	Both	Custom	Retrofit	1	41%	14000	6.216	6.216	20	\$10,100.00	\$1,516.23	Ton	1.80	12.02	2.24
125	Ventilation	Demand Control Ventilation - HVAC (Ventilation)	Both	Custom	Retrofit	1	25%	6532	2.900	2.900	15	\$1,200.28	\$707.38	Sq. Ft. Cond.	5.72	9.70	7.30
126	Ventilation	ECM Motor for HVAC - HVAC (Ventilation)	Both	Custom	Retrofit	1	26%	2558	1.135	1.135	15	\$850.75	\$276.98	HP	3.16	9.70	4.03
127	Ventilation	General HVAC Equipment Upgrades - HVAC (Ventilation)	Both	Custom	Retrofit	1	11%	3295	1.463	1.463	15	\$1,056.13	\$1,056.13	Ton	3.28	3.28	4.85
128	Ventilation	HVAC Controls (BMS, EMS...) - HVAC (Ventilation)	Both	Custom	Retrofit	1	11%	2481	1.101	1.101	15	\$957.57	\$268.68	Sq. Ft. Cond.	2.72	9.70	3.47
129	Ventilation	Packaged / Rooftop Unit Upgrade - HVAC (Ventilation)	Both	Custom	Retrofit	1	11%	2236	0.993	0.993	15	\$668.38	\$242.14	Ton	3.52	9.70	4.49
130	Ventilation	VFD for Fan - HVAC (Ventilation)	Both	Custom	Retrofit	1	30%	2051	0.910	0.910	10	\$487.80	\$222.10	HP	3.11	6.83	4.24
131	Ventilation	Water Loop Heat Pump - HVAC (Ventilation)	Both	Custom	Retrofit	1	10%	1647	0.731	0.731	15	\$625.86	\$178.42	Ton	2.77	9.70	3.53
132	Ventilation	Demand Control Ventilation - Cooling	Both	Custom	Retrofit	1	25%	14954	13.618	13.618	15	\$2,175.50	\$2,175.50	Sq. Ft. of Insu	11.41	11.41	9.48
133	Ventilation	HVAC-Demand Control Ventilation Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	Existing Construction	RCx	Retrofit	1	25%	10409	4.622	4.622	15	\$1,124.07	\$1,124.07	1000 Sq. Ft. C	9.73	9.73	12.42
134	Ventilation	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	Existing Construction	RCx	Retrofit	1	10%	1498	0.665	0.665	15	\$108.50	\$108.50	1000 Sq. Ft. C	14.50	14.50	18.02
135	Ventilation	HVAC-Minimize Outside Air Retro-Commissioning HVAC (Ventilation)	Existing Construction	RCx	Retrofit	1	10%	1973	0.876	0.876	10	\$248.82	\$248.82	1000 Sq. Ft. C	5.87	5.87	8.14
136	Ventilation	HVAC-HVAC Optimization - Airside Retro-Commissioning HVAC (Ventilation)	Existing Construction	RCx	Retrofit	1	10%	2928	1.300	1.300	10	\$214.84	\$214.84	HP	10.08	10.08	13.28
137	Ventilation	HVAC-HVAC Optimization - Waterside Retro-Commissioning HVAC (Ventilation)	Existing Construction	RCx	Retrofit	1	10%	2350	1.043	1.043	10	\$312.80	\$312.80	HP	5.56	5.56	7.77
138	Ventilation	HVAC-HVAC Optimization - Set Point Control Retro-Commissioning HVAC (Ventilation)	Existing Construction	RCx	Retrofit	1	10%	108	0.048	0.048	10	\$12.06	\$12.06	1000 Sq. Ft. C	6.62	6.62	9.06
139	Ventilation	Economizer	Existing Construction	Standard	Retrofit	1	12%	105	0.000	0.000	13	\$100.88	\$12.60	per Ton	0.44	3.48	1.28
140	Ventilation	Demand Controlled Ventillation (Electric Heat)	Both	Standard	Retrofit	1	25%	2	0.002	0.002	10	\$707.38	\$416.76	per sq. ft.	0.00	0.01	0.59
141	Ventilation	Demand Controlled Ventillation (Heat Pump)	Both	Standard	Retrofit	1	25%	1	0.001	0.001	10	\$707.38	\$416.76	per sq. ft.	0.00	0.00	0.59
143	Compressed Air	Compressed Air Optimization - Air Comp	Both	Custom	Retrofit	1	42%	2304	0.318	0.318	10	\$250.00	\$195.93	HP	4.32	5.52	9.09
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	Both	Custom	Retrofit	1	20%	3138	0.433	0.433	15	\$428.00	\$266.80	HP	4.90	7.87	9.66
145	Compressed Air	VFD for Air Compressor - Air Comp	Both	Custom	Retrofit	1	20%	1839	0.254	0.254	15	\$216.00	\$156.32	HP	5.69	7.87	11.22
146	Compressed Air	Air Compressor Outdoor Air Intake	Both	Custom	ROB	2	6%	110	0.018	0.018	20	\$5.00	\$5.00	per hp	18.78	18.78	34.05
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Both	Custom	ROB	2	20%	3912	0.791	0.791	15	\$1,482.00	\$312.96	Compressor	1.95	9.24	3.47

Ameren MO		Business Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Construction Type	Program	Replacement Type	Cost	% Elec Savings	Per Unit	Per Unit	Per Unit	Measure Life	Measure Cost	Incentive Cost	Cost/Unit Descriptor	TRC	UCT	Participant Test
						1=Full		Elec	Summer								
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	Both	Custom	ROB	2	3%	74	0.010	0.010	10	\$25.00	\$5.92	per HP	1.37	5.79	2.90
149	Compressed Air	Compressed Air Replacement with Air Blowers	Both	Custom	ROB	2	79%	5588	4.833	4.833	15	\$620.00	\$447.02	per hp	14.06	19.51	11.83
150	Compressed Air	Compressed Air Storage Tank	Both	Custom	ROB	2	6%	437	0.071	0.071	25	\$36.00	\$34.95	per hp	12.10	12.47	21.94
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	Both	Custom	ROB	2	3%	394	0.453	0.453	15	\$30.00	\$30.00	per Unit	25.13	25.13	17.19
152	Compressed Air	Cycling Dryers	Both	Custom	ROB	2	29%	13	0.002	0.002	10	\$20.00	\$1.03	per SCFM	0.31	6.03	0.63
153	Compressed Air	High Efficiency Air Dryers	Both	Custom	ROB	2	22%	12	0.002	0.002	13	\$6.00	\$0.93	per CFM	1.20	7.72	2.31
154	Compressed Air	Low Pressure Drop-Filters	Both	Custom	ROB	2	3%	31	0.007	0.007	10	\$1,000.00	\$2.45	per Filter	0.02	6.91	0.03
155	Compressed Air	Receiver Capacity Addition	Both	Custom	ROB	2	10%	9159	2.318	2.318	10	\$2,000.00	\$732.70	per Unit	2.58	7.05	4.49
156	Compressed Air	Variable Displacement Air Compressor	Both	Custom	ROB	2	10%	442	0.071	0.071	13	\$340.00	\$35.36	per hp	0.79	7.62	1.54
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	Both	Custom	ROB	2	20%	2375	1.078	1.078	15	\$190.00	\$190.00	Compressor	13.14	13.14	16.41
158	Compressed Air	Compressed Air-Compressed Air Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Air Comp	Existing Construction	RCx	Retrofit	1	10%	267479	36.897	36.897	10	\$21,670.00	\$21,670.00	HP	5.79	5.79	12.12
159	Compressed Air	Compressed Air-No Loss Drains Replacing Condensate Drains Retro-Commissioning Air Comp	Existing Construction	RCx	Retrofit	1	4%	266509	36.763	36.763	10	\$35,000.00	\$35,000.00	Unit	3.57	3.57	7.86
160	Compressed Air	Compressed Air-Compressed Air System Leak Repair Retro-Commissioning Air Comp	Existing Construction	RCx	Retrofit	1	10%	2388	0.329	0.329	10	\$196.79	\$196.79	HP	5.69	5.69	11.93
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	Both	Standard	Retrofit	1	4%	3272	0.451	0.451	13	\$700.00	\$700.00	per measure	2.78	2.78	6.18
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	Both	Standard	Retrofit	1	4%	2419	0.334	0.334	13	\$700.00	\$700.00	per measure	2.05	2.05	4.83
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	Both	Standard	Retrofit	1	4%	2703	0.373	0.373	13	\$700.00	\$700.00	per measure	2.29	2.29	5.28
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	Both	Standard	Retrofit	1	4%	978	0.135	0.135	13	\$700.00	\$700.00	per measure	0.83	0.83	2.55
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	Both	Standard	Retrofit	1	4%	978	0.135	0.135	13	\$700.00	\$700.00	per measure	0.83	0.83	2.55
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	Both	Standard	Retrofit	1	4%	2721	0.375	0.375	13	\$700.00	\$700.00	per measure	2.31	2.31	5.31
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	Both	Standard	Retrofit	1	4%	3166	0.437	0.437	13	\$700.00	\$700.00	per measure	2.69	2.69	6.01
168	Compressed Air	Compressed Air Nozzle (Reciprocating - On/off Control)	Both	Standard	Retrofit	1	50%	1547	0.213	0.213	15	\$77.00	\$77.00	per measure	13.44	13.44	25.77
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	Both	Standard	Retrofit	1	50%	1203	0.166	0.166	15	\$77.00	\$77.00	per measure	10.45	10.45	20.27
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	Both	Standard	Retrofit	1	50%	1289	0.178	0.178	15	\$77.00	\$77.00	per measure	11.20	11.20	21.65
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	Both	Standard	Retrofit	1	50%	516	0.071	0.071	15	\$77.00	\$77.00	per measure	4.48	4.48	9.26
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	Both	Standard	Retrofit	1	50%	516	0.071	0.071	15	\$77.00	\$77.00	per measure	4.48	4.48	9.26
173	Compressed Air	Compressed Air Nozzle (Screw - Variable Displacement)	Both	Standard	Retrofit	1	50%	1289	0.178	0.178	15	\$77.00	\$77.00	per measure	11.20	11.20	21.65
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	Both	Standard	Retrofit	1	50%	1547	0.213	0.213	15	\$77.00	\$77.00	per measure	13.44	13.44	25.77
175	Compressed Air	VSD Air Compressor ≤ 40 HP	Both	Standard	Retrofit	1	21%	987	0.136	0.136	10	\$1,573.00	\$1,148.91	per HP	0.29	0.40	1.30
176	Cooking	3 Pan ENERGY STAR Steam Cooker	Both	Standard	ROB	2	57%	7856	1.570	1.570	12	\$4,150.00	\$572.48	per measure	1.15	8.36	2.11
177	Cooking	4 Pan ENERGY STAR Steam Cooker	Both	Standard	ROB	2	56%	9214	1.842	1.842	12	\$4,150.00	\$671.38	per measure	1.35	8.36	2.47
178	Cooking	5 Pan ENERGY STAR Steam Cooker	Both	Standard	ROB	2	55%	10513	2.101	2.101	12	\$4,150.00	\$766.07	per measure	1.54	8.36	2.82
179	Cooking	6 Pan ENERGY STAR Steam Cooker	Both	Standard	ROB	2	54%	11819	2.362	2.362	12	\$4,150.00	\$861.22	per measure	1.73	8.36	3.17
180	Cooking	ENERGY STAR Hot Holding Cabinet (0 < V <13)	Both	Standard	ROB	2	46%	709	0.142	0.142	12	\$1,783.00	\$323.42	per measure	0.24	1.34	0.60
181	Cooking	ENERGY STAR Hot Holding Cabinet (13 ≤ V <28)	Both	Standard	ROB	2	63%	2772	0.554	0.554	12	\$1,783.00	\$323.42	per measure	0.95	5.22	1.80
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	Both	Standard	ROB	2	72%	4438	0.887	0.887	12	\$1,783.00	\$323.42	per measure	1.52	8.36	2.77
183	Cooking	Combination Oven (Pan Capacity < 15)	Both	Standard	ROB	2	35%	6372	1.274	1.274	12	\$4,300.00	\$0.00	per measure	0.90	0.00	1.54
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	Both	Standard	ROB	2	40%	11744	2.347	2.347	12	\$4,300.00	\$0.00	per measure	1.66	0.00	2.84
185	Cooking	Standard Open Deep-Fat Fryer	Both	Standard	ROB	2	5%	952	0.190	0.190	12	\$210.00	\$0.00	per measure	2.76	0.00	4.72
186	Cooking	Large Vat Open Deep-Fat Fryer	Both	Standard	ROB	2	14%	2538	0.507	0.507	12	\$1,706.00	\$0.00	per measure	0.91	0.00	1.55
187	Cooking	Convection Oven (Full Size)	Both	Standard	ROB	2	16%	1938	0.387	0.387	12	\$471.00	\$0.00	per measure	2.51	0.00	4.29
188	Cooking	Convection Oven (Half Size)	Both	Standard	ROB	2	3%	192	0.038	0.038	12	\$235.50	\$0.00	per measure	0.50	0.00	0.85
189	Cooking	Griddle	Both	Standard	ROB	2	12%	1910	0.382	0.382	12	\$3,604.00	\$0.00	per measure	0.32	0.00	0.55
190	Cooking	Kitchen Demand Ventillation Controls	Both	Standard	Retrofit	1	50%	3331	0.666	0.666	15	\$1,988.00	\$1,171.62	per HP	1.23	2.09	2.66
191	Cooking	Induction Cooktop	Both	Standard	ROB	2	20%	784	0.000	0.000	11	\$3,000.00	\$0.00	Per unit	0.09	0.00	0.25
192	Motors	ECM Motor - Motors	Both	Custom	Retrofit	1	54%	552	0.076	0.076	15	\$196.36	\$46.96	HP	1.88	7.87	3.71
193	Motors	Efficient Pump - Motors	Both	Custom	Retrofit	1	20%	29843	4.117	4.117	15	\$3,960.39	\$2,537.34	HP	5.04	7.87	9.93
194	Motors	VFD for Chiller - Motors	Both	Custom	Retrofit	1	30%	827	0.114	0.114	15	\$272.64	\$70.32	Ton	2.03	7.87	4.00
195	Motors	VFD for Process Motor - Motors	Both	Custom	Retrofit	1	30%	2116	0.292	0.292	15	\$272.64	\$179.87	HP	5.19	7.87	10.23
196	Motors	VFD for Pump - Motors	Both	Custom	Retrofit	1	30%	2618	0.361	0.361	15	\$937.50	\$222.56	HP	1.87	7.87	3.68
199	Motors	VFD on Chilled Water Pump 1-75HP	Both	Standard	Retrofit	1	34%	1290	1.174	1.174	15	\$179.00	\$176.00	per Hp	12.08	12.28	9.87
200	Motors	VFD on Hot Water Pump 1-75HP	Both	Standard	Retrofit	1	36%	1697	0.753	0.753	15	\$179.00	\$176.00	per Hp	10.12	10.29	12.67
201	Motors	VFD on HVAC Fans 1-100HP	Both	Standard	Retrofit	1	43%	940	0.417	0.417	15	\$168.00	\$87.50	per Hp	5.97	11.47	7.42
202	Office & Computing	Commercial Plug Load - Smart Strip Outlets	Both	Standard	ROB	2	15%	32	0.003	0.003	5	\$90.00	\$0.00	per unit	0.06	0.00	0.18

Ameren MO		Business Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Construction Type	Program	Replacement Type	Cost		Per Unit Elec Savings	Per Unit Summer CP kW	Per Unit NCP kW	Measure Life	Measure Cost	Incentive Cost	Cost/Unit Descriptor	TRC	UCT	Participant Test
						1=Full	2=Inc.										
203	Office & Computing	Computer Room Air Conditioner Economizer	Both	Custom	ROB	2	47%	358	0.041	0.041	15	\$82.00	\$0.00	MBH	2.04	0.00	5.38
204	Office & Computing	Computer Room Air Side Economizer	Both	Custom	ROB	2	47%	440	0.000	0.000	10	\$25.00	\$0.00	MBH	5.76	0.00	15.87
205	Office & Computing	Computer Room Hot Aisle Cold Aisle Configuration	Both	Custom	ROB	2	13%	125	0.014	0.014	15	\$156.00	\$0.00	MBH	0.37	0.00	0.99
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	Both	Custom	ROB	2	40%	541	0.070	0.070	5	\$116.00	\$0.00	per PC	0.78	0.00	2.31
207	Office & Computing	Electrically Commutated Plug Fans in data centers	Both	Custom	ROB	2	33%	1445	0.165	0.165	15	\$718.00	\$0.00	per fan	0.94	0.00	2.48
208	Office & Computing	Ongoing Commissioning of Economizers in a Data Center	Existing Construction	Custom	ROB	2	10%	81	0.009	0.009	1	\$7.00	\$0.00	per square ft	0.39	0.00	1.24
209	Office & Computing	Energy Star Compliant Refrigerator	Both	Standard	ROB	2	24%	807	0.104	0.104	10	\$750.00	\$0.00	per unit	0.35	0.00	0.97
210	Office & Computing	Energy Star Computers	Both	Standard	ROB	2	43%	25	0.005	0.005	5	\$5.00	\$0.00	per PC	0.83	0.00	2.45
211	Office & Computing	Energy Star POS Terminal	Both	Standard	ROB	2	68%	2208	0.305	0.305	4	\$292.72	\$0.00	Per Unit	1.02	0.00	3.05
212	Office & Computing	Energy Star UPS	Both	Standard	ROB	2	11%	109	0.019	0.019	10	\$1,361.50	\$0.00	per kW	0.03	0.00	0.07
213	Office & Computing	High Efficiency Hand Dryer	Both	Standard	ROB	2	69%	965	0.109	0.109	10	\$450.00	\$0.00	per unit	0.70	0.00	1.93
214	Office & Computing	Computer Power Management Software	Both	Standard	ROB	2	46%	161	0.028	0.028	5	\$29.00	\$0.00	per PC	0.93	0.00	2.75
215	Office & Computing	Vending Miser for Non-Refrig Equip	Both	Standard	ROB	2	52%	343	0.039	0.039	5	\$80.00	\$0.00	per unit	0.72	0.00	2.12
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	Both	Standard	ROB	2	23%	908	0.125	0.125	11	\$200.00	\$0.00	per measure	2.26	0.00	4.41
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	Both	Standard	ROB	2	23%	308	0.043	0.043	11	\$200.00	\$0.00	per measure	0.77	0.00	1.50
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	Both	Standard	ROB	2	23%	751	0.104	0.104	11	\$200.00	\$0.00	per measure	1.87	0.00	3.65
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	Both	Standard	ROB	2	23%	152	0.021	0.021	11	\$200.00	\$0.00	per measure	0.38	0.00	0.74
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	Both	Standard	ROB	2	21%	841	0.116	0.116	14	\$75.00	\$0.00	per measure	6.88	0.00	13.13
221	Other	Clothes Dryer Vented Electric, Compact (120V) (< 4.4 ft3)	Both	Standard	ROB	2	21%	307	0.042	0.042	14	\$105.00	\$0.00	per measure	1.80	0.00	3.43
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	Both	Standard	ROB	2	21%	340	0.047	0.047	14	\$105.00	\$0.00	per measure	1.99	0.00	3.80
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	Both	Standard	ROB	2	21%	429	0.059	0.059	14	\$105.00	\$0.00	per measure	2.51	0.00	4.78
224	Other	Clothes Dryer Vented Gas	Both	Standard	ROB	2	18%	41	0.006	0.006	14	\$75.00	\$0.00	per measure	0.33	0.00	0.63
225	Other	High Efficiency Transformer, single-phase	Both	Standard	ROB	2	2%	2	0.001	0.001	30	\$1.54	\$0.00	per kVA	1.30	0.00	2.26
226	Other	High Efficiency Transformer, three-phase	Both	Standard	ROB	2	2%	7	0.002	0.002	30	\$6.08	\$0.00	per kVA	1.27	0.00	2.34
227	Other	NEMA Premium Transformer, single-phase	Both	Standard	ROB	2	2%	7	0.003	0.003	30	\$11.98	\$0.00	per kVA	0.68	0.00	1.05
228	Other	NEMA Premium Transformer, three-phase	Both	Standard	ROB	2	2%	10	0.002	0.002	30	\$10.46	\$0.00	per kVA	0.90	0.00	1.80
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	Both	Custom	Retrofit	1	30%	97778	13.272	13.272	12	\$31,198.95	\$7,125.66	Cu. Ft.	1.68	7.34	3.49
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	Both	Custom	Retrofit	1	54%	1925	0.261	0.261	15	\$321.44	\$140.29	HP	3.87	8.86	7.82
231	Refrigeration	Head Pressure Controls - Refrigeration	Both	Custom	Retrofit	1	9%	11024	1.496	1.496	15	\$1,617.08	\$803.39	HP	4.40	8.86	8.90
232	Refrigeration	Refrigeration Insulation - Refrigeration	Both	Custom	Retrofit	1	60%	839	0.114	0.114	12	\$305.00	\$61.13	Sq. Ft. Cond.	1.47	7.34	3.07
233	Refrigeration	Discus Compressors	Both	Custom	ROB	2	8%	403	0.048	0.048	15	\$125.00	\$24.16	ton	1.97	10.21	4.17
234	Refrigeration	Efficient Refrigeration Condenser	Both	Custom	ROB	2	2%	4809	0.494	0.494	8	\$274.00	\$274.00	per 1/3 HP m	5.87	5.87	14.13
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	Both	Custom	ROB	2	36%	1524	0.174	0.174	13	\$291.00	\$91.44	per motor	2.82	8.96	6.12
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	Both	Custom	ROB	2	52%	1462	0.167	0.167	15	\$800.00	\$87.73	per motor re	1.11	10.10	2.36
239	Refrigeration	Evaporator Coil Defrost Control	Both	Custom	Retrofit	1	30%	158	0.042	0.042	10	\$388.00	\$9.45	per ton	0.23	9.25	0.39
240	Refrigeration	Efficient Refrigeration Condenser	Both	Custom	ROB	2	2%	4809	0.494	0.494	8	\$274.00	\$274.00	per 1/3 HP m	5.87	5.87	14.13
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	Both	Standard	ROB	2	37%	380	0.052	0.052	12	\$150.00	\$28.00	per measure	1.35	7.26	2.82
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	Both	Standard	ROB	2	40%	626	0.085	0.085	12	\$400.00	\$97.00	per measure	0.84	3.45	1.87
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	Both	Standard	ROB	2	45%	983	0.133	0.133	12	\$550.00	\$179.00	per measure	0.96	2.94	2.19
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	Both	Standard	ROB	2	51%	1311	0.178	0.178	12	\$700.00	\$220.00	per measure	1.00	3.19	2.27
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	Both	Standard	ROB	2	57%	354	0.048	0.048	12	\$250.00	\$120.45	per measure	0.76	1.57	1.96
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	Both	Standard	ROB	2	39%	217	0.029	0.029	12	\$500.00	\$124.74	per measure	0.23	0.93	0.70
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	Both	Standard	ROB	2	33%	226	0.031	0.031	12	\$1,307.00	\$383.00	per measure	0.09	0.32	0.47
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	Both	Standard	ROB	2	36%	373	0.051	0.051	12	\$2,300.00	\$438.00	per measure	0.09	0.46	0.36
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	Both	Standard	ROB	2	61%	1220	0.166	0.166	12	\$525.00	\$90.73	per measure	1.24	7.19	2.59
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	Both	Standard	ROB	2	22%	349	0.047	0.047	12	\$150.00	\$25.94	per measure	1.24	7.19	2.60
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	Both	Standard	ROB	2	34%	1308	0.177	0.177	12	\$400.00	\$97.26	per measure	1.75	7.19	3.65
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	Both	Standard	ROB	2	38%	2403	0.326	0.326	12	\$550.00	\$178.75	per measure	2.34	7.19	4.88
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	Both	Standard	ROB	2	38%	2951	0.401	0.401	12	\$700.00	\$219.51	per measure	2.26	7.19	4.71
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	Both	Standard	ROB	2	40%	1430	0.194	0.194	12	\$220.00	\$106.36	per measure	3.48	7.19	7.25
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	Both	Standard	ROB	2	42%	3187	0.433	0.433	12	\$950.00	\$237.01	per measure	1.79	7.19	3.74
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	Both	Standard	ROB	2	41%	5150	0.699	0.699	12	\$1,307.00	\$383.05	per measure	2.11	7.19	4.40
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	Both	Standard	ROB	2	39%	5884	0.799	0.799	12	\$2,300.00	\$437.64	per measure	1.37	7.19	2.86
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	Both	Standard	ROB	2	84%	5265	0.715	0.715	12	\$595.00	\$391.61	per measure	4.73	7.19	9.88
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	Both	Standard	Retrofit	1	50%	668	0.091	0.091	12	\$151.00	\$49.70	per door	2.37	7.19	4.94
260	Refrigeration	Anti-Sweat Heater Controls Freezer	Both	Standard	Retrofit	1	50%	771	0.105	0.105	12	\$151.00	\$57.34	per door	2.73	7.19	5.70

Ameren MO		Business Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Construction Type	Program	Replacement Type	Cost	% Elec Savings	Per Unit	Per Unit	Per Unit	Measure	Measure	Incentive	Cost/Unit	TRC	UCT	Participant
						Type: 1=Full 2=Inc.		Elec Savings	Summer CP kW								
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	Both	Standard	Retrofit	1	5%	0	0.000	0.000	12	\$140.00	\$29.87	per measure	0.00	0.00	0.21
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	Both	Standard	Retrofit	1	10%	0	0.000	0.000	12	\$140.00	\$29.87	per measure	0.00	0.01	0.22
263	Refrigeration	Night Covers	Both	Standard	ROB	2	9%	16	0.000	0.000	5	\$33.75	\$6.30	LF of case - h	0.08	0.42	0.42
264	Refrigeration	Reach-in Refrigerated display case door retrofit	Both	Standard	ROB	2	43%	1014	0.206	0.206	12	\$686.00	\$128.05	linear ft	0.87	4.67	1.73
265	Refrigeration	Refrigerant charging correction	Both	Standard	ROB	2	14%	47	0.064	0.064	2	\$10.36	\$1.93	ton	1.23	6.59	1.13
266	Refrigeration	Refrigeration Savings due to Lighting Savings	Both	Standard	ROB	2	2%	1	0.000	0.000	12	\$0.25	\$0.05	per lighting 1	3.25	17.41	5.34
267	Refrigeration	Strip Curtains - Walk-In Cooler	Both	Standard	ROB	2	80%	85	0.010	0.010	4	\$8.97	\$1.67	per square ft	1.63	8.72	4.01
268	Refrigeration	Strip Curtains - Walk-In Freezer	Both	Standard	ROB	2	80%	454	0.052	0.052	4	\$8.97	\$1.67	per square ft	8.69	46.58	20.63
269	Refrigeration	Zero-Energy Doors	Both	Standard	ROB	2	20%	1360	0.131	0.131	10	\$290.00	\$95.44	per door	1.92	5.84	4.55
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	Both	Custom	ROB	2	33%	3537	3.655	3.655	15	\$254.00	\$212.19	ton	7.72	9.24	18.00
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	Both	Standard	ROB	2	76%	21156	3.833	3.833	15	\$4,000.00	\$1,514.34	per measure	3.75	9.92	6.90
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	Both	Standard	ROB	2	76%	52890	9.581	9.581	15	\$7,000.00	\$3,785.85	per measure	5.36	9.92	9.86
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	Both	Standard	ROB	2	76%	141041	25.550	25.550	15	\$10,000.00	\$10,000.00	per measure	10.01	10.01	18.39
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	Both	Standard	ROB	2	76%	282081	51.100	51.100	15	\$14,000.00	\$14,000.00	per measure	14.30	14.30	25.84
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	Both	Standard	ROB	2	76%	423122	76.650	76.650	15	\$18,000.00	\$18,000.00	per measure	16.68	16.68	29.98
281	Water Heating	Low Flow Faucet Aerator	Both	Standard	Retrofit	1	22%	87	0.016	0.016	9	\$8.00	\$0.00	per measure	4.87	0.00	8.94
282	Water Heating	Pre-Rinse Spray Valve	Both	Standard	Retrofit	1	52%	5787	1.157	1.157	5	\$92.90	\$0.00	per measure	16.14	0.00	30.84
283	Water Heating	Circulator Pump	Both	Standard	Retrofit	1	82%	651	0.090	0.090	15	\$1,200.00	\$0.00	per measure	0.35	0.00	0.67
284	Water Heating	Efficient Hot Water Pump	Both	Standard	ROB	2	21%	201	0.055	0.055	15	\$96.79	\$0.00	per hp	1.03	0.00	2.57
285	Water Heating	On Demand (tankless)	Both	Standard	ROB	2	7%	7905	0.900	0.900	5	\$3,255.00	\$0.00	per Unit	0.42	0.00	1.20
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	Both	Standard	ROB	2	30%	11358	1.728	1.728	15	\$419.05	\$0.00	per Unit	13.16	0.00	33.42
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	Both	Standard	ROB	2	26%	4862	0.740	0.740	15	\$265.03	\$0.00	per Unit	8.91	0.00	22.62
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	Both	Standard	ROB	2	33%	12783	1.945	1.945	16	\$95.07	\$0.00	per Unit	68.80	0.00	173.68
289	Water Heating	Hot Water (DHW) Pipe Insulation	Both	Standard	ROB	2	2%	77	0.009	0.009	20	\$6.00	\$0.00	linear ft	7.78	0.00	19.42
290	Water Heating	Low Flow Showerhead	Both	Standard	ROB	2	20%	949	0.125	0.125	10	\$20.00	\$0.00	per unit	16.04	0.00	42.73
291	Water Heating	Water Heater Timer	Both	Standard	ROB	2	5%	1673	0.000	0.000	10	\$132.00	\$0.00	Per Unit	4.19	0.00	11.42
300	Process - Machine Drive	Air-Entraining Air Nozzles	Both	Custom	ROB	2	42%	36648	9.585	9.585	15	\$81.50	\$81.50	per nozzle	365.59	365.59	555.41
301	Process - Machine Drive	Advanced Lubricants	Both	Custom	ROB	2	3%	1	0.000	0.000	1	\$0.00	\$0.00	per kWh sav	574.87	574.87	1072.00
302	Process - Machine Drive	Storage Tank Addition (comp air)	Both	Custom	ROB	2	30%	423	0.000	0.000	25	\$24.00	\$24.00	per hp	12.55	12.55	31.45
303	Process - Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	Both	Custom	ROB	2	3%	394	0.453	0.453	15	\$30.00	\$27.58	0.000	25.13	27.33	17.11
304	Process - Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	Both	Custom	ROB	2	20%	2375	1.078	1.078	15	\$190.00	\$166.25	0.000	13.14	15.02	16.29
305	Process - Machine Drive	High Efficiency Dryers (comp air)	Both	Custom	ROB	2	33%	41	0.007	0.007	14	\$34.20	\$2.85	per SCFM	0.78	9.30	1.48
306	Process - Machine Drive	Elec motors replacing pneumatic (comp air)	Both	Custom	ROB	2	85%	1330	3.326	3.326	10	\$350.00	\$93.13	per HP	9.64	36.21	3.69
307	Process - Machine Drive	Pump System Efficiency Improvements	Both	Custom	ROB	2	16%	1	0.000	0.000	15	\$0.01	\$0.01	per kWh sav	101.39	101.39	155.12
308	Process - Machine Drive	Compressed Air Audits and Leak Repair	Both	Custom	ROB	2	50%	496	0.079	0.079	1	\$8.00	\$8.00	per detected	2.93	2.93	7.64
309	Process - Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	Both	Custom	ROB	2	22%	49	0.007	0.007	15	\$6.18	\$3.40	0.000	5.19	9.42	10.25
310	Process - Machine Drive	Electric Supply System Improvements	Both	Custom	ROB	2	3%	1	0.000	0.000	15	\$0.01	\$0.01	per kWh sav	81.11	81.11	124.29
311	Process - Machine Drive	High Efficiency Pumps - ROB	Both	Custom	ROB	2	20%	201	0.231	0.231	15	\$31.00	\$14.07	per hp	12.40	27.32	8.45
312	Process - Machine Drive	Synchronous belt drives	Both	Custom	ROB	2	3%	95	0.019	0.019	14	\$21.33	\$6.63	per hp	3.07	9.87	5.51
313	Process - Machine Drive	VFD for Process Pumps	Both	Custom	Retrofit	1	29%	616	0.174	0.174	15	\$141.00	\$43.10	0.000	3.67	11.99	5.69
314	Process - Machine Drive	VFD for Process Fans	Both	Custom	Retrofit	1	28%	450	0.127	0.127	15	\$141.00	\$31.49	per HP	2.68	11.99	4.16
315	Process - Machine Drive	Receiver Capacity Addition	Both	Custom	ROB	2	10%	9159	2.318	2.318	10	\$2,000.00	\$641.11	per Unit	2.58	8.05	4.45
316	Process - Machine Drive	Fan System Improvements	Both	Custom	ROB	2	6%	1	0.000	0.000	15	\$0.02	\$0.02	per kWh sav	33.80	33.80	52.37

Ameren MO		Business Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Construction Type	Program	Replacement Type	Cost	% Elec Savings	Per Unit	Per Unit	Per Unit NCP kW	Measure Life	Measure Cost	Incentive Cost	Cost/Unit Descriptor	TRC	UCT	Participant Test
						1=Full 2=Inc.		Elec Savings	Summer CP kW								
317	Process - Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Both	Custom	ROB	2	20%	6924	0.791	0.791	15	\$1,482.00	\$484.68	0.000	2.95	9.01	6.09
318	Process - Machine Drive	High Efficiency Pumps - Early Replacement	Both	Custom	ROB	2	20%	201	0.231	0.231	15	\$99.13	\$14.07	0.000	3.88	27.32	2.64
319	Process - Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	Both	Custom	ROB	2	42%	2097	0.000	0.000	5	\$355.00	\$146.79	per drain	1.04	2.51	3.34
320	Process - Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	Both	Custom	ROB	2	20%	1023	0.464	0.464	15	\$669.00	\$71.61	0.000	1.61	15.01	1.99
321	Process - Machine Drive	Compressed Air - Advanced Compressor Controls	Both	Custom	ROB	2	4%	1	0.000	0.000	15	\$0.00	\$0.00	per kWh sav	811.12	811.12	1233.94
322	Process - Machine Drive	Energy Information System	Both	Custom	ROB	2	1%	1	0.000	0.000	15	\$0.06	\$0.06	per kWh sav	13.30	13.30	21.21
323	Process - Machine Drive	Motor System Optimization (Including ASD)	Both	Custom	ROB	2	19%	1	0.000	0.000	15	\$0.01	\$0.01	0.000	90.12	90.12	137.99
324	Process - Machine Drive	Industrial Motor Management	Both	Custom	ROB	2	1%	1	0.000	0.000	5	\$0.02	\$0.02	per kWh sav	15.88	15.88	28.51
325	Process - Machine Drive	Sensors & Controls	Both	Custom	ROB	2	3%	1	0.000	0.000	15	\$0.01	\$0.01	per kWh sav	57.94	57.94	89.07
326	Process - Industrial	Air Cooled Chiller Upgrade - Process	Both	Custom	Retrofit	1	41%	2341	0.323	0.323	20	\$925.02	\$199.05	Ton	2.11	9.79	4.02
327	Process - Industrial	Efficient Process Motor Upgrade - Process	Both	Custom	Retrofit	1	19%	975	0.134	0.134	15	\$173.42	\$82.86	HP	3.76	7.87	7.41
328	Process - Industrial	Insulation for Process Environment or Equipment - Process	Both	Custom	Retrofit	1	10%	4787	0.660	0.660	20	\$1,435.89	\$407.02	Sq. Ft. of Insu	2.78	9.79	5.30
329	Process - Industrial	Process Compressor Optimization - Process	Both	Custom	Retrofit	1	19%	3063	0.422	0.422	15	\$647.23	\$260.40	HP	3.17	7.87	6.24
330	Process - Industrial	Process Controls / EMS - Process	Both	Custom	Retrofit	1	10%	72	0.010	0.010	15	\$12.37	\$6.14	Sq. Ft. Cond.	3.90	7.87	7.69
331	Process - Industrial	Water Cooled Process Chiller - Process	Both	Custom	Retrofit	1	10%	878	0.121	0.121	20	\$600.00	\$74.64	Ton	1.22	9.79	2.33
332	Process - Industrial	Barrel Insulation - Inj. Molding (plastics)	Both	Custom	ROB	2	18%	1210	0.291	0.291	5	\$80.00	\$80.00	per square ft	4.20	4.20	8.49
333	Process - Industrial	Fiber Laser Replacing CO2 laser (auto industry)	Both	Custom	ROB	2	33%	32562	4.524	4.524	20	\$90,000.00	\$2,279.34	per output kW	0.30	11.76	0.57
334	Process - Industrial	3 Phase High Eff Battery Charger	Both	Custom	ROB	2	7%	5562	0.630	0.630	15	\$872.50	\$389.34	per Unit	4.01	8.99	8.31
335	Process - Industrial	Hybrid Injection Molding Machine	Both	Custom	ROB	2	51%	209	0.044	0.044	20	\$75.00	\$14.63	per ton clam	2.60	13.32	4.39
336	Process - Industrial	High Efficiency Welders	Both	Custom	ROB	2	29%	3757	2.140	2.140	15	\$400.00	\$262.96	per welder	11.22	17.07	12.24
337	Process - Industrial	On-Demand ventilation control for Dust and Fume Collection Systems	Both	Custom	ROB	2	19%	2421	0.552	0.552	15	\$766.00	\$169.47	0.000	2.44	11.02	4.12
338	Process - Industrial	Pellet Dryer Insulation (plastics)	Both	Custom	ROB	2	17%	185	0.044	0.044	5	\$56.22	\$12.98	per lineal foc	0.91	3.95	1.86
339	Process - Industrial	Industrial Air Curtain	Both	Custom	ROB	2	18%	106	0.022	0.022	15	\$45.00	\$7.42	0.000	1.76	10.66	3.07
340	Process - Industrial	Lab Fume Hood Ventilation Reduction	Both	Custom	ROB	2	19%	9	0.003	0.003	15	\$4.00	\$0.66	0.000	1.96	11.88	3.06
341	Process - Industrial	High Speed Turbo Blower for Wastewater	Both	Custom	ROB	2	20%	1290	0.368	0.368	20	\$1,100.00	\$90.30	0.000	1.23	14.94	1.85
342	Process - Industrial	Process Fan Ventilation Reduction	Both	Custom	ROB	2	19%	2360	0.568	0.568	15	\$3,000.00	\$165.20	hp reduced	0.62	11.25	1.02
343	Process - Industrial	HVAC-Air Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	41%	2341	0.323	0.323	20	\$925.02	\$291.47	Ton	2.11	6.69	4.12
344	Process - Industrial	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	10%	878	0.121	0.121	20	\$600.00	\$109.29	Ton	1.22	6.69	2.38
345	Process - Industrial	HVAC-Water Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	10%	317	0.044	0.044	20	\$153.85	\$39.48	Ton	1.72	6.69	3.36
346	Process - Industrial	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	10%	72	0.010	0.010	15	\$12.37	\$8.99	1000 Sq. Ft. C	3.90	5.37	7.92
347	Process - Industrial	Process-Compressor Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	10%	3063	0.422	0.422	15	\$647.23	\$381.31	HP	3.17	5.37	6.42
348	Process - Industrial	Motors-Efficient Motor Replacing Existing Inefficient Equipment or Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	10%	975	0.134	0.134	15	\$173.42	\$121.33	HP	3.76	5.37	7.63
349	Process - Industrial	Building Shell-Wall Insulation Replacing Existing Inefficient Equipment or Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	2%	4787	0.660	0.660	20	\$1,435.89	\$595.99	1000 Sq. Ft. c	2.78	6.69	5.43
350	Process - Industrial	Miscellaneous-Efficient Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	10%	507	0.070	0.070	10	\$200.00	\$63.11	Project	1.19	3.77	2.60
351	Process - Industrial	Miscellaneous-Efficient Equipment Replacing No Existing Equipment Retro-Commissioning Process	Existing Construction	RCx	Retrofit	1	10%	2001	0.276	0.276	10	\$664.29	\$249.14	Project	1.41	3.77	3.09
356	Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration	Evaporator Motor Reduction - ROB	Both	Custom	ROB	2	2%	46	0.012	0.012	15	\$0.50	\$0.50	0.000	74.72	74.72	114.43
357	Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration	Floating Head Pressure Control	Both	Custom	ROB	2	3%	1264	0.000	0.000	15	\$120.00	\$88.48	0.000	5.15	6.99	13.72
358	Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration	Electric Supply System Improvements	Both	Custom	ROB	2	3%	1	0.000	0.000	15	\$0.01	\$0.01	per kWh sav	81.11	81.11	124.29
359	Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration Process - Process Cooling & Refrigeration	Sensors & Controls	Both	Custom	ROB	2	3%	1	0.000	0.000	15	\$0.01	\$0.01	per kWh sav	57.94	57.94	89.07

Ameren MO		Business Measure Assumptions												Benefit-Cost Ratios				
Measure #	End-Use	Measure Name	Construction Type	Program	Replacement Type	Cost Type:	% Elec Savings	Per Unit Elec Savings	Per Unit Summer CP kW	Per Unit NCP kW	Measure Life	Measure Cost	Incentive Cost	Cost/Unit Descriptor	TRC	UCT	Participant Test	
						1=Full 2=Inc.												
360	Process - Process Cooling & Refrigeration	Improved Refrigeration	Both	Custom	ROB	2	10%	1	0.000	0.000	15	\$0.00	\$0.00	per kWh sav	270.37	270.37	411.98	
361	Process - Process Cooling & Refrigeration	Refrigerant charging correction	Both	Custom	ROB	2	2%	47	0.064	0.064	2	\$10.36	\$3.27	ton	1.27	4.03	1.26	
362	Process - Process Cooling & Refrigeration	Energy Information System	Both	Custom	ROB	2	1%	1	0.000	0.000	15	\$0.06	\$0.06	per kWh sav	13.30	13.30	21.21	
363	Process - Process Cooling & Refrigeration	Evaporator Fan Motor Controls	Both	Custom	ROB	2	2%	760	0.078	0.078	5	\$621.00	\$53.22	0.000	0.27	3.13	0.69	
364	Process - Process Heating	Electric Supply System Improvements	Both	Custom	ROB	2	3%	1	0.000	0.000	15	\$0.01	\$0.01	per kWh sav	81.11	81.11	124.29	
365	Process - Process Heating	Sensors & Controls	Both	Custom	ROB	2	3%	1	0.000	0.000	15	\$0.01	\$0.01	per kWh sav	57.94	57.94	89.07	
366	Process - Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	Both	Custom	ROB	2	30%	1200	0.134	0.134	10	\$500.00	\$84.00	0.000	1.06	6.28	2.33	
367	Process - Process Heating	Energy Information System	Both	Custom	ROB	2	1%	1	0.000	0.000	15	\$0.06	\$0.06	per kWh sav	13.30	13.30	21.21	
369	Process - Agriculture	Fan Thermostat Controller	Both	Custom	ROB	2	19%	1586	0.678	0.678	15	\$50.00	\$50.00	per fan	32.31	32.31	40.11	
370	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	Both	Custom	Retrofit	1	48%	1104	0.000	0.000	10	\$787.50	\$77.28	per Unit	0.48	4.88	1.36	
371	Process - Agriculture	Milk Pre-Cooler Heat Exchanger	Both	Custom	ROB	2	31%	1	0.000	0.000	15	\$0.15	\$0.08	per lb milk/c	7.62	13.48	10.53	
372	Process - Agriculture	Low Pressure Sprinkler Nozzles	Both	Custom	Retrofit	1	15%	1	0.001	0.001	5	\$1.00	\$0.09	0.000	0.76	8.07	0.76	
373	Process - Agriculture	VFD for Process Fans - Agriculture	Both	Custom	ROB	2	28%	520	0.260	0.260	15	\$200.00	\$36.40	per HP	2.88	15.84	3.39	
374	Process - Agriculture	Grain Storage Temperature and Moisture Management Controller	Both	Custom	ROB	2	49%	349	0.301	0.301	15	\$233.00	\$24.43	per fan-hp	2.33	22.24	1.95	
375	Process - Agriculture	VFD for Process Pumps - Agriculture	Both	Custom	ROB	2	43%	290	0.145	0.145	15	\$200.00	\$20.27	per HP	1.61	15.85	1.89	
376	Process - Agriculture	Variable Speed Drive withHeat Exchanger, Milk New	New Construction	Custom	ROB	2	66%	1	0.000	0.000	15	\$2.00	\$0.04	per ton capa	0.27	13.05	0.38	
377	Process - Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	Both	Custom	Retrofit	1	35%	1440	0.310	0.310	15	\$4,000.00	\$100.80	per 90 head	0.27	10.79	0.47	
378	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	Both	Custom	Retrofit	1	48%	1104	0.000	0.000	10	\$787.50	\$77.28	per Unit	0.48	4.88	1.36	
379	Process - Agriculture	VFD for Process Pumps - Irrigation	Both	Custom	ROB	2	43%	195	0.260	0.260	10	\$200.00	\$13.65	per HP	1.47	21.60	0.95	
380	Process - Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	Both	Custom	ROB	2	4%	0	0.000	0.000	5	\$0.05	\$0.01	per lb of milk	0.62	4.58	1.10	
381	Process - Agriculture	Variable Speed Drive withHeat Exchanger, Milk	Both	Custom	ROB	2	66%	1	0.000	0.000	15	\$2.20	\$0.04	per ton capa	0.24	13.05	0.35	
382	Process - Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	Both	Custom	ROB	2	61%	0	0.000	0.000	15	\$0.14	\$0.01	per 1000 lbs	1.55	16.30	1.77	
383	Process - Agriculture	Engine Block Heater	Both	Custom	ROB	2	64%	571	0.000	0.000	3	\$10.19	\$10.19	per Fan	5.93	5.93	18.31	
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Both	Standard	Retrofit	1	66%	1095	0.000	0.006	15	\$400.00	\$0.00	bulb	1.21	0.00	3.37	
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	Both	Custom	Retrofit	1	2%	7852	0.896	0.896	2	\$8.88	\$8.88	per report	70.22	70.22	186.69	
501	Behavioral	SEM	Both	Custom	Retrofit	1	2%	37	0.001	0.001	1	\$1.00	\$1.00	0.000	1.31	1.31	4.96	
502	Behavioral	Whole-Building Energy Monitoring	Both	Custom	Retrofit	1	10%	2	0.000	0.000	2	\$1.00	\$1.00	per SqFt	0.14	0.14	1.36	
503	Behavioral	In-Home Energy Use Displays	Both	Custom	Retrofit	1	9%	23555	2.693	2.693	1	\$250.00	\$250.00	per Unit	3.72	3.72	11.09	
277	Pools	Pool Heater Heat Pump (Uncovered)	Both	Standard	ROB	2	80%	35273	6.390	6.390	15	\$1,000.00	\$444.29	per measure	24.91	56.07	43.93	
278	Pools	Pool Heater Heat Pump (Covered)	Both	Standard	ROB	2	80%	6207	1.124	1.124	15	\$1,000.00	\$444.29	per measure	4.38	9.87	8.10	
279	Pools	Pool Pump w/ Variable Frequency Drive	Both	Standard	Retrofit	1	71%	1747	0.241	0.241	15	\$246.00	\$148.53	per measure	4.62	7.64	9.36	
280	Pools	Pool Pump Timer	Both	Standard	Retrofit	1	50%	601	0.083	0.083	10	\$100.00	\$51.18	per measure	2.74	5.35	5.93	

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	2,129	2,129	2,129	2,129	2,129	2,129	0	0	0	0	0	0	0	0	0	0	2,129	2,129	2,129	2,129
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	Standard	Existing	2,203	2,203	2,203	2,203	2,203	2,203	0	0	0	0	0	0	0	0	0	0	0	0	2,203	2,203
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	Custom	Existing	707	707	707	707	707	707	0	0	0	0	0	0	0	0	0	0	0	707	707	707
13	Interior Lighting	Stairwell Bi-Level Control	Custom	Existing	849	849	849	849	849	849	0	0	849	849	849	849	849	849	849	849	0	849	849	849
28	Interior Lighting	LED Specialty Lamp	Standard	Existing	5,791	5,791	5,791	5,791	5,791	5,791	0	0	0	0	0	5,791	5,791	5,791	5,791	5,791	5,791	5,791	0	0
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	Standard	Existing	2,253	2,253	2,253	2,253	2,253	2,253	0	0	0	0	0	0	0	0	0	0	0	0	2,253	2,253
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	Standard	Existing	4,906	4,906	4,906	4,906	4,906	4,906	0	0	0	0	0	0	0	0	0	0	4,906	4,906	4,906	4,906
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	678	678	678	678	678	678	0	0	0	0	678	678	678	678	678	678	0	0	0	0
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	Standard	Existing	550	550	550	550	550	550	0	0	0	0	0	550	550	550	550	550	550	550	0	0
25	Interior Lighting	LED Replacing Interior T5 Fluorescent	Standard	Existing	8,369	8,369	8,369	8,369	8,369	8,369	0	0	8,369	8,369	8,369	8,369	8,369	8,369	8,369	8,369	0	8,369	8,369	8,369
5	Interior Lighting	High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	612	612	612	612	612	612	0	0	0	0	0	0	0	0	0	0	612	612	612	612
1	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	1,184	1,184	1,184	1,184	1,184	1,184	0	0	0	0	0	0	0	0	0	0	1,184	1,184	1,184	1,184
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	400	400	400	400	400	400	0	0	0	0	400	400	400	400	400	400	400	0	0	0
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	Standard	Existing	2,297	2,297	2,297	2,297	2,297	2,297	0	0	0	0	0	2,297	2,297	2,297	2,297	2,297	2,297	2,297	0	0
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	Standard	Existing	2,408	2,408	2,408	2,408	2,408	2,408	0	0	0	0	0	2,408	2,408	2,408	2,408	2,408	2,408	2,408	0	0
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	Standard	Existing	14,358	14,358	14,358	14,358	14,358	14,358	0	0	0	0	0	14,358	14,358	14,358	14,358	14,358	14,358	14,358	0	0
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	5,174	5,174	5,174	5,174	5,174	5,174	0	0	0	0	0	0	0	0	0	0	5,174	5,174	5,174	5,174
34	Interior Lighting	Central Lighting Controls	Standard	Existing	9,992	9,992	9,992	9,992	9,992	9,992	0	0	0	0	0	9,992	9,992	9,992	9,992	9,992	9,992	9,992	0	0
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	Standard	Existing	369	369	369	369	369	369	0	0	0	0	369	369	369	369	369	369	369	369	0	0
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	Standard	Existing	2,283	2,283	2,283	2,283	2,283	2,283	0	0	0	0	2,283	2,283	2,283	2,283	2,283	2,283	2,283	2,283	0	0
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	Standard	Existing	700	700	700	700	700	700	0	0	0	0	0	700	700	700	700	700	700	700	0	0
21	Interior Lighting	LED <=60 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	Standard	Existing	642	642	642	642	642	642	0	0	0	0	0	642	642	642	642	642	642	642	0	0
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	Standard	Existing	655	655	655	655	655	655	0	0	0	0	0	655	655	655	655	655	655	655	0	0
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	322	322	322	322	322	322	0	0	0	0	322	322	322	322	322	322	322	0	0	0
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	Standard	Existing	359	359	359	359	359	359	0	0	359	359	359	359	359	359	359	359	0	0	359	359
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	540	540	540	540	540	540	0	0	0	0	540	540	540	540	540	540	540	540	0	0
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	Standard	Existing	360	360	360	360	360	360	0	0	0	0	360	360	360	360	360	360	360	360	0	0
10	Interior Lighting	Smart Web-based lighting Mgmt System	Custom	Existing	21,524	21,524	21,524	21,524	21,524	21,524	0	0	0	0	21,524	21,524	21,524	21,524	21,524	21,524	21,524	0	0	0
14	Interior Lighting	Switching Controls for Multi-Level Lighting	Custom	Existing	176	176	176	176	176	176	0	0	0	0	0	176	176	176	176	176	176	176	0	0
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	Standard	Existing	5,793	5,793	5,793	5,793	5,793	5,793	0	0	0	5,793	5,793	5,793	5,793	5,793	5,793	5,793	0	0	0	5,793
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	4,578	4,578	4,578	4,578	4,578	4,578	0	0	0	0	0	0	0	0	0	0	4,578	4,578	4,578	4,578
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >50 and <=120 Watts	Standard	Existing	298	298	298	298	298	298	0	0	0	0	0	298	298	298	298	298	298	298	0	0
37	Interior Lighting	LED Case Lighting (retrofit)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Interior Lighting	Smart Advanced Lighting Controls	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Interior Lighting	Illuminated Signs to LED	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	390	393	393	393	393	393	393	393	393	393	393	393	393	393	393	393	393	393	393	393
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	706	733	753	769	777	783	783	783	783	783	783	783	783	783	783	783	783	783	783	783
59	Exterior Lighting	LED Pedestrian Signals	Standard	Existing	227	258	285	309	328	344	356	365	372	377	377	377	377	377	377	377	377	377	377	377
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	137	142	146	149	151	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	392	407	418	426	430	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433
47	Exterior Lighting	Garage BiLevel Controls	Custom	Existing	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	1,016	
57	Exterior Lighting	LED Auto Traffic Signals	Standard	Existing	217	246	272	294	313	328	339	348	354	359	359	359	359	359	359	359	359	359	359	359
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	Standard	Existing	352	365	376	383	387	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	Standard	Existing	435	451	464	473	478	482	482	482	482	482	482	482	482	482	482	482	482	482	482	
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	399	452	501	542	576	603	624	640	652	661	661	661	661	661	661	661	661	661	661	661

Ameren MO		Program R&P Measure Savings		Incremental Annual Energy (MWh) Savings - NET																			
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	\$8	\$9	10	11	12	13	14	15	16	17	18	19
111	Space Heating	Building Operator Certification	Custom	Existing	14	19	25	33	40	48	56	64	71	76	81	85	88	90	92	93	93	93	93
119	Space Heating	EMS Pump Scheduling Controls	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	Space Heating	ASHP >240kbtu	Standard	Existing	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
105	Space Heating	ASHP 65 - 135kbtu	Standard	Existing	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
106	Space Heating	ASHP 135 - 240kbtu	Standard	Existing	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
108	Space Heating	ASHP <65kbtu	Standard	Existing	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
109	Space Heating	Learning Thermostat	Standard	Existing	231	236	240	243	245	247	247	247	247	247	247	247	247	247	247	247	247	247	247
122	Space Heating	Window Improvements	Standard	Existing	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221	221
102	Space Heating	General HVAC Equipment Upgrades - Heating	Custom	Existing	393	413	429	442	450	456	460	463	463	463	463	463	463	463	463	463	463	463	463
110	Space Heating	Wall Insulation - Building Shell	Custom	Existing	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
104	Space Heating	GSHP <135kbtu; ≥19EER	Standard	Existing	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
117	Space Heating	Ceiling Insulation	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Space Heating	GSHP <135kbtu; ≥17EER	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	Space Heating	Cool Roof	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	Ventilation	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	2,622	2,687	2,736	2,756	2,771	2,771	2,771	2,771	2,771	2,771	2,771	2,771	2,771	2,771	2,771	2,771	2,771	2,771	2,771
132	Ventilation	Demand Control Ventilation - Cooling	Custom	Existing	1,073	1,100	1,120	1,128	1,134	1,134	1,134	1,134	1,134	1,134	1,134	1,134	1,134	1,134	1,134	1,134	1,134	1,134	1,134
136	Ventilation	HVAC-HVAC Optimization - Airside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	473	473	473	473	473	473	473	473	473	473	473	473	473	473	473	473	473	473	473
133	Ventilation	HVAC-Demand Control Ventilation Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	655	672	684	689	693	693	693	693	693	693	693	693	693	693	693	693	693	693	693
138	Ventilation	HVAC-HVAC Optimization - Set Point Control Retro-Commissioning HVAC (Ventilation)	RCx	Existing	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313	313
135	Ventilation	HVAC-Minimize Outside Air Retro-Commissioning HVAC (Ventilation)	RCx	Existing	400	410	417	420	422	422	422	422	422	422	422	422	422	422	422	422	422	422	422
125	Ventilation	Demand Control Ventilation - HVAC (Ventilation)	Custom	Existing	1,046	1,072	1,092	1,100	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106
137	Ventilation	HVAC-HVAC Optimization - Waterside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308	308
129	Ventilation	Package / Rooftop Unit Upgrade - HVAC (Ventilation)	Custom	Existing	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
127	Ventilation	General HVAC Equipment Upgrades - HVAC (Ventilation)	Custom	Existing	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
126	Ventilation	ECM Motor for HVAC - HVAC (Ventilation)	Custom	Existing	3,023	3,429	3,795	4,106	4,366	4,572	4,732	4,853	4,943	5,013	5,013	5,013	5,013	5,013	5,013	5,013	5,013	5,013	5,013
130	Ventilation	VFD for Fan - HVAC (Ventilation)	Custom	Existing	7,577	7,651	7,706	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749	7,749
123	Ventilation	Advanced RTU Compressor Controller - HVAC (Ventilation)	Custom	Existing	1,173	1,202	1,224	1,232	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238	1,238
131	Ventilation	Water Loop Heat Pump - HVAC (Ventilation)	Custom	Existing	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
128	Ventilation	HVAC Controls (BMS, EMS...) - HVAC (Ventilation)	Custom	Existing	383	395	405	412	415	417	417	417	417	417	417	417	417	417	417	417	417	417	417
124	Ventilation	Air Cooled Chiller Upgrade - HVAC (Ventilation)	Custom	Existing	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
139	Ventilation	Economizer	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	Ventilation	Demand Controlled Ventillation (Electric Heat)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	Ventilation	Demand Controlled Ventillation (Heat Pump)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199	Motors	VFD on Chilled Water Pump 1-75HP	Standard	Existing	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657	657
200	Motors	VFD on Hot Water Pump 1-75HP	Standard	Existing	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689	689
201	Motors	VFD on HVAC Fans 1-100HP	Standard	Existing	956	1,005	1,044	1,075	1,098	1,109	1,117	1,123	1,123	1,123	1,123	1,123	1,123	1,123	1,123	1,123	1,123	1,123	1,123
195	Motors	VFD for Process Motor - Motors	Custom	Existing	574	603	627	645	659	666	670	674	674	674	674	674	674	674	674	674	674	674	674
193	Motors	Efficient Pump - Motors	Custom	Existing	379	390	399	403	406	408	408	408	408	408	408	408	408	408	408	408	408	408	408
194	Motors	VFD for Chiller - Motors	Custom	Existing	546	574	596	614	627	633	638	641	641	641	641	641	641	641	641	641	641	641	641
192	Motors	ECM Motor - Motors	Custom	Existing	986	1,012	1,025	1,035	1,042	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048
196	Motors	VFD for Pump - Motors	Custom	Existing	546	574	596	614	627	633	638	641	641	641	641	641	641	641	641	641	641	641	641
185	Cooking	Standard Open Deep-Fat Fryer	Standard	Existing	172	173	175	176	177	178	178	178	178	178	178	178	178	178	178	178	178	178	178
187	Cooking	Convection Oven (Full Size)	Standard	Existing	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
179	Cooking	6 Pan ENERGY STAR Steam Cooker	Standard	Existing	14	18	24	30	35	41	47	52	56	60	62	65	66	68	68	68	68	68	68
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	Standard	Existing	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321
178	Cooking	5 Pan ENERGY STAR Steam Cooker	Standard	Existing	14	19	24	30	36	42	48	53	57	61	63	66	67	69	70	70	70	70	70
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	Standard	Existing	877	907	930	948	954	959	962	962	962	962	962	962	962	962	962	962	962	962	962
177	Cooking	4 Pan ENERGY STAR Steam Cooker	Standard	Existing	13	18	23	28	34	39	44	49	53	57	59	61	63	64	65	65	65	65	65
190	Cooking	Kitchen Demand Ventillation Controls	Standard	Existing	98	127	157	189	220	249	276	298	317	332	344	352	359	364	364	364	364	364	364
176	Cooking	3 Pan ENERGY STAR Steam Cooker	Standard	Existing	14	18	23	29	34	40	46	50	55	58	61	63	64	66	67	67	67	67	67
181	Cooking	ENERGY STAR Hot Holding Cabinet (13 ≤ V <28)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186	Cooking	Large Vat Open Deep-Fat Fryer	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183	Cooking	Combination Oven (Pan Capacity < 15)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
188	Cooking	Convection Oven (Half Size)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
189	Cooking	Griddle	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	Cooking	ENERGY STAR Hot Holding Cabinet (0 < V <13)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
191	Cooking	Induction Cooktop	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
268	Refrigeration	Strip Curtains - Walk-In Freezer	Standard	Existing	60	139	250	398	580	807	1,073	1,384	1,717	2,059	2,397	2,719	3,010	3,256	3,463	3,626	3,753	3,848	3,920

Ameren MO		Program R&P Measure Savings		Incremental Annual Energy (MWh) Savings - NET																			
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
234	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	48	58	67	77	85	93	99	105	109	112	115	116	117	118	118	118	118	118	118
240	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	71	84	97	109	120	130	137	144	149	153	156	157	157	158	158	158	158	158	158
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	Standard	Existing	1,141	1,163	1,182	1,197	1,209	1,217	1,224	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229
231	Refrigeration	Head Pressure Controls - Refrigeration	Custom	Existing	430	448	464	478	490	500	507	512	516	519	519	519	519	519	519	519	519	519	519
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	Custom	Existing	374	500	642	798	961	1,123	1,277	1,419	1,544	1,647	1,733	1,799	1,850	1,889	1,910	1,926	1,926	1,926	1,926
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	Standard	Existing	545	556	565	572	578	582	585	587	587	587	587	587	587	587	587	587	587	587	587
266	Refrigeration	Refrigeration Savings due to Lighting Savings	Standard	Existing	1	2	4	6	9	12	16	21	26	31	36	41	45	49	52	54	56	58	59
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	Custom	Existing	24	55	99	157	229	318	424	546	678	813	946	1,073	1,188	1,285	1,366	1,431	1,481	1,519	1,547
260	Refrigeration	Anti-Sweat Heater Controls Freezer	Standard	Existing	35	82	148	235	343	477	634	817	1,014	1,216	1,416	1,606	1,777	1,923	2,045	2,141	2,216	2,273	2,315
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	Standard	Existing	19	44	80	126	184	256	341	439	545	654	761	863	956	1,034	1,100	1,151	1,192	1,222	1,245
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	518	527	533	538	542	545	547	547	547	547	547	547	547	547	547	547	547	547	547
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	518	526	532	537	541	544	546	546	546	546	546	546	546	546	546	546	546	546	546
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	566	575	582	588	592	595	597	597	597	597	597	597	597	597	597	597	597	597	597
233	Refrigeration	Discus Compressors	Custom	Existing	158	164	169	172	175	177	179	180	180	180	180	180	180	180	180	180	180	180	180
269	Refrigeration	Zero-Energy Doors	Standard	Existing	402	516	640	771	905	1,033	1,151	1,258	1,349	1,425	1,485	1,533	1,569	1,588	1,603	1,614	1,614	1,614	1,614
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	Standard	Existing	570	579	586	591	595	599	601	601	601	601	601	601	601	601	601	601	601	601	601
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	Standard	Existing	472	480	486	490	494	496	498	498	498	498	498	498	498	498	498	498	498	498	498
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	Custom	Existing	15	29	47	70	99	134	174	219	266	313	358	400	436	467	492	511	526	537	546
267	Refrigeration	Strip Curtains - Walk-In Cooler	Standard	Existing	206	327	478	665	884	1,139	1,414	1,696	1,974	2,239	2,478	2,681	2,851	2,986	3,090	3,169	3,228	3,274	3,274
232	Refrigeration	Refrigeration Insulation - Refrigeration	Custom	Existing	83	193	348	552	805	1,120	1,489	1,920	2,383	2,857	3,326	3,773	4,176	4,518	4,804	5,031	5,207	5,340	5,439
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	530	539	545	550	554	557	559	559	559	559	559	559	559	559	559	559	559	559	559
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	510	519	525	530	534	536	539	539	539	539	539	539	539	539	539	539	539	539	539
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	Standard	Existing	299	303	307	310	312	314	315	315	315	315	315	315	315	315	315	315	315	315	315
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	Standard	Existing	841	854	865	873	879	883	887	887	887	887	887	887	887	887	887	887	887	887	887
265	Refrigeration	Refrigerant charging correction	Standard	Existing	127	296	533	846	1,235	1,717	2,284	2,944	3,654	4,382	5,101	5,786	6,403	6,928	7,368	7,714	7,985	8,188	8,340
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	Custom	Existing	23	53	96	152	222	309	411	529	657	788	917	1,041	1,152	1,246	1,325	1,387	1,436	1,473	1,500
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	699	705	710	713	716	716	716	716	716	716	716	716	716	716	716	716	716	716	716
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
264	Refrigeration	Reach-in Refrigerated display case door retrofit	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
239	Refrigeration	Evaporator Coil Defrost Control	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
263	Refrigeration	Night Covers	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
204	Office & Computing	Computer Room Air Side Economizer	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203	Office & Computing	Computer Room Air Conditioner Economizer	Custom	Existing	16	37	66	105	154	214	285	367	455	546	636	721	798	864	918	962	995	1,021	1,040
211	Office & Computing	Energy Star POS Terminal	Standard	Existing	15	35	63	101	147	204	272	350	435	522	607	689	762	825	877	918	951	975	993
207	Office & Computing	Electrically Commutated Plug Fans in data centers	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
214	Office & Computing	Computer Power Management Software	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	Office & Computing	Energy Star Computers	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	Office & Computing	Vending Miser for Non-Refrig Equip	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213	Office & Computing	High Efficiency Hand Dryer	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
208	Office & Computing	Ongoing Commissioning of Economizers in a Data Center	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205	Office & Computing	Computer Room Hot Aisle Cold Aisle Configuration	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209	Office & Computing	Energy Star Compliant Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202	Office & Computing	Commercial Plug Load - Smart Strip Outlets	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
212	Office & Computing	Energy Star UPS	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	Standard	Existing	38	40	42	44	45	46	47	47	48	48	48	48	48	48	48	48	48	48	48
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	38	40	41	42	43	44	44	45	45	45	45	45	45	45	45	45	45	45	45
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	Standard	Existing	47	51	56	59	62	65	67	68	69	69	70	70	70	70	70	70	70	70	70

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	39	40	42	43	44	44	45	45	46	46	46	46	46	46	46	46	46	46	46	46
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	Standard	Existing	47	51	56	59	62	65	67	68	69	69	70	70	70	70	70	70	70	70	70	70
221	Other	Clothes Dryer Vented Electric, Compact (120V) (< 4.4 ft3)	Standard	Existing	39	40	41	43	43	44	45	45	46	46	46	46	46	46	46	46	46	46	46	46
225	Other	High Efficiency Transformer, single-phase	Standard	Existing	2	4	5	7	9	11	14	16	19	21	23	24	26	27	27	28	28	29	29	29
226	Other	High Efficiency Transformer, three-phase	Standard	Existing	2	4	5	7	9	11	14	16	19	21	23	24	26	27	28	28	29	29	29	29
228	Other	NEMA Premium Transformer, three-phase	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
227	Other	NEMA Premium Transformer, single-phase	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224	Other	Clothes Dryer Vented Gas	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	Standard	Existing	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	Standard	Existing	92	116	142	168	193	216	237	255	269	280	289	295	300	303	303	303	303	303	303	303
282	Water Heating	Pre-Rinse Spray Valve	Standard	Existing	110	146	189	234	281	327	371	410	444	472	494	512	525	534	542	542	542	542	542	542
290	Water Heating	Low Flow Showerhead	Standard	Existing	66	88	113	141	169	196	223	247	267	284	297	308	315	321	326	326	326	326	326	326
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	Standard	Existing	92	117	143	169	194	218	239	256	271	282	291	297	302	305	305	305	305	305	305	305
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	Standard	Existing	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	Standard	Existing	92	117	143	169	194	218	239	256	271	282	291	297	302	305	305	305	305	305	305	305
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	Standard	Existing	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
289	Water Heating	Hot Water (DHW) Pipe Insulation	Standard	Existing	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	Custom	Existing	4	5	6	8	9	11	12	14	15	16	17	17	18	18	18	18	18	18	18	18
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	Standard	Existing	92	117	143	169	194	218	239	256	271	282	291	297	302	305	305	305	305	305	305	305
281	Water Heating	Low Flow Faucet Aerator	Standard	Existing	68	90	117	145	174	202	229	254	274	292	305	316	324	330	335	335	335	335	335	335
291	Water Heating	Water Heater Timer	Standard	Existing	64	75	85	94	102	109	115	119	122	125	126	127	127	127	127	127	127	127	127	127
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	Standard	Existing	89	113	138	163	187	210	231	248	262	273	281	287	292	295	295	295	295	295	295	295
284	Water Heating	Efficient Hot Water Pump	Standard	Existing	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
285	Water Heating	On Demand (tankless)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
283	Water Heating	Circulator Pump	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	Custom	Existing	3	4	5	6	7	8	9	10	11	12	13	13	13	13	13	13	13	13	13	13
146	Compressed Air	Air Compressor Outdoor Air Intake	Custom	Existing	13	14	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
149	Compressed Air	Compressed Air Replacement with Air Blowers	Custom	Existing	71	94	121	150	180	210	238	263	285	303	317	329	337	343	348	348	348	348	348	348
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	Standard	Existing	6	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
168	Compressed Air	Compressed Air Nozzle (Reciprocating - On/off Control)	Standard	Existing	6	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	Custom	Existing	18	24	31	38	46	53	61	67	73	77	81	84	86	87	89	89	89	89	89	89
150	Compressed Air	Compressed Air Storage Tank	Custom	Existing	3	3	4	6	7	8	9	10	10	11	12	12	13	13	13	13	13	13	13	13
173	Compressed Air	Compressed Air Nozzle (Screw - Variable Displacement)	Standard	Existing	6	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	Standard	Existing	6	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	Standard	Existing	6	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
158	Compressed Air	Compressed Air-Compressed Air Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Air Comp	RCx	Existing	17	22	28	35	42	49	56	62	67	71	74	77	79	81	82	82	82	82	82	82
145	Compressed Air	VFD for Air Compressor - Air Comp	Custom	Existing	18	24	31	38	46	53	61	67	73	77	81	84	86	87	89	89	89	89	89	89
160	Compressed Air	Compressed Air-Compressed Air System Leak Repair Retro-Commissioning Air Comp	RCx	Existing	79	105	135	168	202	235	266	295	319	339	355	367	377	384	389	389	389	389	389	389
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	Custom	Existing	60	63	64	65	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	Standard	Existing	6	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	6	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
143	Compressed Air	Compressed Air Optimization - Air Comp	Custom	Existing	190	197	202	205	207	208	209	209	209	209	209	209	209	209	209	209	209	209	209	209
159	Compressed Air	Compressed Air-No Loss Drains Replacing Condensate Drains Retro-Commissioning Air Comp	RCx	Existing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	Standard	Existing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	Standard	Existing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
155	Compressed Air	Receiver Capacity Addition	Custom	Existing	21	21	22	22	22	22	23	23	23	23	23	23	23	23	23	23	23	23	23	23
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	Standard	Existing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	Standard	Existing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	Standard	Existing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	17	23	29	36	44	51	58	64	69	73	77	80	82	83	84	84	84	84	84	84
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	Custom	Existing	12	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
153	Compressed Air	High Efficiency Air Dryers	Custom	Existing	215	218	221	223	225	226	226	226	226	226	226	226	226	226	226	226	226	226	226	226

Ameren MO		Program R&P Measure Savings		Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	\$8	\$9	10	11	12	13	14	15	16	17	18	19	
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	Compressed Air	Variable Displacement Air Compressor	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	Compressed Air	Cycling Dryers	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	Compressed Air	VSD Air Compressor ≤ 40 HP	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Compressed Air	Low Pressure Drop-Filters	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	Existing	102	237	426	677	988	1,374	1,828	2,355	2,924	3,506	4,081	4,630	5,124	5,543	5,895	6,173	6,390	6,552	6,674	
503	Behavioral	In-Home Energy Use Displays	SEM	Existing	101	237	426	676	987	1,372	1,825	2,352	2,919	3,500	4,075	4,622	5,116	5,534	5,886	6,163	6,379	6,541	6,663	
501	Behavioral	SEM	SEM	Existing	436	1,018	1,833	2,909	4,247	5,905	7,854	10,122	12,566	15,067	17,540	19,896	22,019	23,823	25,335	26,528	27,458	28,157	28,680	
502	Behavioral	Whole-Building Energy Monitoring	SEM	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
277	Pools	Pool Heater Heat Pump (Uncovered)	Standard	Existing	1	3	6	9	13	19	25	32	40	48	55	63	69	75	80	84	87	89	90	
279	Pools	Pool Pump w/ Variable Frequency Drive	Standard	Existing	48	49	51	52	52	53	53	54	54	54	54	54	54	54	54	54	54	54	54	54
278	Pools	Pool Heater Heat Pump (Covered)	Standard	Existing	1	3	6	9	13	19	25	32	40	48	55	63	69	75	80	84	87	89	90	
280	Pools	Pool Pump Timer	Standard	Existing	1	3	5	8	12	17	23	30	37	44	51	58	64	69	74	77	80	82	84	
321	Process - Machine Drive	Compressed Air - Advanced Compressor Controls	Custom	Existing	153	165	176	184	190	195	199	202	202	202	202	202	202	202	202	202	202	202	202	
301	Process - Machine Drive	Advanced Lubricants	Custom	Existing	925	1,109	1,291	1,464	1,620	1,753	1,864	1,952	2,020	2,072	2,110	2,140	2,140	2,140	2,140	2,140	2,140	2,140	2,140	2,140
300	Process - Machine Drive	Air-Entraining Air Nozzles	Custom	Existing	162	183	203	220	234	245	253	260	265	268	268	268	268	268	268	268	268	268	268	268
307	Process - Machine Drive	Pump System Efficiency Improvements	Custom	Existing	802	888	960	1,021	1,069	1,107	1,135	1,156	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172	1,172
323	Process - Machine Drive	Motor System Optimization (Including ASD)	Custom	Existing	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504	2,504
310	Process - Machine Drive	Electric Supply System Improvements	Custom	Existing	41	49	57	65	72	78	83	87	90	92	94	95	95	95	95	95	95	95	95	95
325	Process - Machine Drive	Sensors & Controls	Custom	Existing	218	236	251	262	272	279	284	288	288	288	288	288	288	288	288	288	288	288	288	288
316	Process - Machine Drive	Fan System Improvements	Custom	Existing	116	128	139	148	154	160	164	167	169	169	169	169	169	169	169	169	169	169	169	169
303	Process - Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	Custom	Existing	90	104	118	131	142	151	158	163	167	171	173	173	173	173	173	173	173	173	173	173
324	Process - Machine Drive	Industrial Motor Management	Custom	Existing	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	380
322	Process - Machine Drive	Energy Information System	Custom	Existing	41	49	57	65	72	78	83	87	90	92	94	95	95	95	95	95	95	95	95	95
304	Process - Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	Custom	Existing	597	695	789	873	944	1,004	1,051	1,088	1,116	1,137	1,153	1,153	1,153	1,153	1,153	1,153	1,153	1,153	1,153	1,153
302	Process - Machine Drive	Storage Tank Addition (comp air)	Custom	Existing	64	70	74	78	80	82	84	85	85	85	85	85	85	85	85	85	85	85	85	85
311	Process - Machine Drive	High Efficiency Pumps - ROB	Custom	Existing	978	1,082	1,171	1,245	1,304	1,350	1,384	1,410	1,430	1,430	1,430	1,430	1,430	1,430	1,430	1,430	1,430	1,430	1,430	1,430
306	Process - Machine Drive	Elec motors replacing pneumatic (comp air)	Custom	Existing	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784
309	Process - Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	Custom	Existing	193	213	231	246	257	266	273	278	282	282	282	282	282	282	282	282	282	282	282	282
318	Process - Machine Drive	High Efficiency Pumps - Early Replacement	Custom	Existing	933	1,009	1,073	1,124	1,163	1,193	1,215	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232	1,232
313	Process - Machine Drive	VFD for Process Pumps	Custom	Existing	721	839	952	1,054	1,140	1,212	1,269	1,314	1,347	1,372	1,392	1,392	1,392	1,392	1,392	1,392	1,439	1,455	1,480	1,509
312	Process - Machine Drive	Synchronous belt drives	Custom	Existing	124	160	198	237	276	314	347	375	399	418	433	444	452	458	458	458	458	458	458	458
317	Process - Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	94	138	191	255	328	407	489	569	645	714	773	822	860	890	913	930	943	943	943	943
308	Process - Machine Drive	Compressed Air Audits and Leak Repair	Custom	Existing	7,948	8,322	8,614	8,833	8,997	9,125	9,125	9,125	9,125	9,125	9,125	9,125	9,125	9,125	9,125	9,125	9,125	9,125	9,125	9,125
314	Process - Machine Drive	VFD for Process Fans	Custom	Existing	267	311	353	391	423	449	471	487	499	509	516	516	516	516	516	533	539	548	558	558
315	Process - Machine Drive	Receiver Capacity Addition	Custom	Existing	53	58	63	67	70	73	75	76	77	77	77	77	77	77	77	77	77	77	77	77
320	Process - Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	Custom	Existing	83	121	169	225	289	359	431	502	569	630	681	724	759	785	805	820	832	832	832	832
319	Process - Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	Custom	Existing	457	506	547	582	609	630	647	659	668	668	668	668	668	668	668	668	668	668	668	668
305	Process - Machine Drive	High Efficiency Dryers (comp air)	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
336	Process - Industrial	High Efficiency Welders	Custom	Existing	18	19	20	21	22	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
332	Process - Industrial	Barrel Insulation - Inj. Molding (plastics)	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
334	Process - Industrial	3 Phase High Eff Battery Charger	Custom	Existing	17	19	21	23	25	26	27	27	28	28	28	28	28	28	28	28	28	28	28	28
330	Process - Industrial	Process Controls / EMS - Process	Custom	Existing	11	12	12	12	13	13	13	13	13	13	13	13	13	13	13	13	14	14	14	15
346	Process - Industrial	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	194	203	210	215	219	223	223	223	223	223	223	223	223	232	235	239	245	250	257	257

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
327	Process - Industrial	Efficient Process Motor Upgrade - Process	Custom	Existing	15	16	18	20	21	22	23	23	24	24	24	24	24	24	24	24	24	25	25	
348	Process - Industrial	Motors-Efficient Motor Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	3	4	5	6	8	9	10	11	12	13	14	14	14	15	15	15	15	15	15	
329	Process - Industrial	Process Compressor Optimization - Process	Custom	Existing	5	6	8	10	12	14	16	17	19	20	21	21	22	22	23	23	23	23	23	
347	Process - Industrial	Process-Compressor Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	45	60	77	96	115	134	152	169	182	194	203	210	215	219	223	223	223	223	223	
328	Process - Industrial	Insulation for Process Environment or Equipment - Process	Custom	Existing	2	3	3	4	5	6	6	7	8	8	9	9	9	9	9	9	9	9	9	
349	Process - Industrial	Building Shell-Wall Insulation Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	32	33	33	33	33	33	33	33	33	33	33	33	34	35	36	37	38	39	40	41
335	Process - Industrial	Hybrid Injection Molding Machine	Custom	Existing	50	54	58	61	63	64	65	66	66	66	66	66	66	66	66	66	66	66	66	
337	Process - Industrial	On-Demand ventilation control for Dust and Fume Collection Systems	Custom	Existing	36	47	58	70	81	92	102	110	117	123	127	130	133	134	134	134	134	134	134	
326	Process - Industrial	Air Cooled Chiller Upgrade - Process	Custom	Existing	34	35	37	38	38	39	39	39	39	39	39	39	39	41	42	43	44	45	46	
343	Process - Industrial	HVAC-Air Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	39	41	43	44	45	45	45	45	45	45	45	45	45	47	48	49	51	52	54	
340	Process - Industrial	Lab Fume Hood Ventilation Reduction	Custom	Existing	9	11	14	17	19	22	24	26	28	29	30	31	32	32	32	32	32	32	32	
339	Process - Industrial	Industrial Air Curtain	Custom	Existing	198	214	228	239	247	253	258	262	262	262	262	262	262	262	262	262	262	262	262	
345	Process - Industrial	HVAC-Water Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	9	10	10	10	10	10	10	10	10	10	10	10	10	11	11	11	11	12	12	
351	Process - Industrial	Miscellaneous-Efficient Equipment Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	19	19	20	21	21	21	21	21	21	21	21	21	21	22	22	22	23	23	23	
341	Process - Industrial	High Speed Turbo Blower for Wastewater	Custom	Existing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
331	Process - Industrial	Water Cooled Process Chiller - Process	Custom	Existing	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	10	10	10	
344	Process - Industrial	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	9	10	10	10	10	10	10	10	10	10	10	10	10	11	11	11	11	12	12	
350	Process - Industrial	Miscellaneous-Efficient Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	19	19	20	21	21	21	21	21	21	21	21	21	21	22	22	22	23	23	23	
338	Process - Industrial	Pellet Dryer Insulation (plastics)	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
342	Process - Industrial	Process Fan Ventilation Reduction	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
333	Process - Industrial	Fiber Laser Replacing CO2 laser (auto industry)	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
360	Process - Process Cooling & Refrigeration	Improved Refrigeration	Custom	Existing	178	222	266	309	351	388	420	447	468	484	496	506	513	513	513	513	513	513	513	
358	Process - Process Cooling & Refrigeration	Electric Supply System Improvements	Custom	Existing	7	9	11	13	14	16	17	18	19	20	20	21	21	21	21	21	21	21	21	
356	Process - Process Cooling & Refrigeration	Evaporator Motor Reduction - ROB	Custom	Existing	46	57	68	79	90	99	108	114	120	124	127	129	131	131	131	131	131	131	131	
359	Process - Process Cooling & Refrigeration	Sensors & Controls	Custom	Existing	43	47	51	55	57	59	61	62	63	63	63	63	63	63	63	63	63	63	63	
362	Process - Process Cooling & Refrigeration	Energy Information System	Custom	Existing	7	9	11	13	14	16	17	18	19	20	20	21	21	21	21	21	21	21	21	
357	Process - Process Cooling & Refrigeration	Floating Head Pressure Control	Custom	Existing	155	165	172	178	183	186	189	189	189	189	189	189	189	189	189	189	189	189	189	
361	Process - Process Cooling & Refrigeration	Refrigerant charging correction	Custom	Existing	56	89	131	182	241	311	386	463	539	612	677	732	779	816	844	866	882	894	894	
363	Process - Process Cooling & Refrigeration	Evaporator Fan Motor Controls	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
364	Process - Process Heating	Electric Supply System Improvements	Custom	Existing	8	10	12	14	16	17	19	20	21	22	22	22	23	23	23	23	23	23	23	
365	Process - Process Heating	Sensors & Controls	Custom	Existing	47	52	56	60	63	65	67	68	69	69	69	69	69	69	69	69	69	69	69	
367	Process - Process Heating	Energy Information System	Custom	Existing	8	10	12	14	16	17	19	20	21	22	22	23	23	23	23	23	23	23	23	
366	Process - Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	Custom	Existing	313	389	466	543	616	682	738	784	821	850	872	888	901	901	901	901	901	901	901	
369	Process - Agriculture	Fan Thermostat Controller	Custom	Existing	22	24	26	28	29	30	31	32	32	32	32	32	32	32	32	32	32	32	32	
371	Process - Agriculture	Milk Pre-Cooler Heat Exchanger	Custom	Existing	37	43	48	53	58	61	64	67	68	70	71	71	71	71	71	71	71	71	71	
383	Process - Agriculture	Engine Block Heater	Custom	Existing	30	48	71	98	131	168	209	251	292	331	366	396	421	441	457	468	477	484	484	
373	Process - Agriculture	VFD for Process Fans - Agriculture	Custom	Existing	41	49	57	65	72	78	83	86	90	92	93	95	95	95	95	95	95	95	95	

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
374	Process - Agriculture	Grain Storage Temperature and Moisture Management Controller	Custom	Existing	23	26	29	31	33	35	36	37	37	38	38	38	38	38	38	38	38	38	38	38
375	Process - Agriculture	VFD for Process Pumps - Agriculture	Custom	Existing	55	64	73	81	88	93	98	101	104	105	107	107	107	107	107	107	107	107	107	107
382	Process - Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	Custom	Existing	80	85	89	92	95	96	98	98	98	98	98	98	98	98	98	98	98	98	98	98
379	Process - Agriculture	VFD for Process Pumps - Irrigation	Custom	Existing	83	97	110	121	131	140	146	151	155	158	160	160	160	160	160	160	160	160	160	160
372	Process - Agriculture	Low Pressure Sprinkler Nozzles	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	Process - Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
378	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
377	Process - Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
381	Process - Agriculture	Variable Speed Drive withHeat Exchanger, Milk	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
369	Process - Agriculture	Fan Thermostat Controller	Custom	Existing	22	24	26	28	29	30	31	32	32	32	32	32	32	32	32	32	32	32	32	32
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	New Construction	New Construction	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	New Construction	New Construction	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
13	Interior Lighting	Stairwell Bi-Level Control	New Construction	New Construction	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
28	Interior Lighting	LED Specialty Lamp	New Construction	New Construction	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322	322
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	New Construction	New Construction	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	New Construction	New Construction	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	New Construction	New Construction	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
25	Interior Lighting	LED Replacing Interior T5 Fluorescent	New Construction	New Construction	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701
5	Interior Lighting	High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
1	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	New Construction	New Construction	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	New Construction	New Construction	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	New Construction	New Construction	872	872	872	872	872	872	872	872	872	872	872	872	872	872	872	872	872	872	872	872
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	258	258	258	258	258	258	258	258	258	258	258	258	258	258	258	258	258	258	258	258
34	Interior Lighting	Central Lighting Controls	New Construction	New Construction	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	New Construction	New Construction	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	New Construction	New Construction	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	New Construction	New Construction	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	New Construction	New Construction	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	New Construction	New Construction	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	New Construction	New Construction	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=800 Watts	New Construction	New Construction	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
10	Interior Lighting	Smart Web-based lighting Mgmt System	New Construction	New Construction	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438	1,438
14	Interior Lighting	Switching Controls for Multi-Level Lighting	New Construction	New Construction	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	New Construction	New Construction	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Construction	New Construction	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228	228
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >50 and <=120 Watts	New Construction	New Construction	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
37	Interior Lighting	LED Case Lighting (retrofit)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Interior Lighting	Smart Advanced Lighting Controls	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	\$8	\$9	10	11	12	13	14	15	16	17	18	19	
35	Interior Lighting	Illuminated Signs to LED	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	New Construction	New Construction	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	New Construction	New Construction	74	76	78	80	80	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
59	Exterior Lighting	LED Pedestrian Signals	New Construction	New Construction	20	22	25	27	28	30	31	31	32	32	32	32	32	32	32	32	32	32	32	32
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Construction	New Construction	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Construction	New Construction	47	48	50	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
47	Exterior Lighting	Garage BiLevel Controls	New Construction	New Construction	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
57	Exterior Lighting	LED Auto Traffic Signals	New Construction	New Construction	19	21	23	25	27	28	29	30	30	31	31	31	31	31	31	31	31	31	31	31
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	New Construction	New Construction	33	34	35	36	36	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	New Construction	New Construction	41	42	43	44	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Construction	New Construction	33	37	41	44	47	50	51	53	54	54	54	54	54	54	54	54	54	54	54	54
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Construction	New Construction	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	New Construction	New Construction	39	40	41	42	42	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	New Construction	New Construction	38	39	40	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	New Construction	New Construction	38	39	41	41	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	New Construction	New Construction	24	25	25	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	New Construction	New Construction	39	41	42	42	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Construction	New Construction	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
46	Exterior Lighting	Exterior BiLevel Controls	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	Exterior Lighting	Lighting Power Density - Parking Garage	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Exterior Lighting	Lighting Power Density - Exterior	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	Space Cooling	Commercial EMS	New Construction	New Construction	73	93	113	135	156	176	193	209	221	231	239	245	250	251	253	253	253	253	253	253
100	Space Cooling	Roof Insulation	New Construction	New Construction	163	166	169	170	172	173	174	174	174	174	174	174	174	174	174	174	174	174	174	174
99	Space Cooling	Energy Efficient Windows	New Construction	New Construction	186	190	192	195	196	197	198	198	198	198	198	198	198	198	198	198	198	198	198	198
79	Space Cooling	Zoning	New Construction	New Construction	294	334	370	402	429	452	470	484	494	499	503	506	506	506	506	506	506	506	506	506
78	Space Cooling	EMS Optimization / Continuous Commissioning	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
69	Space Cooling	VFD for Pump - Cooling	New Construction	New Construction	58	69	79	89	97	105	111	116	120	123	125	126	127	127	127	127	127	127	127	127
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Construction	New Construction	28	30	32	33	34	35	35	36	36	36	36	36	36	36	36	36	36	36	36	36
94	Space Cooling	Air Cooled Chiller	New Construction	New Construction	24	25	26	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Construction	New Construction	3	4	5	6	6	7	8	8	9	9	9	9	9	9	9	9	9	9	9	9
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Construction	New Construction	188	198	206	213	218	220	222	223	224	224	224	224	224	224	224	224	224	224	224	224
72	Space Cooling	VFD for Process Fans -CRAC units	New Construction	New Construction	81	96	111	126	139	150	159	167	173	178	181	183	184	184	184	184	184	184	184	184
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Construction	New Construction	38	46	54	63	70	77	83	88	92	95	97	99	100	100	100	100	100	100	100	100
62	Space Cooling	Chiller Control Optimization - Cooling	New Construction	New Construction	3	3	4	5	5	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	New Construction	New Construction	33	37	41	44	47	49	51	52	53	54	54	54	54	54	54	54	54	54	54	54
68	Space Cooling	VFD for Fan - Cooling	New Construction	New Construction	454	526	594	655	709	755	792	821	844	862	869	874	878	878	878	878	878	878	878	878
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	New Construction	New Construction	46	47	48	48	49	49	50	50	50	50	50	50	50	50	50	50	50	50	50	50
71	Space Cooling	Water Loop Heat Pump - Cooling	New Construction	New Construction	3	4	4	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	New Construction	New Construction	10	17	27	40	56	74	95	118	142	165	187	207	224	239	250	259	265	270	274	274
75	Space Cooling	Building Operator Certification	New Construction	New Construction	2	4	6	9	12	16	20	25	30	35	40	44	48	51	53	55	57	58	58	58
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	New Construction	New Construction	106	129	153	176	197	217	233	246	257	266	272	277	279	280	280	280	280	280	280	280
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	New Construction	New Construction	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	New Construction	New Construction	77	81	84	86	88	90	91	92	92	92	92	92	92	92	92	92	92	92	92	92
98	Space Cooling	EMS Pump Scheduling Controls	New Construction	New Construction	1	2	4	6	8	10	13	17	20	23	26	29	32	34	35	36	37	38	39	39
67	Space Cooling	VFD for Chiller - Cooling	New Construction	New Construction	46	53	59	65	70	74	77	80	82	83	84	84	84	84	84	84	84	84	84	84
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	New Construction	New Construction	24	25	26	26	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
63	Space Cooling	CRAC Unit Upgrade - Cooling	New Construction	New Construction	0	1	1	1	2	2	3	4	4	5	6	7	7	8	8	8	8	8	8	8
89	Space Cooling	Packaged DX 65 -135kbtu	New Construction	New Construction	22	24	25	26	27	28	28	29	29	29	29	29	29	29	29	29	29	29	29	29
95	Space Cooling	Small Commercial Programmable Thermostats	New Construction	New Construction	35	36	36	37	38	38	38	39	39	39	39	39	39	39	39	39	39	39	39	39

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	\$8	\$9	10	11	12	13	14	15	16	17	18	19	
74	Space Cooling	Wall Insulation - Building Shell	New Construction	New Construction	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
90	Space Cooling	Packaged DX >760kbtu	New Construction	New Construction	13	14	14	14	14	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15
101	Space Cooling	Window Improvements	New Construction	New Construction	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229	229
91	Space Cooling	Packaged DX <65kbtu	New Construction	New Construction	19	19	19	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
88	Space Cooling	Packaged DX 240 - 760kbtu	New Construction	New Construction	13	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
86	Space Cooling	Air Source Heat Pump	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	Space Cooling	Ceiling Insulation	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	Space Cooling	PTHP	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	Space Cooling	VRV-Variable Refrigerant Volume System	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	Space Cooling	PTAC	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	Space Cooling	Improved Duct Sealing - Cooling AC	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	Space Cooling	Cool Roof	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	Space Heating	Commercial EMS	New Construction	New Construction	19	22	25	27	29	31	32	33	34	35	35	35	35	35	35	35	35	35	35	35
121	Space Heating	Roof Insulation	New Construction	New Construction	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
120	Space Heating	Energy Efficient Windows	New Construction	New Construction	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
115	Space Heating	Zoning	New Construction	New Construction	56	60	63	65	67	68	69	69	70	70	70	70	70	70	70	70	70	70	70	70
114	Space Heating	EMS Optimization / Continuous Commissioning	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	Space Heating	Building Operator Certification	New Construction	New Construction	1	2	3	3	4	5	6	6	7	8	8	9	9	9	9	9	9	9	9	9
119	Space Heating	EMS Pump Scheduling Controls	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	Space Heating	ASHP >240kbtu	New Construction	New Construction	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
105	Space Heating	ASHP 65 - 135kbtu	New Construction	New Construction	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
106	Space Heating	ASHP 135 - 240kbtu	New Construction	New Construction	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
108	Space Heating	ASHP <65kbtu	New Construction	New Construction	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
109	Space Heating	Learning Thermostat	New Construction	New Construction	31	31	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
122	Space Heating	Window Improvements	New Construction	New Construction	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
102	Space Heating	General HVAC Equipment Upgrades - Heating	New Construction	New Construction	47	49	50	51	52	52	53	53	53	53	53	53	53	53	53	53	53	53	53	53
110	Space Heating	Wall Insulation - Building Shell	New Construction	New Construction	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
104	Space Heating	GSHP <135kbtu; ≥19EER	New Construction	New Construction	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
117	Space Heating	Ceiling Insulation	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Space Heating	GSHP <135kbtu; ≥17EER	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	Space Heating	Cool Roof	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	Ventilation	Demand Control Ventilation - Cooling	New Construction	New Construction	150	154	157	158	158	158	158	158	158	158	158	158	158	158	158	158	158	158	158	158
125	Ventilation	Demand Control Ventilation - HVAC (Ventilation)	New Construction	New Construction	148	152	155	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156
129	Ventilation	Packaged / Rooftop Unit Upgrade - HVAC (Ventilation)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	Ventilation	General HVAC Equipment Upgrades - HVAC (Ventilation)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	Ventilation	ECM Motor for HVAC - HVAC (Ventilation)	New Construction	New Construction	367	416	461	498	530	555	575	589	600	609	609	609	609	609	609	609	609	609	609	609
130	Ventilation	VFD for Fan - HVAC (Ventilation)	New Construction	New Construction	1,086	1,095	1,102	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107
123	Ventilation	Advanced RTU Compressor Controller - HVAC (Ventilation)	New Construction	New Construction	165	169	172	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173
131	Ventilation	Water Loop Heat Pump - HVAC (Ventilation)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	Ventilation	HVAC Controls (BMS, EMS...) - HVAC (Ventilation)	New Construction	New Construction	52	54	55	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
124	Ventilation	Air Cooled Chiller Upgrade - HVAC (Ventilation)	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
140	Ventilation	Demand Controlled Ventilation (Electric Heat)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	Ventilation	Demand Controlled Ventilation (Heat Pump)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199	Motors	VFD on Chilled Water Pump 1-75HP	New Construction	New Construction	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
200	Motors	VFD on Hot Water Pump 1-75HP	New Construction	New Construction	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
201	Motors	VFD on HVAC Fans 1-100HP	New Construction	New Construction	129	135	141	145	148	149	150	151	151	151	151	151	151	151	151	151	151	151	151	151
195	Motors	VFD for Process Motor - Motors	New Construction	New Construction	89	94	97	100	102	103	104	104	104	104	104	104	104	104	104	104	104	104	104	104
193	Motors	Efficient Pump - Motors	New Construction	New Construction	65	67	68	69	69	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
194	Motors	VFD for Chiller - Motors	New Construction	New Construction	85	89	92	95	97	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99
192	Motors	ECM Motor - Motors	New Construction	New Construction	168	173	175	177	178	179	179	179	179	179	179	179	179	179	179	179	179	179	179	179
196	Motors	VFD for Pump - Motors	New Construction	New Construction	85	89	92	95	97	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99
185	Cooking	Standard Open Deep-Fat Fryer	New Construction	New Construction	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
187	Cooking	Convection Oven (Full Size)	New Construction	New Construction	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
179	Cooking	6 Pan ENERGY STAR Steam Cooker	New Construction	New Construction	2	3	3	4	5	5	6	6	7	7	7	7	8	8	8	8	8	8	8	8
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	New Construction	New Construction	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
178	Cooking	5 Pan ENERGY STAR Steam Cooker	New Construction	New Construction	2	2	3	3	4	5	5	6	6	7	7	7	8	8	8	8	8	8	8	8
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	New Construction	New Construction	126	130	133	136	137	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138
177	Cooking	4 Pan ENERGY STAR Steam Cooker	New Construction	New Construction	1	2	3	3	4	4	5	6	6	6	7	7	7	7	7	7	7	7	7	7
190	Cooking	Kitchen Demand Ventilation Controls	New Construction	New Construction	11	15	18	22	25	29	32	34	36	38	39	40	41	42	42	42	42	42	42	42
176	Cooking	3 Pan ENERGY STAR Steam Cooker	New Construction	New Construction	2	2	3	3	4	5	5	6	6	7	7	7	8	8	8	8	8	8	8	8
181	Cooking	ENERGY STAR Hot Holding Cabinet (13 ≤ V <28)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
186	Cooking	Large Vat Open Deep-Fat Fryer	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
183	Cooking	Combination Oven (Pan Capacity < 15)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	\$8	\$9	10	11	12	13	14	15	16	17	18	19	
188	Cooking	Convection Oven (Half Size)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
189	Cooking	Griddle	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	Cooking	ENERGY STAR Hot Holding Cabinet (0 < V <13)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
191	Cooking	Induction Cooktop	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
268	Refrigeration	Strip Curtains - Walk-In Freezer	New Construction	New Construction	7	16	28	45	66	91	122	157	194	233	271	308	341	369	392	411	425	436	444	
234	Refrigeration	Efficient Refrigeration Condenser	New Construction	New Construction	7	8	10	11	12	14	14	15	16	16	17	17	17	17	17	17	17	17	17	17
240	Refrigeration	Efficient Refrigeration Condenser	New Construction	New Construction	10	12	14	16	18	19	20	21	22	22	23	23	23	23	23	23	23	23	23	23
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	New Construction	New Construction	263	268	272	275	278	280	282	283	283	283	283	283	283	283	283	283	283	283	283	283
231	Refrigeration	Head Pressure Controls - Refrigeration	New Construction	New Construction	90	94	97	100	103	104	106	107	108	109	109	109	109	109	109	109	109	109	109	109
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	New Construction	New Construction	55	73	93	116	140	163	186	207	225	240	252	262	269	275	278	280	280	280	280	
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	New Construction	New Construction	125	128	130	132	133	134	135	135	135	135	135	135	135	135	135	135	135	135	135	135
266	Refrigeration	Refrigeration Savings due to Lighting Savings	New Construction	New Construction	0	0	0	1	1	1	2	2	3	3	4	5	5	5	6	6	6	6	6	7
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	New Construction	New Construction	3	7	13	20	30	42	55	71	88	106	123	140	155	168	178	187	193	198	202	
260	Refrigeration	Anti-Sweat Heater Controls Freezer	New Construction	New Construction	4	9	16	26	38	53	70	91	112	135	157	178	197	213	227	237	246	252	257	
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	New Construction	New Construction	2	5	9	14	20	28	38	49	60	72	84	96	106	115	122	128	132	135	138	
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	New Construction	New Construction	119	121	123	124	125	125	126	126	126	126	126	126	126	126	126	126	126	126	126	126
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	New Construction	New Construction	119	121	122	124	124	125	126	126	126	126	126	126	126	126	126	126	126	126	126	126
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	New Construction	New Construction	130	132	134	135	136	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
233	Refrigeration	Discus Compressors	New Construction	New Construction	41	42	43	44	45	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
269	Refrigeration	Zero-Energy Doors	New Construction	New Construction	52	67	83	99	117	133	148	162	174	184	191	198	202	205	207	208	208	208	208	208
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	New Construction	New Construction	131	133	135	136	137	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	New Construction	New Construction	109	110	112	113	114	114	115	115	115	115	115	115	115	115	115	115	115	115	115	115
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	New Construction	New Construction	2	4	6	9	13	18	23	29	35	41	47	53	58	62	65	68	70	71	72	72
267	Refrigeration	Strip Curtains - Walk-In Cooler	New Construction	New Construction	23	37	54	75	100	129	160	192	224	254	281	304	323	339	350	359	366	371	371	371
232	Refrigeration	Refrigeration Insulation - Refrigeration	New Construction	New Construction	10	24	44	69	101	141	187	241	299	359	418	474	525	568	604	632	654	671	683	683
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	New Construction	New Construction	122	124	125	127	128	128	129	129	129	129	129	129	129	129	129	129	129	129	129	129
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	New Construction	New Construction	117	119	121	122	123	123	124	124	124	124	124	124	124	124	124	124	124	124	124	124
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	New Construction	New Construction	69	70	71	71	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	New Construction	New Construction	193	197	199	201	202	203	204	204	204	204	204	204	204	204	204	204	204	204	204	204
265	Refrigeration	Refrigerant charging correction	New Construction	New Construction	14	32	57	91	133	184	245	316	392	470	548	621	687	744	791	828	857	879	895	
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	New Construction	New Construction	3	7	12	19	27	38	51	66	81	98	114	129	143	154	164	172	178	182	186	186
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	New Construction	New Construction	162	163	164	165	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
264	Refrigeration	Reach-in Refrigerated display case door retrofit	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
239	Refrigeration	Evaporator Coil Defrost Control	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
263	Refrigeration	Night Covers	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
204	Office & Computing	Computer Room Air Side Economizer	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
203	Office & Computing	Computer Room Air Conditioner Economizer	New Construction	New Construction	2	5	9	14	20	28	37	48	59	71	83	94	104	113	120	125	130	133	135	
211	Office & Computing	Energy Star POS Terminal	New Construction	New Construction	2	4	7	12	17	24	31	40	50	60	70	79	88	95	101	106	110	112	115	115
207	Office & Computing	Electrically Commutated Plug Fans in data centers	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
214	Office & Computing	Computer Power Management Software	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	Office & Computing	Energy Star Computers	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	Office & Computing	Vending Miser for Non-Refrig Equip	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213	Office & Computing	High Efficiency Hand Dryer	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
205	Office & Computing	Computer Room Hot Aisle Cold Aisle Configuration	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209	Office & Computing	Energy Star Compliant Refrigerator	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202	Office & Computing	Commercial Plug Load - Smart Strip Outlets	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
212	Office & Computing	Energy Star UPS	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	\$8	\$9	10	11	12	13	14	15	16	17	18	19	
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	New Construction	New Construction	6	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	New Construction	New Construction	6	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	New Construction	New Construction	7	8	8	9	9	10	10	10	10	11	11	11	11	11	11	11	11	11	11	11
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	New Construction	New Construction	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	New Construction	New Construction	7	8	8	9	9	10	10	10	10	11	11	11	11	11	11	11	11	11	11	11
221	Other	Clothes Dryer Vented Electric, Compact (120V) (< 4.4 ft3)	New Construction	New Construction	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8
225	Other	High Efficiency Transformer, single-phase	New Construction	New Construction	0	0	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	3	3	3
226	Other	High Efficiency Transformer, three-phase	New Construction	New Construction	0	0	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	3	3	3
228	Other	NEMA Premium Transformer, three-phase	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
227	Other	NEMA Premium Transformer, single-phase	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224	Other	Clothes Dryer Vented Gas	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	New Construction	New Construction	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	New Construction	New Construction	8	10	12	14	16	18	19	21	22	23	23	24	24	24	24	24	24	24	24	24
282	Water Heating	Pre-Rinse Spray Valve	New Construction	New Construction	8	11	15	18	22	25	29	32	34	36	38	39	40	41	42	42	42	42	42	42
290	Water Heating	Low Flow Showerhead	New Construction	New Construction	5	7	9	11	13	15	17	19	21	22	23	24	24	25	25	25	25	25	25	25
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	New Construction	New Construction	8	10	12	14	16	18	19	21	22	23	23	24	24	24	24	24	24	24	24	24
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	New Construction	New Construction	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	New Construction	New Construction	8	10	12	14	16	18	19	21	22	23	23	24	24	24	24	24	24	24	24	24
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	New Construction	New Construction	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
289	Water Heating	Hot Water (DHW) Pipe Insulation	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	New Construction	New Construction	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	New Construction	New Construction	8	10	12	14	16	18	19	21	22	23	23	24	24	24	24	24	24	24	24	24
281	Water Heating	Low Flow Faucet Aerator	New Construction	New Construction	5	7	9	11	13	16	18	20	21	23	24	25	25	26	26	26	26	26	26	26
291	Water Heating	Water Heater Timer	New Construction	New Construction	6	7	7	8	9	9	10	10	10	10	10	11	11	11	11	11	11	11	11	11
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	New Construction	New Construction	7	9	11	13	15	17	18	20	21	21	22	23	23	23	23	23	23	23	23	23
284	Water Heating	Efficient Hot Water Pump	New Construction	New Construction	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
285	Water Heating	On Demand (tankless)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
283	Water Heating	Circulator Pump	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	New Construction	New Construction	0	0	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
146	Compressed Air	Air Compressor Outdoor Air Intake	New Construction	New Construction	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
149	Compressed Air	Compressed Air Replacement with Air Blowers	New Construction	New Construction	9	12	16	20	24	28	31	35	38	40	42	43	44	45	46	46	46	46	46	46
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
168	Compressed Air	Compressed Air Nozzle (Reciprocating - On/off Control)	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	New Construction	New Construction	2	3	4	5	6	7	8	9	10	10	11	11	11	11	12	12	12	12	12	12
150	Compressed Air	Compressed Air Storage Tank	New Construction	New Construction	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
173	Compressed Air	Compressed Air Nozzle (Screw - Variable Displacement)	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
145	Compressed Air	VFD for Air Compressor - Air Comp	New Construction	New Construction	2	3	4	5	6	7	8	9	10	10	11	11	11	11	12	12	12	12	12	12
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	New Construction	New Construction	11	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	New Construction	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
143	Compressed Air	Compressed Air Optimization - Air Comp	New Construction	New Construction	33	35	35	36	36	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	Compressed Air	Receiver Capacity Addition	New Construction	New Construction	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	New Construction	New Construction	2	3	4	5	6	7	8	8	9	10	10	10	11	11	11	11	11	11	11	11
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	New Construction	New Construction	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
153	Compressed Air	High Efficiency Air Dryers	New Construction	New Construction	33	34	34	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Program R&P Measure Savings	Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	\$8	\$9	10	11	12	13	14	15	16	17	18	19	
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	Compressed Air	Variable Displacement Air Compressor	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	Compressed Air	Cycling Dryers	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	Compressed Air	VSD Air Compressor ≤ 40 HP	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	Compressed Air	Low Pressure Drop-Filters	New Construction	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
503	Behavioral	In-Home Energy Use Displays	SEM	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
501	Behavioral	SEM	SEM	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
502	Behavioral	Whole-Building Energy Monitoring	SEM	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
277	Pools	Pool Heater Heat Pump (Uncovered)	New Construction	New Construction	0	0	1	1	2	2	3	4	5	5	6	7	8	9	9	10	10	10	10	10
279	Pools	Pool Pump w/ Variable Frequency Drive	New Construction	New Construction	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
278	Pools	Pool Heater Heat Pump (Covered)	New Construction	New Construction	0	0	1	1	2	2	3	4	5	5	6	7	8	9	9	10	10	10	10	10
280	Pools	Pool Pump Timer	New Construction	New Construction	0	0	1	1	1	2	3	3	4	5	6	7	7	8	8	9	9	9	9	10

Ameren MO		Program RAP Measure Costs			Incentives and Admin																				
Measure #	End-Use	Measure Name	Program	Construction Type																					
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$392,447	\$394,110	\$395,789	\$397,484	\$399,197	\$400,927	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$419,206	\$421,136	\$423,085	\$425,054	
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	Standard	Existing	\$343,633	\$344,429	\$345,234	\$346,046	\$346,866	\$347,695	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$358,309	\$359,252	
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	Custom	Existing	\$122,982	\$123,534	\$124,092	\$124,656	\$125,225	\$125,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$132,515	\$133,162	\$133,817	
13	Interior Lighting	Stairwell Bi-Level Control	Custom	Existing	\$124,495	\$125,158	\$125,827	\$126,503	\$127,186	\$127,876	\$0	\$0	\$129,986	\$130,704	\$131,429	\$132,161	\$132,901	\$133,648	\$0	\$0	\$135,933	\$136,710	\$137,495	\$137,495	
28	Interior Lighting	LED Specialty Lamp	Standard	Existing	\$667,513	\$669,620	\$671,748	\$673,898	\$676,069	\$678,262	\$0	\$0	\$0	\$0	\$691,887	\$694,238	\$696,612	\$699,011	\$701,433	\$703,879	\$0	\$0	\$0	\$0	
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	Standard	Existing	\$348,241	\$349,056	\$349,878	\$350,709	\$351,548	\$352,396	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$363,252	\$364,217	
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	Standard	Existing	\$765,203	\$766,976	\$768,767	\$770,576	\$772,403	\$774,248	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$795,803	\$797,882	\$799,981	
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$132,701	\$133,230	\$133,765	\$134,305	\$134,851	\$135,402	\$0	\$0	\$0	\$0	\$138,241	\$138,826	\$139,417	\$140,013	\$140,616	\$141,225	\$0	\$0	\$0	\$0	
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	Standard	Existing	\$51,421	\$51,621	\$51,823	\$52,027	\$52,234	\$52,442	\$0	\$0	\$0	\$0	\$0	\$0	\$53,958	\$54,183	\$54,411	\$54,641	\$54,873	\$55,108	\$55,108	\$0	
25	Interior Lighting	LED Replacing Interior T5 Fluorescent High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Standard	Existing	\$1,305,548	\$1,308,573	\$1,311,628	\$1,314,713	\$1,317,830	\$1,320,978	\$0	\$0	\$1,330,611	\$1,333,887	\$1,337,195	\$1,340,536	\$1,343,911	\$1,347,320	\$0	\$0	\$1,357,751	\$1,361,298	\$1,364,880	\$1,364,880	
5	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$112,834	\$113,311	\$113,794	\$114,282	\$114,774	\$115,272	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$120,527	\$121,082	\$121,642	\$122,208
1	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$218,387	\$219,312	\$220,246	\$221,190	\$222,143	\$223,105	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$233,277	\$234,351	\$235,436	\$236,531	
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$82,961	\$83,273	\$83,589	\$83,907	\$84,229	\$84,555	\$0	\$0	\$0	\$0	\$86,230	\$86,575	\$86,923	\$87,275	\$87,631	\$87,990	\$0	\$0	\$0	\$0	
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	Standard	Existing	\$380,949	\$381,780	\$382,618	\$383,465	\$384,321	\$385,185	\$0	\$0	\$0	\$0	\$390,554	\$391,481	\$392,416	\$393,362	\$394,316	\$395,280	\$0	\$0	\$0	\$0	
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	Standard	Existing	\$372,334	\$373,204	\$374,083	\$374,970	\$375,867	\$376,773	\$0	\$0	\$0	\$0	\$382,399	\$383,370	\$384,351	\$385,341	\$386,341	\$387,352	\$0	\$0	\$0	\$0	
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	Standard	Existing	\$2,239,043	\$2,244,232	\$2,249,474	\$2,254,768	\$2,260,115	\$2,265,515	\$0	\$0	\$0	\$0	\$2,299,070	\$2,304,860	\$2,310,707	\$2,316,614	\$2,322,579	\$2,328,604	\$0	\$0	\$0	\$0	
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$954,030	\$958,071	\$962,153	\$966,275	\$970,439	\$974,644	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,019,079	\$1,023,771	\$1,028,510	\$1,033,295	
34	Interior Lighting	Central Lighting Controls	Standard	Existing	\$1,986,544	\$1,990,180	\$1,993,852	\$1,997,561	\$2,001,307	\$2,005,090	\$0	\$0	\$0	\$0	\$0	\$0	\$2,032,656	\$2,036,753	\$2,040,891	\$2,045,070	\$2,049,291	\$2,053,554	\$0	\$0	
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	Standard	Existing	\$82,595	\$82,728	\$82,863	\$82,999	\$83,137	\$83,276	\$0	\$0	\$0	\$0	\$84,139	\$84,288	\$84,439	\$84,591	\$84,744	\$84,899	\$0	\$0	\$0	\$0	
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	Standard	Existing	\$358,360	\$359,185	\$360,019	\$360,860	\$361,711	\$362,570	\$0	\$0	\$0	\$0	\$367,906	\$368,826	\$369,756	\$370,696	\$371,644	\$372,602	\$0	\$0	\$0	\$0	
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	Standard	Existing	\$109,209	\$109,462	\$109,718	\$109,976	\$110,237	\$110,500	\$0	\$0	\$0	\$0	\$112,136	\$112,419	\$112,704	\$112,992	\$113,283	\$113,577	\$0	\$0	\$0	\$0	
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	Standard	Existing	\$100,193	\$100,425	\$100,659	\$100,896	\$101,135	\$101,377	\$0	\$0	\$0	\$0	\$102,878	\$103,137	\$103,399	\$103,663	\$103,930	\$104,199	\$0	\$0	\$0	\$0	
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	Standard	Existing	\$102,154	\$102,391	\$102,630	\$102,871	\$103,115	\$103,362	\$0	\$0	\$0	\$0	\$104,892	\$105,156	\$105,423	\$105,692	\$105,964	\$106,239	\$0	\$0	\$0	\$0	
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$81,196	\$81,447	\$81,701	\$81,957	\$82,216	\$82,478	\$0	\$0	\$0	\$0	\$83,825	\$84,102	\$84,383	\$84,666	\$84,952	\$85,241	\$0	\$0	\$0	\$0	
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	Standard	Existing	\$84,315	\$84,445	\$84,577	\$84,710	\$84,845	\$84,981	\$0	\$0	\$85,397	\$85,538	\$85,681	\$85,825	\$85,971	\$86,118	\$0	\$0	\$86,569	\$86,722	\$86,877	\$86,877	
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$137,160	\$137,582	\$138,008	\$138,439	\$138,874	\$139,313	\$0	\$0	\$0	\$0	\$141,575	\$142,041	\$142,512	\$142,987	\$143,468	\$143,953	\$0	\$0	\$0	\$0	
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	Standard	Existing	\$84,553	\$84,683	\$84,814	\$84,947	\$85,081	\$85,216	\$0	\$0	\$0	\$0	\$85,913	\$86,057	\$86,202	\$86,349	\$86,497	\$86,646	\$0	\$0	\$0	\$0	
10	Interior Lighting	Smart Web-based lighting Mgmt System	Custom	Existing	\$5,014,122	\$5,030,932	\$5,047,909	\$5,065,057	\$5,082,376	\$5,099,869	\$0	\$0	\$0	\$0	\$5,189,989	\$5,208,558	\$5,227,312	\$5,246,254	\$5,265,385	\$5,284,707	\$0	\$0	\$0	\$0	
14	Interior Lighting	Switching Controls for Multi-Level Lighting	Custom	Existing	\$44,811	\$44,948	\$45,086	\$45,226	\$45,367	\$45,510	\$0	\$0	\$0	\$0	\$0	\$0	\$46,549	\$46,704	\$46,860	\$47,017	\$47,176	\$47,337	\$47,337	\$0	
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	Standard	Existing	\$883,825	\$885,919	\$888,033	\$890,169	\$892,327	\$894,506	\$0	\$0	\$0	\$903,442	\$905,732	\$908,045	\$910,381	\$912,741	\$915,124	\$0	\$0	\$0	\$924,897	\$924,897	
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	\$844,148	\$847,724	\$851,335	\$854,983	\$858,667	\$862,388	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$901,705	\$905,857	\$910,049	\$914,284	
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >50 and <=120 Watts	Standard	Existing	\$119,567	\$119,676	\$119,785	\$119,896	\$120,008	\$120,121	\$0	\$0	\$0	\$0	\$120,823	\$120,944	\$121,067	\$121,190	\$121,315	\$121,441	\$0	\$0	\$0	\$0	
37	Interior Lighting	LED Case Lighting (retrofit)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
11	Interior Lighting	Smart Advanced Lighting Controls	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
35	Interior Lighting	Illuminated Signs to LED	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	\$63,504	\$64,286	\$64,596	\$64,909	\$65,225	\$65,544	\$65,867	\$66,193	\$66,522	\$66,854	\$67,190	\$67,529	\$67,871	\$68,217	\$68,566	\$68,919	\$69,275	\$69,635	\$69,998	\$69,998	
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	\$115,005	\$119,893	\$123,832	\$126,992	\$128,965	\$130,654	\$131,297	\$131,946	\$132,602	\$133,265	\$133,934	\$134,609	\$135,292	\$135,981	\$136,677	\$137,380	\$138,090	\$138,807	\$139,532	\$139,532	
59	Exterior Lighting	LED Pedestrian Signals	Standard	Existing	\$8,274	\$9,479	\$10,596	\$11,579	\$12,437	\$13,152	\$13,750	\$14,241	\$14,651	\$15,007	\$15,157	\$15,309	\$15,462	\$15,616	\$15,773	\$15,930	\$16,090	\$16,251	\$16,413	\$16,413	
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	\$22,350	\$23,302	\$24,068	\$24,683	\$25,068	\$25,398	\$25,523	\$25,649	\$25,776	\$25,905	\$26,035	\$26,167	\$26,299	\$26,433	\$26,569	\$26,705	\$26,843	\$26,983	\$27,124	\$27,124	
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	\$58,351	\$60,797	\$62,775	\$64,371	\$65,343	\$66,184	\$66,540	\$66,899	\$67,262	\$67,629	\$67,999	\$68,373	\$68,751	\$69,132	\$69,517	\$69,906	\$70,299	\$70,696	\$71,097	\$71,097	
47	Exterior Lighting	Garage BiLevel Controls	Custom	Existing	\$214,533	\$215,326	\$216,127	\$216,937	\$217,754	\$218,579	\$219,413	\$220,255	\$221,105	\$221,964	\$222,832	\$223,708	\$224,593	\$225,487	\$226,389	\$227,301	\$228,222	\$229,152	\$229,152	\$230,091	
57	Exterior Lighting	LED Auto Traffic Signals	Standard	Existing	\$7,881	\$9,029	\$10,093	\$11,029	\$11,846	\$12,528	\$13,097	\$13,564	\$13,955	\$14,294	\$14,437	\$14,582	\$14,728	\$14,875	\$15,024	\$15,174	\$15,326	\$15,479	\$15,634	\$15,634	\$15,634
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	Standard	Existing	\$33,758	\$35,160	\$36,281	\$37,171	\$37,713	\$38,171	\$38,320	\$38,471	\$38,624	\$38,778	\$38,933	\$39,090	\$39,249	\$39,409	\$39,571	\$39,734	\$39,899	\$40,066	\$40,234	\$40,234	
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID																							

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Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	\$78,929	\$89,884	\$99,872	\$108,484	\$115,835	\$121,778	\$126,564	\$130,312	\$133,281	\$135,733	\$136,298	\$136,869	\$137,445	\$138,027	\$138,615	\$139,209	\$139,809	\$140,414	\$141,026
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	\$10,421	\$10,864	\$11,221	\$11,507	\$11,686	\$11,839	\$11,897	\$11,956	\$12,015	\$12,075	\$12,136	\$12,197	\$12,259	\$12,321	\$12,385	\$12,448	\$12,513	\$12,578	\$12,643
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	Standard	Existing	\$51,615	\$53,710	\$55,373	\$56,680	\$57,454	\$58,099	\$58,273	\$58,449	\$58,627	\$58,806	\$58,988	\$59,171	\$59,356	\$59,542	\$59,731	\$59,922	\$60,114	\$60,308	\$60,505
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	Standard	Existing	\$50,061	\$52,093	\$53,706	\$54,974	\$55,725	\$56,350	\$56,519	\$56,690	\$56,862	\$57,036	\$57,212	\$57,389	\$57,569	\$57,750	\$57,933	\$58,118	\$58,304	\$58,493	\$58,683
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	Standard	Existing	\$50,753	\$52,813	\$54,448	\$55,734	\$56,495	\$57,129	\$57,300	\$57,473	\$57,648	\$57,824	\$58,003	\$58,183	\$58,365	\$58,548	\$58,734	\$58,921	\$59,110	\$59,301	\$59,494
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	Standard	Existing	\$24,619	\$25,640	\$26,455	\$27,102	\$27,495	\$27,827	\$27,933	\$28,041	\$28,150	\$28,261	\$28,372	\$28,484	\$28,597	\$28,712	\$28,828	\$28,945	\$29,063	\$29,182	\$29,302
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	\$53,711	\$55,946	\$57,746	\$59,193	\$60,068	\$60,820	\$61,119	\$61,421	\$61,727	\$62,035	\$62,346	\$62,661	\$62,978	\$63,299	\$63,623	\$63,951	\$64,281	\$64,615	\$64,952
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	\$20,412	\$21,290	\$22,001	\$22,573	\$22,936	\$23,248	\$23,373	\$23,499	\$23,626	\$23,755	\$23,885	\$24,016	\$24,149	\$24,283	\$24,418	\$24,555	\$24,693	\$24,833	\$24,973
46	Exterior Lighting	Exterior BiLevel Controls	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
49	Exterior Lighting	Lighting Power Density - Parking Garage	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
48	Exterior Lighting	Lighting Power Density - Exterior	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Standard	Existing	\$14,031	\$15,331	\$16,468	\$17,416	\$18,207	\$18,856	\$19,399	\$19,871	\$20,270	\$20,271	\$20,473	\$20,678	\$20,885	\$21,094	\$21,305	\$21,518	\$21,733	\$21,950	\$22,170
76	Space Cooling	Commercial EMS	Custom	Existing	\$48,085	\$61,793	\$76,885	\$92,690	\$108,594	\$123,959	\$138,215	\$151,060	\$162,081	\$171,508	\$179,298	\$185,787	\$191,228	\$194,776	\$197,989	\$199,885	\$201,799	\$203,732	\$205,685
100	Space Cooling	Roof Insulation	Standard	Existing	\$50,398	\$51,928	\$53,218	\$54,313	\$55,232	\$56,019	\$56,719	\$57,089	\$57,463	\$57,840	\$58,221	\$58,607	\$58,995	\$59,388	\$59,785	\$60,186	\$60,591	\$60,999	\$61,412
99	Space Cooling	Energy Efficient Windows	Standard	Existing	\$59,238	\$60,945	\$62,382	\$63,598	\$64,616	\$65,485	\$66,255	\$66,856	\$67,061	\$67,469	\$67,882	\$68,299	\$68,720	\$69,146	\$69,575	\$70,009	\$70,447	\$70,890	\$71,337
79	Space Cooling	Zoning	Custom	Existing	\$211,377	\$243,057	\$272,862	\$300,379	\$324,599	\$345,274	\$362,714	\$377,058	\$389,032	\$396,710	\$403,303	\$409,184	\$412,327	\$415,502	\$418,709	\$421,948	\$425,219	\$428,523	\$431,861
78	Space Cooling	EMS Optimization / Continuous Commissioning	Custom	Existing	\$592	\$736	\$887	\$1,037	\$1,182	\$1,316	\$1,435	\$1,537	\$1,622	\$1,691	\$1,748	\$1,794	\$1,822	\$1,847	\$1,869	\$1,871	\$1,882	\$1,894	\$1,906
69	Space Cooling	VFD for Pump - Cooling	Custom	Existing	\$120,364	\$143,344	\$165,995	\$187,490	\$207,400	\$224,912	\$239,683	\$251,970	\$261,778	\$269,647	\$274,703	\$278,727	\$282,066	\$282,925	\$283,792	\$284,668	\$285,553	\$286,447	\$287,349
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	\$48,338	\$52,333	\$55,711	\$58,551	\$60,844	\$62,464	\$63,743	\$64,764	\$65,615	\$66,346	\$66,080	\$66,316	\$66,555	\$66,796	\$67,039	\$67,285	\$67,533	\$67,784	\$68,037
94	Space Cooling	Air Cooled Chiller	Standard	Existing	\$33,827	\$35,729	\$37,128	\$38,316	\$39,270	\$40,032	\$40,623	\$41,086	\$41,463	\$41,536	\$41,610	\$41,685	\$41,760	\$41,836	\$41,913	\$41,991	\$42,069	\$42,148	\$42,228
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	\$7,970	\$9,883	\$11,871	\$13,854	\$15,749	\$17,487	\$19,026	\$20,318	\$21,394	\$22,251	\$22,933	\$23,475	\$23,787	\$24,050	\$24,138	\$24,226	\$24,316	\$24,406	\$24,497
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	\$393,947	\$418,033	\$437,857	\$454,160	\$467,317	\$474,703	\$480,631	\$485,467	\$489,579	\$491,061	\$492,558	\$494,069	\$495,596	\$497,138	\$498,695	\$500,268	\$501,857	\$503,462	\$505,082
72	Space Cooling	VFD for Process Fans -CRAC units	Custom	Existing	\$95,965	\$114,779	\$133,444	\$151,290	\$167,937	\$182,697	\$195,250	\$205,795	\$214,310	\$221,226	\$225,888	\$229,677	\$232,886	\$233,964	\$235,054	\$236,154	\$237,265	\$238,387	\$239,520
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	\$113,700	\$139,801	\$166,631	\$193,126	\$218,156	\$240,764	\$260,599	\$277,063	\$290,632	\$301,339	\$309,801	\$316,507	\$319,807	\$322,601	\$323,561	\$324,531	\$325,510	\$326,499	\$327,498
62	Space Cooling	Chiller Control Optimization - Cooling	Custom	Existing	\$5,784	\$7,167	\$8,603	\$10,033	\$11,398	\$12,647	\$13,751	\$14,675	\$15,442	\$16,049	\$16,530	\$16,909	\$17,122	\$17,299	\$17,350	\$17,402	\$17,453	\$17,506	\$17,559
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	Custom	Existing	\$76,276	\$87,268	\$97,480	\$106,777	\$114,816	\$121,530	\$127,046	\$131,430	\$134,950	\$136,948	\$138,554	\$139,901	\$140,307	\$140,717	\$141,131	\$141,550	\$141,972	\$142,399	\$142,830
68	Space Cooling	VFD for Fan - Cooling	Custom	Existing	\$1,232,842	\$1,438,723	\$1,635,708	\$1,816,297	\$1,978,844	\$2,117,708	\$2,232,671	\$2,326,086	\$2,399,781	\$2,458,660	\$2,488,670	\$2,512,692	\$2,532,740	\$2,538,487	\$2,544,290	\$2,550,152	\$2,556,072	\$2,562,052	\$2,568,091
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	Custom	Existing	\$89,251	\$93,463	\$97,099	\$100,209	\$102,733	\$104,777	\$106,393	\$107,687	\$108,767	\$109,077	\$109,389	\$109,704	\$110,022	\$110,344	\$110,669	\$110,997	\$111,328	\$111,663	\$112,001
71	Space Cooling	Water Loop Heat Pump - Cooling	Custom	Existing	\$5,667	\$6,613	\$7,521	\$8,369	\$9,122	\$9,759	\$10,292	\$10,718	\$11,088	\$11,289	\$11,472	\$11,622	\$11,655	\$11,689	\$11,724	\$11,759	\$11,794	\$11,829	\$11,865
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	RCx	Existing	\$39,168	\$70,666	\$112,430	\$164,534	\$229,313	\$305,727	\$394,998	\$491,533	\$590,826	\$699,471	\$784,029	\$869,875	\$943,492	\$1,005,944	\$1,055,991	\$1,095,860	\$1,126,638	\$1,150,590	\$1,170,001
75	Space Cooling	Building Operator Certification	Custom	Existing	\$3,350	\$6,058	\$9,658	\$14,164	\$19,783	\$26,431	\$34,223	\$42,678	\$51,410	\$60,123	\$68,517	\$76,185	\$82,812	\$88,487	\$93,093	\$96,821	\$99,759	\$102,105	\$104,058
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	Custom	Existing	\$378,161	\$463,703	\$551,263	\$637,382	\$718,333	\$791,000	\$854,400	\$906,659	\$949,395	\$982,802	\$1,008,908	\$1,029,360	\$1,038,482	\$1,046,050	\$1,048,040	\$1,050,051	\$1,052,082	\$1,054,133	\$1,056,205
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	Custom	Existing	\$1,823	\$2,397	\$3,048	\$3,739	\$4,440	\$5,127	\$5,772	\$6,346	\$6,836	\$7,242	\$7,565	\$7,818	\$8,013	\$8,164	\$8,254	\$8,289	\$8,285	\$8,300	\$8,316
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	Custom	Existing	\$123,328	\$129,958	\$135,607	\$140,164	\$143,826	\$146,689	\$148,951	\$150,814	\$151,240	\$151,670	\$152,104	\$152,542	\$152,985	\$153,432	\$153,884	\$154,340	\$154,801	\$155,266	\$155,736
98	Space Cooling	EMS Pump Scheduling Controls	Standard	Existing	\$4,074	\$7,344	\$11,675	\$17,071	\$23,772	\$31,667	\$40,878	\$50,824	\$61,037	\$71,166	\$80,854	\$89,627	\$97,125	\$103,461	\$108,510	\$112,505	\$115,559	\$117,907	\$119,785
67	Space Cooling	VFD for Chiller - Cooling	Custom	Existing	\$172,382	\$199,060	\$224,238	\$247,433	\$267,707	\$284,698	\$298,717	\$309,803	\$318,601	\$324,022	\$328,248	\$331,681	\$332,280	\$332,884	\$333,495	\$334,112	\$334,735	\$335,364	\$336,000
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	Custom	Existing	\$39,183	\$40,655	\$41,915	\$42,938	\$43,767	\$44,423	\$44,949	\$45,389	\$45,517	\$45,646	\$45,777	\$45,909	\$46,042	\$46,176	\$46,312	\$46,450	\$46,588	\$46,728	\$46,870
63	Space Cooling	CRAC Unit Upgrade - Cooling	Custom	Existing	\$741	\$1,337	\$2,129	\$3,116	\$4,345	\$5,795	\$7,490	\$9,323	\$11,211	\$13,088	\$14,888	\$16,525	\$17,930	\$19,124	\$20,084	\$20,850	\$21,444	\$21,908	\$22,286
89	Space Cooling	Packaged DX 65 -135kbtu	Standard	Existing	\$47,364	\$51,666	\$55,536	\$58,876	\$61,653	\$63,970	\$65,438	\$66,613	\$67,527	\$68,245	\$68,834	\$69,357	\$69,811	\$70,207	\$70,544	\$70,821	\$71,039	\$71,197	\$71,295
95	Space Cooling	Small Commercial Programmable Thermostats	Standard	Existing	\$332,255	\$346,265	\$358,188	\$368,213	\$376,147	\$382,371	\$387,073	\$390,633	\$393,434	\$393,562	\$393,692	\$393,823	\$393,955	\$394,089	\$394,223	\$394,360	\$394,497	\$394,636	\$394,777
74	Space Cooling	Wall Insulation - Building Shell	Custom	Existing	\$49,031	\$49,153	\$49,276	\$49,401	\$49,527	\$49,654	\$49,782	\$49,912	\$50,042	\$50,175	\$50,308	\$50,443	\$50,579	\$50,717	\$50,855	\$50,996	\$51,137	\$51,281	\$51,425
90	Space Cooling	Packaged DX >760kbtu	Standard	Existing	\$28,612	\$29,801	\$30,821	\$31,689	\$32,386	\$32,945	\$33,380	\$33,723	\$34,003	\$34,063	\$34,124	\$34,185	\$34,247	\$34,309	\$34,372	\$34,436	\$34,500	\$34,565	\$34,630
101	Space Cooling	Window Improvements	Standard	Existing	\$347,984	\$348,440	\$348,																

Ameren MO		Program RAP Measure Costs		Incentives and Admin																				
Measure #	End-Use	Measure Name	Program	Construction																				
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
121	Space Heating	Roof Insulation	Standard	Existing	\$8,183	\$8,322	\$8,440	\$8,545	\$8,600	\$8,656	\$8,712	\$8,769	\$8,826	\$8,884	\$8,943	\$9,002	\$9,061	\$9,122	\$9,183	\$9,244	\$9,306	\$9,369	\$9,432	
120	Space Heating	Energy Efficient Windows	Standard	Existing	\$9,592	\$9,746	\$9,876	\$9,992	\$10,052	\$10,112	\$10,173	\$10,234	\$10,296	\$10,359	\$10,422	\$10,486	\$10,550	\$10,616	\$10,681	\$10,748	\$10,815	\$10,883	\$10,951	
115	Space Heating	Zoning	Custom	Existing	\$45,193	\$48,844	\$51,961	\$54,591	\$56,753	\$58,556	\$59,715	\$60,708	\$61,593	\$62,063	\$62,538	\$63,017	\$63,501	\$63,990	\$64,484	\$64,983	\$65,487	\$65,996	\$66,510	
114	Space Heating	EMS Optimization / Continuous Commissioning	Custom	Existing	\$137	\$156	\$173	\$189	\$202	\$213	\$222	\$229	\$235	\$238	\$241	\$244	\$246	\$247	\$249	\$251	\$252	\$254	\$254	
111	Space Heating	Building Operator Certification	Custom	Existing	\$2,058	\$2,877	\$3,846	\$4,983	\$6,218	\$7,495	\$8,771	\$10,002	\$11,129	\$12,105	\$12,943	\$13,626	\$14,181	\$14,621	\$14,975	\$15,271	\$15,396	\$15,442	\$15,528	
119	Space Heating	EMS Pump Scheduling Controls	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
107	Space Heating	ASHP >240kbtu	Standard	Existing	\$3,881	\$3,925	\$3,961	\$3,992	\$4,004	\$4,015	\$4,026	\$4,038	\$4,050	\$4,062	\$4,074	\$4,086	\$4,098	\$4,110	\$4,123	\$4,136	\$4,148	\$4,161	\$4,174	
105	Space Heating	ASHP 65 - 135kbtu	Standard	Existing	\$2,751	\$2,774	\$2,793	\$2,801	\$2,808	\$2,815	\$2,822	\$2,829	\$2,837	\$2,844	\$2,852	\$2,860	\$2,867	\$2,875	\$2,883	\$2,891	\$2,899	\$2,907	\$2,915	
106	Space Heating	ASHP 135 - 240kbtu	Standard	Existing	\$2,936	\$2,962	\$2,985	\$2,995	\$3,005	\$3,015	\$3,025	\$3,035	\$3,045	\$3,055	\$3,065	\$3,076	\$3,086	\$3,097	\$3,108	\$3,119	\$3,130	\$3,141	\$3,152	
108	Space Heating	ASHP <65kbtu	Standard	Existing	\$2,838	\$2,860	\$2,878	\$2,883	\$2,888	\$2,893	\$2,898	\$2,903	\$2,909	\$2,914	\$2,919	\$2,925	\$2,930	\$2,936	\$2,942	\$2,947	\$2,953	\$2,959	\$2,964	
109	Space Heating	Learning Thermostat	Standard	Existing	\$48,127	\$49,251	\$50,190	\$50,850	\$51,400	\$51,890	\$51,944	\$52,040	\$52,136	\$52,233	\$52,331	\$52,430	\$52,530	\$52,631	\$52,733	\$52,837	\$52,941	\$53,046	\$53,152	
122	Space Heating	Window Improvements	Standard	Existing	\$42,567	\$42,648	\$42,729	\$42,811	\$42,894	\$42,978	\$43,062	\$43,148	\$43,234	\$43,321	\$43,409	\$43,498	\$43,588	\$43,679	\$43,771	\$43,863	\$43,957	\$44,051	\$44,146	
102	Space Heating	General HVAC Equipment Upgrades - Heating	Custom	Existing	\$53,787	\$56,870	\$59,471	\$61,611	\$63,034	\$64,204	\$65,185	\$66,041	\$66,429	\$66,821	\$67,216	\$67,616	\$68,019	\$68,427	\$68,839	\$69,255	\$69,675	\$70,099	\$70,527	
110	Space Heating	Wall Insulation - Building Shell	Custom	Existing	\$5,987	\$6,010	\$6,034	\$6,058	\$6,082	\$6,107	\$6,132	\$6,157	\$6,182	\$6,208	\$6,233	\$6,260	\$6,286	\$6,312	\$6,339	\$6,366	\$6,394	\$6,421	\$6,449	
104	Space Heating	GSHP <135kbtu; ≥19EER	Standard	Existing	\$800	\$887	\$964	\$1,028	\$1,081	\$1,123	\$1,155	\$1,181	\$1,195	\$1,206	\$1,208	\$1,210	\$1,212	\$1,215	\$1,217	\$1,219	\$1,221	\$1,224	\$1,226	
117	Space Heating	Ceiling Insulation	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
103	Space Heating	GSHP <135kbtu; ≥17EER	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
118	Space Heating	Cool Roof	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
134	Ventilation	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	\$430,444	\$443,572	\$454,289	\$460,086	\$465,221	\$467,866	\$470,537	\$473,235	\$475,960	\$478,712	\$481,491	\$484,299	\$487,134	\$489,998	\$492,890	\$495,812	\$498,762	\$501,743	\$504,752	
132	Ventilation	Demand Control Ventilation - Cooling	Custom	Existing	\$267,297	\$274,790	\$280,751	\$283,653	\$286,129	\$287,051	\$287,982	\$288,922	\$289,872	\$290,831	\$291,800	\$292,779	\$293,767	\$294,765	\$295,773	\$296,792	\$297,820	\$298,859	\$299,908	
136	Ventilation	HVAC-HVAC Optimization - Airside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	\$79,201	\$79,635	\$80,073	\$80,516	\$80,964	\$81,416	\$81,872	\$82,333	\$82,799	\$83,269	\$83,744	\$84,224	\$84,708	\$85,197	\$85,692	\$86,191	\$86,695	\$87,204	\$87,719	
133	Ventilation	HVAC-Demand Control Ventilation Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	\$133,507	\$137,431	\$140,600	\$142,241	\$143,674	\$144,335	\$145,003	\$145,677	\$146,358	\$147,046	\$147,741	\$148,443	\$149,152	\$149,867	\$150,590	\$151,321	\$152,058	\$152,803	\$153,556	
138	Ventilation	HVAC-HVAC Optimization - Set Point Control Retro-Commissioning HVAC (Ventilation)	RCx	Existing	\$65,477	\$65,764	\$66,054	\$66,347	\$66,642	\$66,941	\$67,242	\$67,547	\$67,854	\$68,165	\$68,479	\$68,796	\$69,116	\$69,439	\$69,765	\$70,095	\$70,428	\$70,765	\$71,104	
135	Ventilation	HVAC-Minimize Outside Air Retro-Commissioning HVAC (Ventilation)	RCx	Existing	\$89,978	\$92,581	\$94,675	\$95,737	\$96,658	\$97,061	\$97,469	\$97,880	\$98,295	\$98,715	\$99,139	\$99,567	\$99,999	\$100,436	\$100,877	\$101,322	\$101,772	\$102,227	\$102,686	
125	Ventilation	Demand Control Ventilation - HVAC (Ventilation)	Custom	Existing	\$221,931	\$228,263	\$233,333	\$235,858	\$238,035	\$238,933	\$239,841	\$240,758	\$241,684	\$242,619	\$243,564	\$244,518	\$245,481	\$246,455	\$247,438	\$248,430	\$249,433	\$250,446	\$251,469	
137	Ventilation	HVAC-HVAC Optimization - Waterside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	\$72,629	\$72,911	\$73,196	\$73,484	\$73,775	\$74,069	\$74,365	\$74,665	\$74,967	\$75,273	\$75,582	\$75,894	\$76,209	\$76,527	\$76,848	\$77,172	\$77,500	\$77,831	\$78,165	
129	Ventilation	Packaged / Rooftop Unit Upgrade - HVAC (Ventilation)	Custom	Existing	\$443	\$448	\$452	\$454	\$456	\$458	\$459	\$461	\$463	\$465	\$467	\$469	\$471	\$473	\$475	\$476	\$478	\$481	\$483	
127	Ventilation	General HVAC Equipment Upgrades - HVAC (Ventilation)	Custom	Existing	\$865	\$867	\$868	\$870	\$871	\$873	\$874	\$876	\$877	\$879	\$881	\$882	\$884	\$886	\$887	\$889	\$891	\$893	\$894	
126	Ventilation	ECM Motor for HVAC - HVAC (Ventilation)	Custom	Existing	\$616,777	\$702,305	\$780,252	\$847,428	\$904,746	\$951,051	\$988,305	\$1,017,455	\$1,040,513	\$1,059,527	\$1,063,809	\$1,068,134	\$1,072,502	\$1,076,914	\$1,081,370	\$1,085,870	\$1,090,416	\$1,095,007	\$1,099,643	
130	Ventilation	VFD for Fan - HVAC (Ventilation)	Custom	Existing	\$1,545,957	\$1,566,969	\$1,584,369	\$1,599,381	\$1,605,617	\$1,611,914	\$1,618,275	\$1,624,699	\$1,631,188	\$1,637,741	\$1,644,360	\$1,651,045	\$1,657,797	\$1,664,616	\$1,671,504	\$1,678,460	\$1,685,487	\$1,692,583	\$1,699,750	
123	Ventilation	Advanced RTU Compressor Controller - HVAC (Ventilation)	Custom	Existing	\$315,220	\$323,860	\$330,723	\$333,918	\$336,641	\$337,648	\$338,664	\$339,691	\$340,728	\$341,775	\$342,833	\$343,901	\$344,980	\$346,070	\$347,171	\$348,283	\$349,406	\$350,540	\$351,685	
131	Ventilation	Water Loop Heat Pump - HVAC (Ventilation)	Custom	Existing	\$406	\$410	\$414	\$416	\$418	\$419	\$421	\$423	\$424	\$426	\$428	\$429	\$431	\$433	\$435	\$436	\$438	\$440	\$442	
128	Ventilation	HVAC Controls (BMS, EMS...) - HVAC (Ventilation)	Custom	Existing	\$104,639	\$108,393	\$111,356	\$113,710	\$114,800	\$115,729	\$116,071	\$116,417	\$116,766	\$117,118	\$117,474	\$117,834	\$118,197	\$118,564	\$118,935	\$119,309	\$119,687	\$120,069	\$120,455	
124	Ventilation	Air Cooled Chiller Upgrade - HVAC (Ventilation)	Custom	Existing	\$980	\$984	\$988	\$992	\$996	\$999	\$1,003	\$1,007	\$1,011	\$1,015	\$1,020	\$1,024	\$1,028	\$1,032	\$1,036	\$1,041	\$1,045	\$1,049	\$1,054	
139	Ventilation	Economizer	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
140	Ventilation	Demand Controlled Ventillation (Electric Heat)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
141	Ventilation	Demand Controlled Ventillation (Heat Pump)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
199	Motors	VFD on Chilled Water Pump 1-75HP	Standard	Existing	\$113,731	\$113,969	\$114,208	\$114,451	\$114,695	\$114,943	\$115,192	\$115,444	\$115,699	\$115,956	\$116,216	\$116,478	\$116,743	\$117,011	\$117,281	\$117,554	\$117,830	\$118,109	\$118,390	
200	Motors	VFD on Hot Water Pump 1-75HP	Standard	Existing	\$97,261	\$97,512	\$97,765	\$98,021	\$98,279	\$98,540	\$98,803	\$99,069	\$99,338	\$99,610	\$99,884	\$100,161	\$100,440	\$100,723	\$101,008	\$101,296	\$101,587	\$101,881	\$102,178	
201	Motors	VFD on HVAC Fans 1-100HP	Standard	Existing	\$124,715	\$131,483	\$136,997	\$141,369	\$144,887	\$146,895	\$148,166	\$149,414	\$149,852	\$150,294	\$150,741	\$151,192	\$151,648	\$152,108	\$152,574	\$153,043	\$153,518	\$153,997	\$154,480	
195	Motors	VFD for Process Motor - Motors	Custom	Existing	\$101,579	\$107,265	\$111,945	\$115,707	\$118,779	\$120,458	\$121,865	\$123,094	\$123,658	\$124,229	\$124,804	\$125,386	\$125,973	\$126,567	\$127,166	\$127,771	\$128,382	\$129,000	\$129,623	
193	Motors	Efficient Pump - Motors	Custom	Existing	\$67,152	\$69,404	\$71,244	\$72,247	\$73,088	\$73,821	\$74,156	\$74,494	\$74,836	\$75,181	\$75,529	\$75,881	\$76,237	\$76,596	\$76,958	\$77,325	\$77,695	\$78,068	\$78,446	
194	Motors	VFD for Chiller - Motors	Custom	Existing	\$96,580	\$101,996	\$106,454	\$110,038	\$112,965	\$114,568	\$115,911	\$117,084	\$117,621	\$118,163	\$118,711	\$119,264	\$119,822	\$120,387	\$120,957	\$121,532	\$122,114	\$122,701	\$123,294	
192	Motors	ECM Motor - Motors	Custom	Existing	\$174,443	\$179,795	\$182,943	\$185,530	\$187,696	\$189,585	\$190,445	\$191,314	\$192,191	\$193,077	\$193,972	\$194,876	\$195,789	\$196,711	\$197,642	\$198,583	\$199,533	\$200,492	\$201,461	
196	Motors	VFD for Pump - Motors	Custom	Existing	\$96,580	\$101,996	\$106,454	\$110,038	\$112,965	\$114,568	\$115,911	\$117,084	\$117,621	\$118,163	\$118,711	\$119,264	\$119,822	\$120,387	\$120,957	\$121,532	\$122,114	\$122,701	\$123,294	
185	Cooking	Standard Open Deep-Fat Fryer	Standard	Existing	\$6,244	\$6,376	\$6,495	\$6,602	\$6,700	\$6,792	\$6,880	\$6,929	\$6,998	\$7,068	\$7,139	\$7,210	\$7,282	\$7,355	\$7,429	\$7,503	\$7,578	\$7,654	\$7,730	
187	Cooking	Convection Oven (Full Size)	Standard	Existing	\$4,727	\$4,774	\$4,822	\$4,870	\$4,919	\$4,968	\$5,018	\$5,068	\$5,119	\$5,170	\$5,222	\$5,274	\$5,327	\$5,380	\$5,434	\$5,488	\$5,543	\$5,598	\$5,654	
179	Cooking	6 Pan ENERGY STAR Steam Cooker	Standard	Existing	\$1,529	\$2,041	\$2,639	\$3,287	\$3,954	\$4,619	\$5,257	\$5,838	\$6,339	\$6,764	\$7,108	\$7,383	\$7,598	\$7,767	\$7,905	\$7,934	\$7,963	\$7,992	\$8,022	
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	Standard	Existing	\$11,666	\$11,783	\$11,900	\$12,019	\$12,140	\$12,261	\$12,384	\$12,508	\$12,633	\$12,759	\$12,886	\$13,015	\$13,146	\$13,277	\$13,410	\$13,544	\$13,679	\$13,816	\$13,954	
178	Cooking	5 Pan ENERGY STAR Steam Cooker	Standard	Existing	\$1,553	\$2,073	\$2,681	\$3,339	\$4,017	\$4,692	\$5,341	\$5,931	\$6,439	\$6,872	\$7,221	\$7,501	\$7,719	\$7,890	\$8,031	\$8,060	\$8,090	\$8,119	\$8,149	
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	Standard	Existing	\$96,421	\$100,07																		

Ameren MO		Program RAP Measure Costs		Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Construction Type	Incentives and Admin																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
191	Cooking	Induction Cooktop	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
268	Refrigeration	Strip Curtains - Walk-In Freezer	Standard	Existing	\$2,392	\$5,632	\$10,230	\$16,386	\$24,141	\$33,872	\$45,462	\$59,130	\$74,072	\$89,630	\$105,291	\$120,528	\$134,613	\$146,973	\$157,739	\$166,681	\$174,115	\$180,183	\$185,223
234	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	\$6,948	\$8,396	\$9,869	\$11,299	\$12,631	\$13,849	\$14,910	\$15,806	\$16,552	\$17,157	\$17,655	\$18,204	\$18,425	\$18,530	\$18,636	\$18,742	\$18,850	\$18,959	\$18,959
240	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	\$10,275	\$12,235	\$14,188	\$16,040	\$17,718	\$19,219	\$20,497	\$21,563	\$22,436	\$23,143	\$23,729	\$24,022	\$24,277	\$24,509	\$24,650	\$24,791	\$24,935	\$25,079	\$25,226
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	Standard	Existing	\$126,362	\$129,275	\$131,804	\$133,905	\$135,654	\$137,090	\$138,291	\$139,336	\$139,813	\$140,294	\$140,779	\$141,270	\$141,766	\$142,266	\$142,772	\$143,282	\$143,798	\$144,319	\$144,845
231	Refrigeration	Head Pressure Controls - Refrigeration	Custom	Existing	\$70,908	\$74,329	\$77,475	\$80,229	\$82,623	\$84,613	\$86,271	\$87,631	\$88,769	\$89,760	\$90,203	\$90,651	\$91,104	\$91,561	\$92,023	\$92,489	\$92,960	\$93,436	\$93,916
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	Custom	Existing	\$60,968	\$81,807	\$105,520	\$131,846	\$159,473	\$187,262	\$214,120	\$239,059	\$261,383	\$280,324	\$296,290	\$309,163	\$319,561	\$327,910	\$333,279	\$337,879	\$339,625	\$341,389	\$343,171
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	Standard	Existing	\$60,399	\$61,791	\$63,000	\$64,004	\$64,840	\$65,527	\$66,101	\$66,600	\$66,828	\$67,058	\$67,290	\$67,525	\$67,762	\$68,001	\$68,242	\$68,487	\$68,733	\$68,982	\$69,233
266	Refrigeration	Refrigeration Savings due to Lighting Savings	Standard	Existing	\$72	\$168	\$304	\$484	\$710	\$992	\$1,326	\$1,717	\$2,142	\$2,580	\$3,018	\$3,440	\$3,825	\$4,158	\$4,444	\$4,676	\$4,863	\$5,012	\$5,130
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	Custom	Existing	\$3,480	\$8,162	\$14,770	\$23,570	\$34,596	\$48,362	\$64,671	\$83,806	\$104,603	\$126,114	\$147,616	\$168,371	\$187,375	\$203,853	\$218,010	\$229,557	\$238,955	\$246,420	\$252,433
260	Refrigeration	Anti-Sweat Heater Controls Freezer	Standard	Existing	\$4,258	\$9,965	\$17,990	\$28,643	\$41,946	\$58,501	\$78,051	\$100,912	\$125,663	\$151,155	\$176,518	\$200,871	\$223,025	\$242,075	\$258,286	\$271,333	\$281,784	\$289,911	\$296,293
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	Standard	Existing	\$2,353	\$5,506	\$9,939	\$15,823	\$23,171	\$32,313	\$43,107	\$55,729	\$69,392	\$83,463	\$97,459	\$110,895	\$123,116	\$133,621	\$142,557	\$149,745	\$155,500	\$159,971	\$163,478
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	\$57,426	\$58,525	\$59,438	\$60,199	\$60,824	\$61,348	\$61,804	\$62,014	\$62,226	\$62,440	\$62,656	\$62,875	\$63,095	\$63,318	\$63,543	\$63,770	\$64,000	\$64,232	\$64,466
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	\$57,324	\$58,421	\$59,333	\$60,093	\$60,717	\$61,239	\$61,695	\$61,904	\$62,116	\$62,330	\$62,545	\$62,763	\$62,984	\$63,206	\$63,431	\$63,657	\$63,887	\$64,118	\$64,352
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	\$62,719	\$63,919	\$64,917	\$65,748	\$66,431	\$67,003	\$67,501	\$67,730	\$67,962	\$68,196	\$68,432	\$68,670	\$68,911	\$69,154	\$69,400	\$69,648	\$69,899	\$70,152	\$70,408
233	Refrigeration	Discus Compressors	Custom	Existing	\$23,411	\$24,358	\$25,182	\$25,867	\$26,437	\$26,905	\$27,297	\$27,637	\$27,788	\$27,940	\$28,094	\$28,249	\$28,406	\$28,564	\$28,724	\$28,886	\$29,049	\$29,214	\$29,381
269	Refrigeration	Zero-Energy Doors	Standard	Existing	\$43,110	\$55,550	\$69,106	\$83,610	\$98,373	\$112,693	\$126,037	\$138,224	\$148,803	\$157,676	\$165,005	\$170,868	\$175,610	\$178,385	\$180,647	\$182,570	\$183,251	\$183,940	\$184,635
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	Standard	Existing	\$63,093	\$64,300	\$65,304	\$66,140	\$66,827	\$67,402	\$67,903	\$68,134	\$68,367	\$68,602	\$68,840	\$69,080	\$69,322	\$69,567	\$69,814	\$70,064	\$70,316	\$70,571	\$70,828
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	Standard	Existing	\$52,315	\$53,316	\$54,148	\$54,841	\$55,411	\$55,888	\$56,303	\$56,494	\$56,688	\$56,883	\$57,080	\$57,279	\$57,479	\$57,682	\$57,887	\$58,094	\$58,303	\$58,515	\$58,728
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	Custom	Existing	\$2,436	\$4,685	\$7,732	\$11,626	\$16,489	\$22,351	\$29,247	\$36,946	\$45,051	\$53,252	\$61,269	\$68,758	\$75,390	\$81,100	\$85,851	\$89,710	\$92,796	\$95,255	\$97,273
267	Refrigeration	Strip Curtains - Walk-In Cooler	Standard	Existing	\$13,288	\$21,211	\$31,144	\$43,549	\$58,254	\$75,514	\$94,282	\$113,706	\$133,135	\$151,901	\$169,099	\$184,026	\$196,868	\$207,359	\$215,915	\$222,730	\$228,235	\$232,872	\$234,283
232	Refrigeration	Refrigeration Insulation - Refrigeration	Custom	Existing	\$15,634	\$36,630	\$66,207	\$105,531	\$154,723	\$216,038	\$288,564	\$373,518	\$465,673	\$560,793	\$655,656	\$746,984	\$830,345	\$902,327	\$963,888	\$1,013,777	\$1,054,069	\$1,085,758	\$1,110,978
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	\$58,740	\$59,864	\$60,798	\$61,576	\$62,216	\$62,751	\$63,218	\$63,433	\$63,649	\$63,868	\$64,090	\$64,313	\$64,539	\$64,766	\$64,997	\$65,229	\$65,464	\$65,701	\$65,940
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	\$56,200	\$57,276	\$58,171	\$58,917	\$59,530	\$60,044	\$60,492	\$60,698	\$60,907	\$61,118	\$61,331	\$61,546	\$61,763	\$61,982	\$62,204	\$62,428	\$62,654	\$62,882	\$63,112
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	Standard	Existing	\$33,072	\$33,704	\$34,230	\$34,669	\$35,029	\$35,330	\$35,593	\$35,714	\$35,836	\$35,959	\$36,084	\$36,210	\$36,337	\$36,465	\$36,594	\$36,725	\$36,858	\$36,991	\$37,126
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	Standard	Existing	\$93,127	\$94,909	\$96,390	\$97,624	\$98,638	\$99,487	\$100,227	\$100,568	\$100,911	\$101,259	\$101,609	\$101,963	\$102,321	\$102,682	\$103,047	\$103,416	\$103,788	\$104,164	\$104,544
265	Refrigeration	Refrigerant charging correction	Standard	Existing	\$12,593	\$29,492	\$53,281	\$84,887	\$124,398	\$173,614	\$231,789	\$299,887	\$373,699	\$449,819	\$525,661	\$598,598	\$665,083	\$722,395	\$771,313	\$810,847	\$842,671	\$867,589	\$887,316
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	Custom	Existing	\$4,322	\$10,127	\$18,304	\$29,175	\$42,774	\$59,724	\$79,773	\$103,257	\$128,732	\$155,025	\$181,247	\$206,491	\$229,533	\$249,428	\$266,443	\$280,230	\$291,365	\$300,121	\$307,089
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	\$143,895	\$145,439	\$146,667	\$147,658	\$148,493	\$148,764	\$149,038	\$149,315	\$149,594	\$149,876	\$150,161	\$150,449	\$150,740	\$151,034	\$151,330	\$151,630	\$151,932	\$152,238	\$152,547
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
264	Refrigeration	Reach-in Refrigerated display case door retrofit	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
239	Refrigeration	Evaporator Coil Defrost Control	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
263	Refrigeration	Night Covers	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
204	Office & Computing	Computer Room Air Side Economizer	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
203	Office & Computing	Computer Room Air Conditioner Economizer	Custom	Existing	\$1,235	\$2,911	\$5,292	\$8,484	\$12,511	\$17,569	\$23,601	\$30,723	\$38,520	\$46,651	\$54,849	\$62,839	\$70,241	\$76,753	\$82,443	\$87,187	\$91,149	\$94,401	\$97,118
211	Office & Computing	Energy Star POS Terminal	Standard	Existing	\$550	\$1,295	\$2,355	\$3,776	\$5,568	\$7,819	\$10,504	\$13,673	\$17,143	\$20,762	\$24,410	\$27,966	\$31,260	\$34,159	\$36,691	\$38,802	\$40,565	\$42,013	\$43,222
207	Office & Computing	Electrically Commutated Plug Fans in data centers	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
214	Office & Computing	Computer Power Management Software	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
210	Office & Computing	Energy Star Computers	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
215	Office & Computing	Vending Miser for Non-Refrig Equip	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
213	Office & Computing	High Efficiency Hand Dryer	Standard	Existing	\$0	\$0																	

Ameren MO		Program RAP Measure Costs			Incentives and Admin																		
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
209	Office & Computing	Energy Star Compliant Refrigerator	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
202		Commercial Plug Load - Smart Strip Outlets	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
212		Energy Star UPS	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	Standard	Existing	\$1,394	\$1,486	\$1,573	\$1,640	\$1,701	\$1,756	\$1,803	\$1,845	\$1,881	\$1,913	\$1,943	\$1,963	\$1,982	\$2,002	\$2,022	\$2,042	\$2,063	\$2,083	\$2,104
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	\$1,389	\$1,456	\$1,519	\$1,575	\$1,626	\$1,670	\$1,709	\$1,742	\$1,772	\$1,800	\$1,818	\$1,836	\$1,854	\$1,873	\$1,892	\$1,911	\$1,930	\$1,949	\$1,968
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	Standard	Existing	\$1,706	\$1,892	\$2,063	\$2,219	\$2,356	\$2,475	\$2,578	\$2,648	\$2,709	\$2,763	\$2,810	\$2,854	\$2,883	\$2,912	\$2,941	\$2,970	\$3,000	\$3,030	\$3,060
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	\$1,413	\$1,481	\$1,544	\$1,602	\$1,653	\$1,698	\$1,737	\$1,772	\$1,802	\$1,830	\$1,849	\$1,867	\$1,886	\$1,905	\$1,924	\$1,943	\$1,962	\$1,982	\$2,002
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	Standard	Existing	\$1,706	\$1,892	\$2,063	\$2,219	\$2,356	\$2,475	\$2,578	\$2,648	\$2,709	\$2,763	\$2,810	\$2,854	\$2,883	\$2,912	\$2,941	\$2,970	\$3,000	\$3,030	\$3,060
221	Other	Clothes Dryer Vented Electric, Compact (120V) (<4.4 ft3)	Standard	Existing	\$1,407	\$1,475	\$1,538	\$1,596	\$1,647	\$1,692	\$1,731	\$1,765	\$1,795	\$1,823	\$1,842	\$1,860	\$1,879	\$1,897	\$1,916	\$1,935	\$1,955	\$1,974	\$1,994
225	Other	High Efficiency Transformer, single-phase	Standard	Existing	\$89	\$134	\$192	\$261	\$344	\$436	\$535	\$635	\$735	\$829	\$914	\$988	\$1,051	\$1,104	\$1,147	\$1,183	\$1,214	\$1,233	\$1,245
226	Other	High Efficiency Transformer, three-phase	Standard	Existing	\$89	\$135	\$192	\$262	\$345	\$438	\$537	\$638	\$738	\$832	\$917	\$992	\$1,055	\$1,108	\$1,152	\$1,188	\$1,219	\$1,238	\$1,250
228	Other	NEMA Premium Transformer, three-phase	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
227	Other	NEMA Premium Transformer, single-phase	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
224	Other	Clothes Dryer Vented Gas	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	Standard	Existing	\$720	\$727	\$735	\$742	\$749	\$757	\$764	\$772	\$780	\$788	\$795	\$803	\$811	\$820	\$828	\$836	\$844	\$853	\$861
276		Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	Standard	Existing	\$7,290	\$9,268	\$11,367	\$13,503	\$15,603	\$17,582	\$19,350	\$20,873	\$22,151	\$23,187	\$24,017	\$24,674	\$25,208	\$25,535	\$25,660	\$25,786	\$25,914	\$26,043	\$26,174
282	Water Heating	Pre-Rinse Spray Valve	Standard	Existing	\$4,003	\$5,378	\$7,001	\$8,778	\$10,631	\$12,499	\$14,319	\$16,006	\$17,490	\$18,787	\$19,868	\$20,770	\$21,512	\$22,131	\$22,669	\$22,896	\$23,125	\$23,356	\$23,590
290		Low Flow Showerhead	Standard	Existing	\$2,407	\$3,233	\$4,208	\$5,276	\$6,390	\$7,513	\$8,608	\$9,621	\$10,514	\$11,293	\$11,943	\$12,485	\$12,931	\$13,303	\$13,627	\$13,763	\$13,901	\$14,040	\$14,180
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	Standard	Existing	\$7,948	\$10,100	\$12,383	\$14,705	\$16,985	\$19,133	\$21,049	\$22,697	\$24,077	\$25,193	\$26,085	\$26,789	\$27,358	\$27,702	\$27,827	\$27,954	\$28,081	\$28,211	\$28,341
286		ES Dishwasher, High Temp, Elec Heat, Elec Booster	Standard	Existing	\$698	\$705	\$712	\$719	\$727	\$734	\$741	\$749	\$756	\$764	\$771	\$779	\$787	\$795	\$803	\$811	\$819	\$827	\$835
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	Standard	Existing	\$9,922	\$12,598	\$15,433	\$18,311	\$21,132	\$23,784	\$26,144	\$28,167	\$29,854	\$31,212	\$32,289	\$33,133	\$33,807	\$34,203	\$34,328	\$34,455	\$34,583	\$34,712	\$34,842
287		ES Dishwasher, High Temp, Gas Heat, Elec Booster	Standard	Existing	\$606	\$612	\$618	\$624	\$631	\$637	\$643	\$650	\$656	\$663	\$669	\$676	\$683	\$690	\$697	\$704	\$711	\$718	\$725
289	Water Heating	Hot Water (DHW) Pipe Insulation	Standard	Existing	\$67	\$73	\$79	\$83	\$87	\$90	\$92	\$94	\$96	\$97	\$98	\$99	\$100	\$101	\$102	\$103	\$104	\$105	\$106
270		HVAC Condenser Heater Recovery Water Heating	Custom	Existing	\$681	\$910	\$1,178	\$1,469	\$1,769	\$2,068	\$2,356	\$2,619	\$2,846	\$3,040	\$3,197	\$3,324	\$3,424	\$3,504	\$3,570	\$3,586	\$3,602	\$3,619	\$3,636
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	Standard	Existing	\$9,985	\$12,677	\$15,530	\$18,426	\$21,265	\$23,932	\$26,306	\$28,341	\$30,038	\$31,404	\$32,487	\$33,335	\$34,013	\$34,410	\$34,536	\$34,662	\$34,790	\$34,919	\$35,050
281		Low Flow Faucet Aerator	Standard	Existing	\$2,474	\$3,324	\$4,327	\$5,425	\$6,570	\$7,725	\$8,850	\$9,893	\$10,810	\$11,611	\$12,279	\$12,837	\$13,295	\$13,678	\$14,011	\$14,151	\$14,292	\$14,435	\$14,580
291	Water Heating	Water Heater Timer	Standard	Existing	\$2,341	\$2,756	\$3,159	\$3,537	\$3,879	\$4,175	\$4,429	\$4,639	\$4,815	\$4,963	\$5,064	\$5,155	\$5,207	\$5,259	\$5,311	\$5,365	\$5,418	\$5,472	\$5,527
272		Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	Standard	Existing	\$9,596	\$12,196	\$14,954	\$17,756	\$20,505	\$23,092	\$25,398	\$27,375	\$29,025	\$30,354	\$31,409	\$32,234	\$32,893	\$33,289	\$33,410	\$33,533	\$33,656	\$33,781	\$33,908
284	Water Heating	Efficient Hot Water Pump	Standard	Existing	\$1,868	\$1,886	\$1,905	\$1,924	\$1,944	\$1,963	\$1,983	\$2,002	\$2,022	\$2,043	\$2,063	\$2,084	\$2,105	\$2,126	\$2,147	\$2,168	\$2,190	\$2,212	\$2,234
285		On Demand (tankless)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
283	Water Heating	Circulator Pump	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
151		Compressed Air	Compressed Air-Fixed Speed Air Compressor	Custom	Existing	\$449	\$601	\$778	\$970	\$1,169	\$1,367	\$1,558	\$1,733	\$1,884	\$2,013	\$2,118	\$2,203	\$2,271	\$2,324	\$2,369	\$2,381	\$2,393	\$2,405
146	Compressed Air	Air Compressor Outdoor Air Intake	Custom	Existing	\$1,752	\$1,824	\$1,882	\$1,918	\$1,948	\$1,974	\$1,997	\$2,009	\$2,021	\$2,034	\$2,046	\$2,059	\$2,072	\$2,085	\$2,098	\$2,111	\$2,124	\$2,138	\$2,151
149		Compressed Air Replacement with Air Blowers	Custom	Existing	\$12,111	\$16,181	\$20,951	\$26,128	\$31,475	\$36,810	\$41,950	\$46,646	\$50,705	\$54,181	\$57,002	\$59,286	\$61,086	\$62,524	\$63,721	\$64,034	\$64,349	\$64,668	\$64,990
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	Standard	Existing	\$541	\$576	\$604	\$627	\$645	\$660	\$668	\$674	\$677	\$680	\$683	\$686	\$689	\$692	\$696	\$699	\$702	\$705	\$708
168		Compressed Air Nozzle (Reciprocating - On/off Control)	Standard	Existing	\$541	\$576	\$604	\$627	\$645	\$660	\$668	\$674	\$677	\$680	\$683	\$686	\$689	\$692	\$696	\$699	\$702	\$705	\$708
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	Custom	Existing	\$3,077	\$4,111	\$5,323	\$6,639	\$7,997	\$9,353	\$10,659	\$11,852	\$12,884	\$13,767	\$14,484	\$15,064	\$15,522	\$15,888	\$16,192	\$16,271	\$16,352	\$16,433	\$16,515
150		Compressed Air Storage Tank	Custom	Existing	\$443	\$592	\$767	\$956	\$1,152	\$1,347	\$1,535	\$1,707	\$1,855	\$1,982	\$2,086	\$2,169	\$2,235	\$2,288	\$2,332	\$2,343	\$2,355	\$2,366	\$2,378
173	Compressed Air	Compressed Air Nozzle (Screw - Variable Displacement)	Standard	Existing	\$604	\$642	\$674	\$699	\$719	\$735	\$743	\$750	\$753	\$756	\$759	\$762	\$765	\$768	\$772	\$775	\$778	\$781	\$784
170		Compressed Air Nozzle (Screw - Load/Unload)	Standard	Existing	\$604	\$642	\$674	\$699	\$719	\$735	\$743	\$750	\$753	\$756	\$759	\$762	\$765	\$768	\$772	\$775	\$778	\$781	\$784
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	Standard	Existing	\$631	\$671	\$704	\$730	\$751	\$767	\$776	\$783	\$786	\$789	\$792	\$795	\$798	\$801	\$804	\$807	\$810	\$814	\$817
158		Compressed Air-Compressed Air Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Air Comp	RCx	Existing	\$2,863	\$3,829	\$4,961	\$6,192	\$7,464	\$8,736	\$9,964	\$11,087	\$12,061	\$12,897	\$13,579	\$14,134	\$14,574	\$14,928	\$15,225	\$15,311	\$15,398	\$15,486	\$15,575
145	Compressed Air	VFD for Air Compressor - Air Comp	Custom	Existing	\$3,182	\$4,251	\$5,503	\$6,862	\$8,265	\$9,665	\$11,013	\$12,244	\$13,307	\$14,217	\$14,956	\$15,553	\$16,023	\$16,398	\$16,709	\$16,789	\$16,869	\$16,950	\$17,032
160		Compressed Air-Compressed Air System Leak Repair Retro-Commissioning Air Comp	RCx	Existing	\$13,757	\$18,394	\$23,833	\$29,743	\$35,855	\$41,962	\$47,855	\$53,250	\$57,924	\$61,939	\$65,211	\$67,871	\$69,982	\$71,680	\$73,104	\$73,514	\$73,929	\$74,347	\$74,770
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	Custom	Existing	\$10,696	\$11,113	\$11,453	\$11,653	\$11,817	\$11,955	\$12,076	\$12,131	\$12,186	\$12,242	\$12,299	\$12,356	\$12,414	\$12,473	\$12,532	\$12,591	\$12,652	\$12,713	\$12,774
171		Compressed Air Nozzle (Screw - Inlet Modulation)	Standard	Existing	\$1,169	\$1,241	\$1,299	\$1,346	\$1,382	\$1,410	\$1,423	\$1,434	\$1,437	\$1,440	\$1,443	\$1,446	\$1,449	\$1,452	\$1,455	\$1,458	\$1,461	\$1,465	\$1,468
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	\$1,169	\$1,241	\$1,299	\$1,346	\$1,382	\$1,410	\$1,423	\$1,434	\$1,437	\$1,440	\$1,443	\$1,446	\$1,449	\$1,452	\$1,455	\$1,458	\$1,461	\$1,465	\$1,468
143		Compressed Air Optimization - Air Comp	Custom	Existing	\$33,693	\$																	

Ameren MO		Program RAP Measure Costs			Incentives and Admin																		
Measure #	End-Use	Measure Name	Program	Construction Type																			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
155	Compressed Air	Receiver Capacity Addition	Custom	Existing	\$3,796	\$3,931	\$4,013	\$4,082	\$4,138	\$4,186	\$4,227	\$4,246	\$4,264	\$4,284	\$4,303	\$4,322	\$4,342	\$4,362	\$4,382	\$4,402	\$4,422	\$4,443	\$4,464
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	Standard	Existing	\$216	\$224	\$230	\$233	\$236	\$238	\$240	\$240	\$240	\$240	\$241	\$241	\$241	\$242	\$242	\$242	\$243	\$243	\$243
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	Standard	Existing	\$218	\$225	\$231	\$235	\$237	\$239	\$241	\$241	\$242	\$242	\$242	\$242	\$243	\$243	\$243	\$244	\$244	\$244	\$245
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	Standard	Existing	\$240	\$249	\$255	\$259	\$262	\$264	\$266	\$266	\$266	\$267	\$267	\$267	\$267	\$268	\$268	\$268	\$269	\$269	\$270
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	\$2,927	\$3,911	\$5,063	\$6,315	\$7,607	\$8,896	\$10,139	\$11,274	\$12,255	\$13,095	\$13,777	\$14,329	\$14,764	\$15,112	\$15,401	\$15,477	\$15,553	\$15,630	\$15,708
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	Custom	Existing	\$2,114	\$2,232	\$2,328	\$2,405	\$2,469	\$2,503	\$2,531	\$2,556	\$2,567	\$2,579	\$2,590	\$2,602	\$2,614	\$2,626	\$2,638	\$2,650	\$2,662	\$2,674	\$2,687
153	Compressed Air	High Efficiency Air Dryers	Custom	Existing	\$39,488	\$40,325	\$41,022	\$41,594	\$42,071	\$42,487	\$42,672	\$42,860	\$43,049	\$43,240	\$43,434	\$43,629	\$43,826	\$44,025	\$44,226	\$44,429	\$44,634	\$44,841	\$45,050
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
156	Compressed Air	Variable Displacement Air Compressor	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
152	Compressed Air	Cycling Dryers	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
175	Compressed Air	VSD Air Compressor ≤ 40 HP	Standard	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
154	Compressed Air	Low Pressure Drop-Filters	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	Existing	\$3,973	\$9,360	\$17,012	\$27,266	\$40,195	\$56,430	\$75,785	\$98,629	\$123,627	\$149,681	\$175,939	\$201,515	\$225,194	\$246,012	\$264,181	\$279,313	\$291,933	\$302,274	\$310,899
503	Behavioral	In-Home Energy Use Displays	SEM	Existing	\$6,499	\$15,291	\$27,754	\$44,422	\$65,399	\$91,694	\$122,981	\$159,842	\$200,096	\$241,954	\$284,037	\$324,917	\$362,642	\$395,673	\$424,372	\$448,131	\$467,810	\$483,800	\$497,010
501	Behavioral	SEM	SEM	Existing	\$35,091	\$82,423	\$149,350	\$238,648	\$350,762	\$490,984	\$657,441	\$853,107	\$1,066,223	\$1,287,193	\$1,508,656	\$1,723,047	\$1,920,057	\$2,091,649	\$2,239,849	\$2,361,567	\$2,461,452	\$2,541,662	\$2,607,062
502	Behavioral	Whole-Building Energy Monitoring	SEM	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
277	Pools	Pool Heater Heat Pump (Uncovered)	Standard	Existing	\$68	\$159	\$288	\$461	\$678	\$950	\$1,272	\$1,652	\$2,067	\$2,497	\$2,928	\$3,347	\$3,732	\$4,069	\$4,360	\$4,601	\$4,799	\$4,959	\$5,090
279	Pools	Pool Pump w/ Variable Frequency Drive	Standard	Existing	\$5,869	\$6,056	\$6,219	\$6,360	\$6,475	\$6,570	\$6,647	\$6,710	\$6,765	\$6,786	\$6,807	\$6,829	\$6,851	\$6,873	\$6,895	\$6,918	\$6,941	\$6,964	\$6,987
278	Pools	Pool Heater Heat Pump (Covered)	Standard	Existing	\$150	\$350	\$633	\$1,008	\$1,476	\$2,059	\$2,749	\$3,555	\$4,429	\$5,329	\$6,225	\$7,087	\$7,872	\$8,547	\$9,123	\$9,587	\$9,960	\$10,251	\$10,481
280	Pools	Pool Pump Timer	Standard	Existing	\$161	\$376	\$680	\$1,082	\$1,584	\$2,209	\$2,947	\$3,810	\$4,743	\$5,705	\$6,662	\$7,580	\$8,415	\$9,132	\$9,743	\$10,234	\$10,627	\$10,932	\$11,171
321	Process - Machine Drive	Compressed Air - Advanced Compressor Controls	Custom	Existing	\$12,105	\$13,226	\$14,204	\$15,019	\$15,699	\$16,257	\$16,723	\$17,128	\$17,297	\$17,467	\$17,639	\$17,814	\$17,989	\$18,167	\$18,346	\$18,527	\$18,710	\$18,895	\$19,082
301	Process - Machine Drive	Advanced Lubricants	Custom	Existing	\$72,317	\$87,579	\$102,968	\$117,966	\$131,859	\$144,084	\$154,762	\$163,665	\$171,099	\$177,202	\$182,299	\$186,734	\$188,599	\$190,482	\$192,385	\$194,306	\$196,246	\$198,206	\$200,186
300	Process - Machine Drive	Air-Entraining Air Nozzles	Custom	Existing	\$13,056	\$14,953	\$16,709	\$18,252	\$19,599	\$20,721	\$21,656	\$22,421	\$23,060	\$23,614	\$23,843	\$24,075	\$24,309	\$24,545	\$24,783	\$25,024	\$25,267	\$25,513	\$25,761
307	Process - Machine Drive	Pump System Efficiency Improvements	Custom	Existing	\$70,090	\$78,264	\$85,431	\$91,669	\$96,844	\$101,142	\$104,645	\$107,549	\$110,058	\$111,049	\$112,051	\$113,062	\$114,084	\$115,115	\$116,158	\$117,210	\$118,273	\$119,347	\$120,431
323	Process - Machine Drive	Motor System Optimization (Including ASD)	Custom	Existing	\$222,689	\$224,645	\$226,620	\$228,616	\$230,631	\$232,666	\$234,722	\$236,798	\$238,895	\$241,013	\$243,152	\$245,313	\$247,495	\$249,699	\$251,925	\$254,173	\$256,444	\$258,737	\$261,054
310	Process - Machine Drive	Electric Supply System Improvements	Custom	Existing	\$3,729	\$4,510	\$5,296	\$6,059	\$6,763	\$7,381	\$7,917	\$8,362	\$8,730	\$9,030	\$9,278	\$9,492	\$9,575	\$9,658	\$9,743	\$9,828	\$9,914	\$10,002	\$10,090
325	Process - Machine Drive	Sensors & Controls	Custom	Existing	\$20,895	\$22,790	\$24,435	\$25,794	\$26,918	\$27,829	\$28,579	\$29,224	\$29,465	\$29,708	\$29,954	\$30,202	\$30,453	\$30,706	\$30,962	\$31,221	\$31,482	\$31,745	\$32,011
316	Process - Machine Drive	Fan System Improvements	Custom	Existing	\$12,282	\$13,693	\$14,924	\$15,989	\$16,866	\$17,587	\$18,169	\$18,645	\$19,052	\$19,195	\$19,340	\$19,486	\$19,634	\$19,783	\$19,933	\$20,085	\$20,239	\$20,394	\$20,551
303	Process - Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	Custom	Existing	\$14,287	\$16,713	\$19,051	\$21,189	\$23,038	\$24,623	\$25,912	\$26,956	\$27,782	\$28,442	\$28,994	\$29,143	\$29,294	\$29,446	\$29,600	\$29,755	\$29,912	\$30,070	\$30,230
324	Process - Machine Drive	Industrial Motor Management	Custom	Existing	\$38,500	\$38,797	\$39,097	\$39,400	\$39,705	\$40,014	\$40,326	\$40,642	\$40,960	\$41,281	\$41,606	\$41,934	\$42,265	\$42,600	\$42,938	\$43,279	\$43,624	\$43,972	\$44,324
322	Process - Machine Drive	Energy Information System	Custom	Existing	\$6,446	\$7,767	\$9,087	\$10,360	\$11,523	\$12,530	\$13,394	\$14,096	\$14,666	\$15,117	\$15,478	\$15,780	\$15,863	\$15,946	\$16,031	\$16,116	\$16,202	\$16,289	\$16,377
304	Process - Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	Custom	Existing	\$95,246	\$111,419	\$127,007	\$141,257	\$153,586	\$164,154	\$172,744	\$179,707	\$185,211	\$189,616	\$193,293	\$194,288	\$195,292	\$196,307	\$197,331	\$198,366	\$199,412	\$200,467	\$201,534
302	Process - Machine Drive	Storage Tank Addition (comp air)	Custom	Existing	\$9,948	\$10,818	\$11,563	\$12,169	\$12,661	\$13,049	\$13,361	\$13,621	\$13,692	\$13,764	\$13,837	\$13,910	\$13,984	\$14,059	\$14,135	\$14,211	\$14,288	\$14,366	\$14,445
311	Process - Machine Drive	High Efficiency Pumps - ROB	Custom	Existing	\$155,980	\$173,473	\$188,604	\$201,571	\$212,109	\$220,648	\$227,394	\$232,791	\$237,294	\$238,503	\$239,724	\$240,958	\$242,203	\$243,462	\$244,733	\$246,016	\$247,312	\$248,622	\$249,944
306	Process - Machine Drive	Elec motors replacing pneumatic (comp air)	Custom	Existing	\$125,011	\$125,623	\$126,242	\$126,866	\$127,497	\$128,134	\$128,777	\$129,427	\$130,083	\$130,746	\$131,415	\$132,092	\$132,775	\$133,464	\$134,161	\$134,865	\$135,575	\$136,293	\$137,018
309	Process - Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	Custom	Existing	\$30,751	\$34,200	\$37,183	\$39,739	\$41,817	\$43,500	\$44,830	\$45,894	\$46,782	\$47,020	\$47,261	\$47,504	\$47,750	\$47,998	\$48,249	\$48,502	\$48,757	\$49,015	\$49,276
318	Process - Machine Drive	High Efficiency Pumps - Early Replacement	Custom	Existing	\$148,771	\$161,744	\$172,860	\$181,892	\$189,210	\$194,990	\$199,613	\$203,469	\$204,500	\$205,542	\$206,595	\$207,658	\$208,731	\$209,816	\$210,911	\$212,017	\$213,134	\$214,263	\$215,403
313	Process - Machine Drive	VFD for Process Pumps	Custom	Existing	\$131,454	\$153,680	\$175,075	\$194,599	\$211,454	\$225,865	\$237,539	\$246,963	\$254,370	\$260,261	\$265,145	\$266,346	\$267,558	\$268,783	\$270,020	\$280,459	\$284,842	\$291,122	\$298,083
312	Process - Machine Drive	Synchronous belt drives	Custom	Existing	\$19,738	\$25,565	\$31,892	\$38,430	\$44,959	\$51,253	\$57,008	\$61,988	\$66,258	\$69,731	\$72,547	\$74,774	\$76,558	\$78,049	\$78,456	\$78,868	\$79,283	\$79,703	\$80,127
317	Process - Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	\$17,671	\$25,908	\$36,174	\$48,316	\$62,538	\$77,964	\$93,886	\$109,763	\$125,048	\$138,997	\$151,041	\$161,340	\$169,684	\$176,422	\$181,719	\$185,933	\$189,428	\$190,292	\$191,164
308	Process - Machine Drive	Compressed Air Audits and Leak Repair	Custom	Existing	\$826,689	\$872,102	\$909,497	\$939,657	\$964,370	\$985,479	\$992,969	\$1,000,534	\$1,008,175	\$1,015,892	\$1,023,687	\$1,031,559	\$1,039,510	\$1,047,540	\$1,055,651	\$1,063,843	\$1,072,117	\$1,080,473	\$1,088,913
314	Process - Machine Drive	VFD for Process Fans	Custom	Existing	\$50,824	\$59,406	\$67,665	\$75,197	\$81,696	\$87,249	\$91,742	\$95,365	\$98,207	\$100,464	\$102,331	\$102,776	\$103,226	\$103,680	\$104,139	\$108,021	\$109,650	\$111,983	\$114,570
315	Process - Machine Drive	Receiver Capacity Addition	Custom	Existing	\$10,234	\$11,372	\$12,353	\$13,191	\$13,868	\$14,414	\$14,842	\$15,181	\$15,461	\$15,526	\$15,592	\$15,658	\$15,725	\$15,793	\$15,862	\$15,931	\$16,001	\$16,071	\$16,142
320	Process - Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	Custom	Existing	\$16,171	\$23,705	\$33,093	\$44,194	\$57,195	\$71,292	\$85,838	\$100,340	\$114,295	\$127,025	\$138,011	\$147,398	\$154,998	\$161,127	\$165,939	\$169,761	\$172,926	\$173,688	\$174,457
319	Process - Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	Custom	Existing	\$90,399	\$100,442	\$109,100	\$116,491															

Ameren MO		Program RAP Measure Costs			Incentives and Admin																		
Measure #	End-Use	Measure Name	Program	Construction Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
					332	Process - Industrial	Barrel Insulation - Inj. Molding (plastics)	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
334	Process - Industrial	3 Phase High Eff Battery Charger	Custom	Existing	\$2,706	\$3,084	\$3,430	\$3,729	\$3,986	\$4,194	\$4,363	\$4,497	\$4,604	\$4,693	\$4,717	\$4,741	\$4,766	\$4,791	\$4,816	\$4,841	\$4,866	\$4,892	\$4,918
330	Process - Industrial	Process Controls / EMS - Process	Custom	Existing	\$1,967	\$2,069	\$2,151	\$2,215	\$2,267	\$2,309	\$2,319	\$2,330	\$2,341	\$2,351	\$2,362	\$2,373	\$2,384	\$2,492	\$2,536	\$2,600	\$2,672	\$2,743	\$2,829
346	Process - Industrial	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	\$41,922	\$44,082	\$45,823	\$47,190	\$48,275	\$49,172	\$49,387	\$49,604	\$49,823	\$50,044	\$50,267	\$50,493	\$50,720	\$53,008	\$53,939	\$55,293	\$56,800	\$58,320	\$60,136
327	Process - Industrial	Efficient Process Motor Upgrade - Process	Custom	Existing	\$2,568	\$2,926	\$3,252	\$3,534	\$3,776	\$3,971	\$4,129	\$4,253	\$4,352	\$4,435	\$4,455	\$4,476	\$4,497	\$4,518	\$4,539	\$4,561	\$4,583	\$4,791	\$4,876
348	Process - Industrial	Motors-Efficient Motor Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	\$651	\$870	\$1,126	\$1,404	\$1,691	\$1,977	\$2,252	\$2,503	\$2,720	\$2,906	\$3,056	\$3,178	\$3,273	\$3,349	\$3,412	\$3,428	\$3,444	\$3,460	\$3,476
329	Process - Industrial	Process Compressor Optimization - Process	Custom	Existing	\$826	\$1,104	\$1,429	\$1,782	\$2,146	\$2,509	\$2,859	\$3,179	\$3,455	\$3,691	\$3,882	\$4,037	\$4,159	\$4,256	\$4,336	\$4,357	\$4,377	\$4,398	\$4,419
347	Process - Industrial	Process-Compressor Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	\$9,771	\$13,050	\$16,892	\$21,060	\$25,361	\$29,651	\$33,781	\$37,550	\$40,805	\$43,588	\$45,844	\$47,665	\$49,097	\$50,237	\$51,183	\$51,418	\$51,655	\$51,894	\$52,136
328	Process - Industrial	Insulation for Process Environment or Equipment - Process	Custom	Existing	\$346	\$463	\$599	\$747	\$899	\$1,051	\$1,198	\$1,332	\$1,447	\$1,546	\$1,626	\$1,691	\$1,742	\$1,782	\$1,816	\$1,825	\$1,833	\$1,842	\$1,850
349	Process - Industrial	Building Shell-Wall Insulation Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	\$7,121	\$7,252	\$7,282	\$7,312	\$7,343	\$7,374	\$7,406	\$7,438	\$7,470	\$7,502	\$7,535	\$7,949	\$8,111	\$8,352	\$8,620	\$8,891	\$9,217	\$9,519	\$9,851
335	Process - Industrial	Hybrid Injection Molding Machine	Custom	Existing	\$8,017	\$8,716	\$9,315	\$9,802	\$10,196	\$10,508	\$10,757	\$10,964	\$11,020	\$11,076	\$11,133	\$11,190	\$11,248	\$11,307	\$11,366	\$11,425	\$11,485	\$11,546	\$11,608
337	Process - Industrial	On-Demand ventilation control for Dust and Fume Collection Systems	Custom	Existing	\$5,937	\$7,688	\$9,590	\$11,554	\$13,516	\$15,406	\$17,134	\$18,628	\$19,909	\$20,950	\$21,793	\$22,459	\$22,993	\$23,437	\$23,557	\$23,677	\$23,799	\$23,922	\$24,047
326	Process - Industrial	Air Cooled Chiller Upgrade - Process	Custom	Existing	\$5,989	\$6,299	\$6,549	\$6,745	\$6,901	\$7,031	\$7,063	\$7,095	\$7,127	\$7,160	\$7,193	\$7,227	\$7,261	\$7,668	\$7,829	\$8,068	\$8,333	\$8,602	\$8,923
343	Process - Industrial	HVAC-Air Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	\$8,509	\$8,947	\$9,301	\$9,578	\$9,798	\$9,980	\$10,024	\$10,068	\$10,112	\$10,157	\$10,203	\$10,248	\$10,295	\$10,870	\$11,097	\$11,433	\$11,807	\$12,185	\$12,639
340	Process - Industrial	Lab Fume Hood Ventilation Reduction	Custom	Existing	\$1,438	\$1,862	\$2,323	\$2,799	\$3,274	\$3,731	\$4,149	\$4,511	\$4,821	\$5,072	\$5,276	\$5,437	\$5,566	\$5,673	\$5,702	\$5,731	\$5,760	\$5,789	\$5,819
339	Process - Industrial	Industrial Air Curtain	Custom	Existing	\$31,600	\$34,356	\$36,717	\$38,635	\$40,190	\$41,417	\$42,399	\$43,218	\$43,438	\$43,659	\$43,883	\$44,108	\$44,336	\$44,567	\$44,799	\$45,034	\$45,272	\$45,511	\$45,753
345	Process - Industrial	HVAC-Water Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	\$1,991	\$2,070	\$2,131	\$2,180	\$2,221	\$2,230	\$2,240	\$2,250	\$2,260	\$2,270	\$2,280	\$2,290	\$2,301	\$2,429	\$2,480	\$2,555	\$2,639	\$2,723	\$2,824
351	Process - Industrial	Miscellaneous-Efficient Equipment Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	\$4,011	\$4,217	\$4,384	\$4,515	\$4,618	\$4,704	\$4,725	\$4,746	\$4,767	\$4,788	\$4,809	\$4,831	\$4,852	\$5,006	\$5,072	\$5,166	\$5,270	\$5,375	\$5,498
341	Process - Industrial	High Speed Turbo Blower for Wastewater	Custom	Existing	\$149	\$157	\$164	\$168	\$172	\$176	\$177	\$178	\$178	\$179	\$180	\$181	\$182	\$183	\$184	\$185	\$186	\$187	\$188
331	Process - Industrial	Water Cooled Process Chiller - Process	Custom	Existing	\$1,401	\$1,457	\$1,501	\$1,535	\$1,564	\$1,571	\$1,578	\$1,586	\$1,593	\$1,600	\$1,608	\$1,615	\$1,623	\$1,714	\$1,750	\$1,803	\$1,862	\$1,922	\$1,994
344	Process - Industrial	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	\$1,991	\$2,070	\$2,131	\$2,180	\$2,221	\$2,230	\$2,240	\$2,250	\$2,260	\$2,270	\$2,280	\$2,290	\$2,301	\$2,429	\$2,480	\$2,555	\$2,639	\$2,723	\$2,824
350	Process - Industrial	Miscellaneous-Efficient Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	\$4,011	\$4,217	\$4,384	\$4,515	\$4,618	\$4,704	\$4,725	\$4,746	\$4,767	\$4,788	\$4,809	\$4,831	\$4,852	\$5,006	\$5,072	\$5,166	\$5,270	\$5,375	\$5,498
338	Process - Industrial	Pellet Dryer Insulation (plastics)	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
342	Process - Industrial	Process Fan Ventilation Reduction	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
333	Process - Industrial	Fiber Laser Replacing CO2 laser (auto industry)	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
360	Process - Process Cooling & Refrigeration	Improved Refrigeration	Custom	Existing	\$14,558	\$18,245	\$22,086	\$25,957	\$29,726	\$33,214	\$36,279	\$38,952	\$41,177	\$43,032	\$44,549	\$45,814	\$46,911	\$47,363	\$47,818	\$48,279	\$48,743	\$49,213	\$49,687
358	Process - Process Cooling & Refrigeration	Electric Supply System Improvements	Custom	Existing	\$696	\$821	\$993	\$1,166	\$1,334	\$1,489	\$1,625	\$1,743	\$1,841	\$1,923	\$1,989	\$2,044	\$2,091	\$2,109	\$2,128	\$2,146	\$2,165	\$2,184	\$2,204
356	Process - Process Cooling & Refrigeration	Evaporator Motor Reduction - ROB	Custom	Existing	\$4,146	\$5,191	\$6,278	\$7,371	\$8,433	\$9,414	\$10,273	\$11,020	\$11,639	\$12,152	\$12,570	\$12,915	\$13,213	\$13,329	\$13,445	\$13,563	\$13,682	\$13,802	\$13,924
359	Process - Process Cooling & Refrigeration	Sensors & Controls	Custom	Existing	\$4,094	\$4,568	\$4,983	\$5,342	\$5,640	\$5,886	\$6,085	\$6,250	\$6,391	\$6,444	\$6,498	\$6,552	\$6,606	\$6,661	\$6,717	\$6,773	\$6,830	\$6,888	\$6,946
362	Process - Process Cooling & Refrigeration	Energy Information System	Custom	Existing	\$1,118	\$1,395	\$1,681	\$1,967	\$2,243	\$2,495	\$2,714	\$2,901	\$3,053	\$3,177	\$3,275	\$3,354	\$3,420	\$3,438	\$3,456	\$3,475	\$3,494	\$3,513	\$3,532
357	Process - Process Cooling & Refrigeration	Floating Head Pressure Control	Custom	Existing	\$25,668	\$27,426	\$28,853	\$30,008	\$30,918	\$31,645	\$32,249	\$32,406	\$32,564	\$32,724	\$32,885	\$33,048	\$33,213	\$33,379	\$33,547	\$33,717	\$33,889	\$34,062	\$34,236
361	Process - Process Cooling & Refrigeration	Refrigerant charging correction	Custom	Existing	\$9,436	\$15,047	\$22,072	\$30,833	\$41,204	\$53,360	\$66,558	\$80,192	\$93,802	\$106,919	\$118,909	\$129,279	\$138,166	\$145,388	\$151,239	\$155,861	\$159,559	\$162,644	\$163,471
363	Process - Process Cooling & Refrigeration	Evaporator Fan Motor Controls	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
364	Process - Process Heating	Electric Supply System Improvements	Custom	Existing	\$711	\$891	\$1,077	\$1,265	\$1,448	\$1,616	\$1,764	\$1,892	\$1,999	\$2,087	\$2,159	\$2,218	\$2,270	\$2,290	\$2,310	\$2,330	\$2,351	\$2,372	\$2,393
365	Process - Process Heating	Sensors & Controls	Custom	Existing	\$4,453	\$4,969	\$5,421	\$5,813	\$6,137	\$6,406	\$6,623	\$6,803	\$6,957	\$7,015	\$7,074	\$7,134	\$7,194	\$7,255	\$7,316	\$7,378	\$7,440	\$7,503	\$7,567

Ameren MO		Program RAP Measure Costs		Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
367	Process - Process Heating	Energy Information System	Custom	Existing	\$1,193	\$1,488	\$1,794	\$2,099	\$2,394	\$2,663	\$2,897	\$3,097	\$3,261	\$3,393	\$3,499	\$3,583	\$3,654	\$3,674	\$3,694	\$3,715	\$3,736	\$3,757	\$3,778
366	Process - Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	Custom	Existing	\$49,983	\$62,352	\$75,133	\$87,894	\$100,196	\$111,444	\$121,177	\$129,521	\$136,305	\$141,807	\$146,157	\$149,641	\$152,550	\$153,343	\$154,143	\$154,951	\$155,768	\$156,593	\$157,426
369	Process - Agriculture	Fan Thermostat Controller	Custom	Existing	\$2,806	\$3,124	\$3,401	\$3,639	\$3,833	\$3,992	\$4,119	\$4,222	\$4,309	\$4,336	\$4,363	\$4,391	\$4,419	\$4,447	\$4,475	\$4,504	\$4,533	\$4,562	\$4,592
371	Process - Agriculture	Milk Pre-Cooler Heat Exchanger	Custom	Existing	\$5,833	\$6,823	\$7,778	\$8,650	\$9,405	\$10,052	\$10,578	\$11,005	\$11,342	\$11,612	\$11,837	\$11,898	\$11,959	\$12,021	\$12,084	\$12,147	\$12,211	\$12,276	\$12,341
383	Process - Agriculture	Engine Block Heater	Custom	Existing	\$3,012	\$4,819	\$7,092	\$9,939	\$13,324	\$17,310	\$21,660	\$26,179	\$30,719	\$35,126	\$39,187	\$42,739	\$45,819	\$48,364	\$50,467	\$52,171	\$53,573	\$54,777	\$55,224
373	Process - Agriculture	VFD for Process Fans - Agriculture	Custom	Existing	\$6,533	\$7,872	\$9,209	\$10,498	\$11,676	\$12,695	\$13,569	\$14,279	\$14,855	\$15,311	\$15,675	\$15,980	\$16,062	\$16,146	\$16,230	\$16,315	\$16,401	\$16,488	\$16,576
374	Process - Agriculture	Grain Storage Temperature and Moisture Management Controller	Custom	Existing	\$4,089	\$4,659	\$5,179	\$5,628	\$6,011	\$6,323	\$6,574	\$6,771	\$6,929	\$7,059	\$7,092	\$7,124	\$7,157	\$7,191	\$7,225	\$7,259	\$7,293	\$7,328	\$7,363
375	Process - Agriculture	VFD for Process Pumps - Agriculture	Custom	Existing	\$8,837	\$10,337	\$11,783	\$13,106	\$14,249	\$15,230	\$16,027	\$16,673	\$17,184	\$17,592	\$17,933	\$18,026	\$18,119	\$18,213	\$18,308	\$18,404	\$18,501	\$18,599	\$18,698
382	Process - Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	Custom	Existing	\$12,771	\$13,648	\$14,361	\$14,939	\$15,394	\$15,759	\$16,063	\$16,144	\$16,226	\$16,309	\$16,392	\$16,477	\$16,562	\$16,648	\$16,735	\$16,822	\$16,911	\$17,001	\$17,091
379	Process - Agriculture	VFD for Process Pumps - Irrigation	Custom	Existing	\$13,254	\$15,505	\$17,674	\$19,657	\$21,373	\$22,844	\$24,039	\$25,008	\$25,774	\$26,387	\$26,899	\$27,037	\$27,177	\$27,318	\$27,461	\$27,605	\$27,750	\$27,897	\$28,045
372	Process - Agriculture	Low Pressure Sprinkler Nozzles	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
380	Process - Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
370	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
378	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
377	Process - Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
381	Process - Agriculture	Variable Speed Drive withHeat Exchanger, Milk	Custom	Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
369	Process - Agriculture	Fan Thermostat Controller	Custom	Existing	\$2,806	\$3,124	\$3,401	\$3,639	\$3,833	\$3,992	\$4,119	\$4,222	\$4,309	\$4,336	\$4,363	\$4,391	\$4,419	\$4,447	\$4,475	\$4,504	\$4,533	\$4,562	\$4,592
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$16,189	\$16,234	\$16,279	\$16,325	\$16,371	\$16,418	\$16,465	\$16,512	\$16,560	\$16,609	\$16,658	\$16,707	\$16,757	\$16,807	\$16,858	\$16,910	\$16,962	\$17,014	\$17,067
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	New Constr	New Construction	\$16,970	\$17,009	\$17,047	\$17,087	\$17,126	\$17,166	\$17,206	\$17,247	\$17,288	\$17,330	\$17,372	\$17,414	\$17,457	\$17,501	\$17,544	\$17,588	\$17,633	\$17,678	\$17,724
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	New Constr	New Construction	\$4,373	\$4,386	\$4,399	\$4,413	\$4,426	\$4,439	\$4,453	\$4,467	\$4,481	\$4,495	\$4,509	\$4,523	\$4,537	\$4,552	\$4,567	\$4,582	\$4,597	\$4,612	\$4,627
13	Interior Lighting	Stairwell Bi-Level Control	New Constr	New Construction	\$8,922	\$8,955	\$8,988	\$9,021	\$9,055	\$9,090	\$9,124	\$9,159	\$9,195	\$9,230	\$9,266	\$9,303	\$9,339	\$9,377	\$9,414	\$9,452	\$9,490	\$9,529	\$9,568
28	Interior Lighting	LED Specialty Lamp	New Constr	New Construction	\$38,758	\$38,878	\$38,999	\$39,121	\$39,245	\$39,370	\$39,495	\$39,623	\$39,751	\$39,881	\$40,012	\$40,144	\$40,278	\$40,413	\$40,549	\$40,687	\$40,826	\$40,966	\$41,108
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	New Constr	New Construction	\$17,197	\$17,236	\$17,276	\$17,316	\$17,356	\$17,397	\$17,438	\$17,480	\$17,522	\$17,565	\$17,608	\$17,651	\$17,695	\$17,739	\$17,784	\$17,829	\$17,875	\$17,921	\$17,967
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	New Constr	New Construction	\$37,565	\$37,650	\$37,736	\$37,823	\$37,910	\$37,999	\$38,088	\$38,178	\$38,270	\$38,362	\$38,455	\$38,548	\$38,643	\$38,739	\$38,836	\$38,934	\$39,032	\$39,132	\$39,233
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$8,628	\$8,649	\$8,671	\$8,693	\$8,715	\$8,738	\$8,760	\$8,783	\$8,807	\$8,830	\$8,854	\$8,877	\$8,901	\$8,926	\$8,950	\$8,975	\$9,000	\$9,026	\$9,051
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	New Constr	New Construction	\$2,672	\$2,682	\$2,692	\$2,702	\$2,713	\$2,724	\$2,734	\$2,745	\$2,756	\$2,767	\$2,778	\$2,789	\$2,801	\$2,812	\$2,824	\$2,836	\$2,847	\$2,859	\$2,872
25	Interior Lighting	LED Replacing Interior T5 Fluorescent High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$115,170	\$115,431	\$115,694	\$115,960	\$116,228	\$116,499	\$116,773	\$117,050	\$117,329	\$117,612	\$117,897	\$118,184	\$118,475	\$118,769	\$119,065	\$119,365	\$119,668	\$119,973	\$120,282
5	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$9,080	\$9,105	\$9,130	\$9,156	\$9,182	\$9,208	\$9,234	\$9,261	\$9,288	\$9,315	\$9,343	\$9,370	\$9,398	\$9,427	\$9,455	\$9,484	\$9,513	\$9,543	\$9,572
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$4,550	\$4,561	\$4,571	\$4,582	\$4,593	\$4,603	\$4,614	\$4,625	\$4,636	\$4,648	\$4,659	\$4,671	\$4,682	\$4,694	\$4,706	\$4,718	\$4,730	\$4,742	\$4,754
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	New Constr	New Construction	\$29,087	\$29,149	\$29,211	\$29,274	\$29,338	\$29,403	\$29,468	\$29,533	\$29,600	\$29,667	\$29,734	\$29,803	\$29,872	\$29,942	\$30,012	\$30,083	\$30,155	\$30,228	\$30,301
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	New Constr	New Construction	\$28,415	\$28,480	\$28,546	\$28,612	\$28,679	\$28,746	\$28,814	\$28,883	\$28,953	\$29,023	\$29,094	\$29,166	\$29,238	\$29,311	\$29,385	\$29,460	\$29,535	\$29,611	\$29,688
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	New Constr	New Construction	\$143,113	\$143,437	\$143,764	\$144,095	\$144,428	\$144,766	\$145,106	\$145,450	\$145,797	\$146,148	\$146,502	\$146,860	\$147,222	\$147,587	\$147,955	\$148,328	\$148,704	\$149,084	\$149,467
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$34,740	\$34,836	\$34,933	\$35,031	\$35,130	\$35,230	\$35,331	\$35,433	\$35,536	\$35,640	\$35,745	\$35,852	\$35,959	\$36,067	\$36,176	\$36,287	\$36,398	\$36,511	\$36,625
34	Interior Lighting	Central Lighting Controls	New Constr	New Construction	\$138,767	\$138,986	\$139,206	\$139,429	\$139,654	\$139,882	\$140,112	\$140,344	\$140,578	\$140,814	\$141,053	\$141,295	\$141,539	\$141,785	\$142,034	\$142,285	\$142,538	\$142,795	\$143,054
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	New Constr	New Construction	\$5,481	\$5,488	\$5,496	\$5,504	\$5,512	\$5,520	\$5,528	\$5,536	\$5,544	\$5,552	\$5,560	\$5,569	\$5,577	\$5,586	\$5,594	\$5,603	\$5,612	\$5,621	\$5,630
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	New Constr	New Construction	\$27,568	\$27,630	\$27,692	\$27,756	\$27,819	\$27,884	\$27,949	\$28,015	\$28,081	\$28,149	\$28,216	\$28,285	\$28,354	\$28,424	\$28,494	\$28,566	\$28,638	\$28,710	\$28,784
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	New Constr	New Construction	\$9,254	\$9,275	\$9,296	\$9,318	\$9,339	\$9,361	\$9,383	\$9,405	\$9,428	\$9,451	\$9,473	\$9,497	\$9,520	\$9,544	\$9,567	\$9,591	\$9,616	\$9,640	\$9,665
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	New Constr	New Construction	\$8,490	\$8,510	\$8,529	\$8,549	\$8,568	\$8,588	\$8,609	\$8,629	\$8,650	\$8,670	\$8,691	\$8,713	\$8,734	\$8,756	\$8,777	\$8,800	\$8,822	\$8,844	\$8,867
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	New Constr	New Construction	\$8,657	\$8,676	\$8,696	\$8,716	\$8,736	\$8,756	\$8,777	\$8,798	\$8,819	\$8,840	\$8,861	\$8,883	\$8,905	\$8,927	\$8,949	\$8,972	\$8,995	\$9,018	\$9,041
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$5,012	\$5,020	\$5,028	\$5,037	\$5,045	\$5,053	\$5,062	\$5,071	\$5,079	\$5,088	\$5,097	\$5,106	\$5,115	\$5,124	\$5,133	\$5,143	\$5,152	\$5,162	\$5,171
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	New Constr	New Construction	\$7,889	\$7,899	\$7,909	\$7,920	\$7,930	\$7,941	\$7,951	\$7,962	\$7,973	\$7,984	\$7,995	\$8,006	\$8,018	\$8,029	\$8,041	\$8,052	\$8,064	\$8,076	\$8,088
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$10,399	\$10,416	\$10,432	\$10,449	\$10,467	\$10,484	\$10,501	\$10,519	\$10,537	\$10,555	\$10,573	\$10,592	\$10,610	\$10,629	\$10,648	\$10,667	\$10,687	\$10,706	\$10,726
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	New Constr	New Construction	\$6,339	\$6,347	\$6,355	\$6,363	\$6,372	\$6,380	\$6,388	\$6,397	\$6,406	\$6,414	\$6,423	\$6,432	\$6,441	\$6,450	\$6,459	\$6,469	\$6,478	\$6,488	\$6,497

Ameren MO		Program RAP Measure Costs		Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Construction Type																			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10	Interior Lighting	Smart Web-based lighting Mgmt System	New Constr	New Construction	\$299,728	\$300,262	\$300,802	\$301,347	\$301,898	\$302,454	\$303,016	\$303,583	\$304,156	\$304,735	\$305,319	\$305,910	\$306,506	\$307,108	\$307,717	\$308,331	\$308,952	\$309,578	\$310,211
14	Interior Lighting	Switching Controls for Multi-Level Lighting	New Constr	New Construction	\$2,091	\$2,094	\$2,098	\$2,101	\$2,104	\$2,108	\$2,111	\$2,115	\$2,118	\$2,122	\$2,125	\$2,129	\$2,133	\$2,136	\$2,140	\$2,144	\$2,148	\$2,152	\$2,155
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	New Constr	New Construction	\$69,189	\$69,349	\$69,511	\$69,674	\$69,839	\$70,006	\$70,174	\$70,344	\$70,516	\$70,689	\$70,864	\$71,041	\$71,220	\$71,400	\$71,582	\$71,767	\$71,952	\$72,140	\$72,330
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constr	New Construction	\$30,649	\$30,734	\$30,819	\$30,906	\$30,993	\$31,081	\$31,170	\$31,260	\$31,351	\$31,443	\$31,536	\$31,629	\$31,724	\$31,819	\$31,916	\$32,013	\$32,112	\$32,211	\$32,311
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >50 and <=120 Watts	New Constr	New Construction	\$9,124	\$9,130	\$9,136	\$9,142	\$9,148	\$9,155	\$9,161	\$9,168	\$9,174	\$9,181	\$9,187	\$9,194	\$9,201	\$9,208	\$9,215	\$9,222	\$9,229	\$9,236	\$9,243
37	Interior Lighting	LED Case Lighting (retrofit)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	Interior Lighting	Smart Advanced Lighting Controls	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
35	Interior Lighting	Illuminated Signs to LED	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	New Constr	New Construction	\$5,844	\$5,900	\$5,919	\$5,938	\$5,958	\$5,978	\$5,998	\$6,018	\$6,039	\$6,059	\$6,080	\$6,101	\$6,122	\$6,144	\$6,165	\$6,187	\$6,209	\$6,232	\$6,254
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constr	New Construction	\$8,466	\$8,786	\$9,040	\$9,241	\$9,346	\$9,434	\$9,466	\$9,498	\$9,530	\$9,563	\$9,595	\$9,629	\$9,662	\$9,696	\$9,730	\$9,765	\$9,800	\$9,835	\$9,871
59	Exterior Lighting	LED Pedestrian Signals	New Constr	New Construction	\$727	\$833	\$931	\$1,018	\$1,093	\$1,166	\$1,208	\$1,252	\$1,288	\$1,319	\$1,332	\$1,345	\$1,359	\$1,373	\$1,386	\$1,400	\$1,414	\$1,428	\$1,443
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constr	New Construction	\$1,696	\$1,761	\$1,813	\$1,854	\$1,875	\$1,894	\$1,900	\$1,906	\$1,913	\$1,919	\$1,926	\$1,933	\$1,939	\$1,946	\$1,953	\$1,960	\$1,967	\$1,974	\$1,981
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constr	New Construction	\$4,755	\$4,938	\$5,084	\$5,200	\$5,262	\$5,315	\$5,335	\$5,356	\$5,376	\$5,397	\$5,417	\$5,439	\$5,460	\$5,481	\$5,503	\$5,525	\$5,547	\$5,569	\$5,592
47	Exterior Lighting	Garage BiLevel Controls	New Constr	New Construction	\$71,510	\$71,673	\$71,839	\$72,006	\$72,175	\$72,345	\$72,518	\$72,692	\$72,867	\$73,045	\$73,224	\$73,405	\$73,588	\$73,772	\$73,959	\$74,147	\$74,337	\$74,530	\$74,724
57	Exterior Lighting	LED Auto Traffic Signals	New Constr	New Construction	\$693	\$794	\$887	\$970	\$1,041	\$1,101	\$1,151	\$1,192	\$1,227	\$1,257	\$1,269	\$1,282	\$1,295	\$1,308	\$1,321	\$1,334	\$1,347	\$1,361	\$1,374
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	New Constr	New Construction	\$3,321	\$3,450	\$3,553	\$3,635	\$3,679	\$3,717	\$3,731	\$3,746	\$3,760	\$3,775	\$3,790	\$3,805	\$3,820	\$3,835	\$3,851	\$3,866	\$3,882	\$3,898	\$3,914
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	New Constr	New Construction	\$5,353	\$5,556	\$5,716	\$5,843	\$5,909	\$5,964	\$5,982	\$5,999	\$6,017	\$6,035	\$6,053	\$6,072	\$6,090	\$6,109	\$6,128	\$6,147	\$6,167	\$6,186	\$6,206
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constr	New Construction	\$5,166	\$5,874	\$6,517	\$7,067	\$7,534	\$7,908	\$8,205	\$8,435	\$8,613	\$8,757	\$8,779	\$8,801	\$8,824	\$8,847	\$8,870	\$8,893	\$8,916	\$8,940	\$8,964
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constr	New Construction	\$767	\$796	\$819	\$838	\$847	\$855	\$858	\$861	\$864	\$867	\$870	\$873	\$876	\$879	\$882	\$885	\$888	\$891	\$895
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	New Constr	New Construction	\$5,092	\$5,285	\$5,437	\$5,558	\$5,621	\$5,673	\$5,690	\$5,707	\$5,724	\$5,741	\$5,758	\$5,776	\$5,793	\$5,811	\$5,829	\$5,848	\$5,866	\$5,885	\$5,903
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	New Constr	New Construction	\$4,939	\$5,126	\$5,274	\$5,390	\$5,451	\$5,503	\$5,519	\$5,535	\$5,551	\$5,568	\$5,585	\$5,602	\$5,619	\$5,636	\$5,654	\$5,672	\$5,689	\$5,707	\$5,726
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	New Constr	New Construction	\$5,007	\$5,197	\$5,347	\$5,465	\$5,527	\$5,579	\$5,595	\$5,612	\$5,628	\$5,645	\$5,662	\$5,679	\$5,697	\$5,714	\$5,732	\$5,750	\$5,768	\$5,786	\$5,805
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	New Constr	New Construction	\$2,423	\$2,517	\$2,592	\$2,651	\$2,683	\$2,711	\$2,721	\$2,731	\$2,742	\$2,752	\$2,763	\$2,774	\$2,784	\$2,795	\$2,806	\$2,818	\$2,829	\$2,840	\$2,852
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	New Constr	New Construction	\$4,494	\$4,666	\$4,802	\$4,910	\$4,967	\$5,016	\$5,032	\$5,049	\$5,067	\$5,084	\$5,101	\$5,119	\$5,137	\$5,155	\$5,173	\$5,191	\$5,210	\$5,229	\$5,248
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constr	New Construction	\$1,505	\$1,563	\$1,610	\$1,647	\$1,667	\$1,684	\$1,690	\$1,697	\$1,703	\$1,710	\$1,716	\$1,723	\$1,730	\$1,736	\$1,743	\$1,750	\$1,757	\$1,764	\$1,771
46	Exterior Lighting	Exterior BiLevel Controls	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
49	Exterior Lighting	Lighting Power Density - Parking Garage	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
48	Exterior Lighting	Lighting Power Density - Exterior	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
76	Space Cooling	Commercial EMS	New Constr	New Construction	\$2,983	\$3,813	\$4,718	\$5,659	\$6,600	\$7,502	\$8,332	\$9,075	\$9,709	\$10,248	\$10,692	\$11,061	\$11,371	\$11,561	\$11,735	\$11,843	\$11,952	\$12,062	\$12,173
100	Space Cooling	Roof Insulation	New Constr	New Construction	\$9,602	\$9,849	\$10,059	\$10,239	\$10,392	\$10,525	\$10,644	\$10,713	\$10,782	\$10,852	\$10,922	\$10,994	\$11,066	\$11,139	\$11,212	\$11,287	\$11,362	\$11,437	\$11,514
99	Space Cooling	Energy Efficient Windows	New Constr	New Construction	\$12,002	\$12,293	\$12,539	\$12,750	\$12,928	\$13,082	\$13,220	\$13,298	\$13,377	\$13,457	\$13,538	\$13,619	\$13,701	\$13,784	\$13,868	\$13,953	\$14,039	\$14,125	\$14,212
79	Space Cooling	Zoning	New Constr	New Construction	\$17,993	\$20,542	\$22,905	\$25,058	\$26,928	\$28,506	\$29,821	\$30,892	\$31,779	\$32,299	\$32,744	\$33,140	\$33,349	\$33,561	\$33,775	\$33,991	\$34,210	\$34,430	\$34,653
78	Space Cooling	EMS Optimization / Continuous Commissioning	New Constr	New Construction	\$46	\$56	\$67	\$78	\$88	\$97	\$105	\$112	\$117	\$122	\$125	\$128	\$130	\$131	\$132	\$133	\$133	\$133	\$134
69	Space Cooling	VFD for Pump - Cooling	New Constr	New Construction	\$13,971	\$16,516	\$18,999	\$21,326	\$23,458	\$25,312	\$26,860	\$28,132	\$29,136	\$29,933	\$30,404	\$30,772	\$31,070	\$31,124	\$31,177	\$31,232	\$31,286	\$31,342	\$31,398
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constr	New Construction	\$6,396	\$6,892	\$7,308	\$7,653	\$7,928	\$8,113	\$8,256	\$8,367	\$8,457	\$8,471	\$8,486	\$8,501	\$8,516	\$8,531	\$8,546	\$8,561	\$8,577	\$8,593	\$8,609
94	Space Cooling	Air Cooled Chiller	New Constr	New Construction	\$5,556	\$5,836	\$6,035	\$6,203	\$6,339	\$6,447	\$6,532	\$6,598	\$6,652	\$6,664	\$6,675	\$6,687	\$6,699	\$6,711	\$6,723	\$6,735	\$6,747	\$6,760	\$6,772
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constr	New Construction	\$775	\$956	\$1,142	\$1,325	\$1,499	\$1,657	\$1,795	\$1,909	\$2,003	\$2,077	\$2,135	\$2,180	\$2,202	\$2,220	\$2,224	\$2,228	\$2,232	\$2,236	\$2,240
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constr	New Construction	\$57,634	\$60,845	\$63,445	\$65,545	\$67,213	\$68,030	\$68,667	\$69,168	\$69,579	\$69,669	\$69,760	\$69,852	\$69,945	\$70,039	\$70,134	\$70,229	\$70,326	\$70,424	\$70,522
72	Space Cooling	VFD for Process Fans -CRAC units	New Constr	New Construction	\$10,596	\$12,628	\$14,632	\$16,537	\$18,302	\$19,856	\$21,168	\$22,259	\$23,131	\$23,831	\$24,283	\$24,643	\$24,942	\$25,019	\$25,097	\$25,176	\$25,256	\$25,336	\$25,417
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constr	New Construction	\$12,753	\$15,599	\$18,502	\$21,347	\$24,010	\$26,387	\$28,451	\$30,144	\$31,519	\$32,586	\$33,414	\$34,057	\$34,317	\$34,529	\$34,571	\$34,614	\$34,657	\$34,701	\$34,745
62	Space Cooling	Chiller Control Optimization - Cooling	New Constr	New Construction	\$619	\$762	\$910	\$1,057	\$1,196	\$1,321	\$1,431	\$1,523	\$1,598	\$1,657	\$1,703	\$1,738	\$1,756	\$1,771	\$1,774	\$1,777	\$1,780	\$1,783	\$1,787
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	New Constr	New Construction	\$7,720	\$8,696	\$9,572	\$10,345	\$10,993	\$11,521	\$11,943	\$12,273	\$12,536	\$12,642	\$12,727	\$12,799	\$12,821	\$12,844	\$12,867	\$12,890	\$12,913	\$12,937	\$12,961
68	Space Cooling	VFD for Fan - Cooling	New Constr	New Construction	\$161,536	\$187,501	\$212,099	\$234,361	\$254,215	\$270,951	\$284,660	\$295,649	\$304,213	\$310,979	\$313,979	\$316,326	\$318,238	\$318,606	\$318,977	\$319,352	\$319,731	\$320,114	\$320,501

Ameren MO			Program RAP Measure Costs		Incentives and Admin																		
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	New Constr	New Construction	\$10,565	\$10,836	\$11,070	\$11,269	\$11,431	\$11,562	\$11,666	\$11,749	\$11,818	\$11,838	\$11,859	\$11,879	\$11,900	\$11,921	\$11,942	\$11,964	\$11,986	\$12,007	\$12,030
71	Space Cooling	Water Loop Heat Pump - Cooling	New Constr	New Construction	\$747	\$870	\$987	\$1,096	\$1,192	\$1,273	\$1,340	\$1,394	\$1,436	\$1,464	\$1,485	\$1,503	\$1,505	\$1,508	\$1,511	\$1,513	\$1,516	\$1,519	\$1,522
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	New Constr	New Construction	\$4,178	\$7,526	\$11,957	\$17,472	\$24,315	\$32,368	\$41,756	\$51,882	\$62,267	\$72,552	\$82,373	\$91,250	\$98,817	\$105,191	\$110,248	\$114,227	\$117,245	\$119,543	\$121,361
75	Space Cooling	Building Operator Certification	New Constr	New Construction	\$302	\$544	\$866	\$1,268	\$1,767	\$2,357	\$3,045	\$3,790	\$4,557	\$5,319	\$6,050	\$6,713	\$7,283	\$7,767	\$8,155	\$8,465	\$8,704	\$8,891	\$9,043
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	New Constr	New Construction	\$49,493	\$60,407	\$71,503	\$82,346	\$92,456	\$101,438	\$109,212	\$115,558	\$120,694	\$124,663	\$127,726	\$130,100	\$130,975	\$131,684	\$131,803	\$131,922	\$132,043	\$132,165	\$132,288
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	New Constr	New Construction	\$247	\$324	\$411	\$504	\$597	\$688	\$774	\$850	\$914	\$967	\$1,009	\$1,041	\$1,066	\$1,085	\$1,096	\$1,096	\$1,097	\$1,098	\$1,099
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	New Constr	New Construction	\$17,908	\$18,787	\$19,531	\$20,127	\$20,601	\$20,966	\$21,250	\$21,480	\$21,516	\$21,553	\$21,590	\$21,628	\$21,666	\$21,704	\$21,743	\$21,782	\$21,822	\$21,861	\$21,902
98	Space Cooling	EMS Pump Scheduling Controls	New Constr	New Construction	\$448	\$807	\$1,283	\$1,875	\$2,610	\$3,476	\$4,485	\$5,575	\$6,692	\$7,800	\$8,858	\$9,816	\$10,633	\$11,322	\$11,870	\$12,302	\$12,631	\$12,882	\$13,082
67	Space Cooling	VFD for Chiller - Cooling	New Constr	New Construction	\$23,580	\$27,071	\$30,331	\$33,305	\$35,878	\$38,015	\$39,761	\$41,128	\$42,203	\$42,814	\$43,281	\$43,653	\$43,888	\$43,723	\$43,759	\$43,795	\$43,831	\$43,868	\$43,905
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	New Constr	New Construction	\$5,650	\$5,828	\$5,979	\$6,100	\$6,198	\$6,274	\$6,334	\$6,383	\$6,394	\$6,405	\$6,416	\$6,427	\$6,438	\$6,449	\$6,461	\$6,473	\$6,484	\$6,496	\$6,508
63	Space Cooling	CRAC Unit Upgrade - Cooling	New Constr	New Construction	\$70	\$126	\$200	\$292	\$407	\$542	\$700	\$870	\$1,045	\$1,218	\$1,385	\$1,535	\$1,664	\$1,772	\$1,859	\$1,928	\$1,980	\$2,021	\$2,053
89	Space Cooling	Packaged DX 65 -135kbtu	New Constr	New Construction	\$5,173	\$5,538	\$5,853	\$6,115	\$6,329	\$6,505	\$6,592	\$6,664	\$6,720	\$6,766	\$6,804	\$6,816	\$6,828	\$6,840	\$6,852	\$6,864	\$6,877	\$6,889	\$6,902
95	Space Cooling	Small Commercial Programmable Thermostats	New Constr	New Construction	\$58,529	\$60,335	\$61,872	\$63,164	\$64,187	\$64,988	\$65,593	\$66,051	\$66,411	\$66,427	\$66,442	\$66,458	\$66,474	\$66,491	\$66,507	\$66,524	\$66,540	\$66,557	\$66,574
74	Space Cooling	Wall Insulation - Building Shell	New Constr	New Construction	\$11,570	\$11,583	\$11,597	\$11,611	\$11,625	\$11,639	\$11,653	\$11,668	\$11,682	\$11,697	\$11,712	\$11,727	\$11,742	\$11,758	\$11,773	\$11,789	\$11,805	\$11,821	\$11,837
90	Space Cooling	Packaged DX >760kbtu	New Constr	New Construction	\$3,091	\$3,160	\$3,220	\$3,272	\$3,314	\$3,348	\$3,375	\$3,396	\$3,415	\$3,421	\$3,427	\$3,433	\$3,439	\$3,445	\$3,451	\$3,457	\$3,463	\$3,470	\$3,476
101	Space Cooling	Window Improvements	New Constr	New Construction	\$84,681	\$84,766	\$84,852	\$84,939	\$85,027	\$85,116	\$85,205	\$85,296	\$85,387	\$85,479	\$85,573	\$85,667	\$85,762	\$85,858	\$85,955	\$86,053	\$86,152	\$86,252	\$86,353
91	Space Cooling	Packaged DX <65kbtu	New Constr	New Construction	\$4,281	\$4,378	\$4,461	\$4,532	\$4,590	\$4,637	\$4,675	\$4,705	\$4,730	\$4,738	\$4,746	\$4,755	\$4,763	\$4,772	\$4,780	\$4,789	\$4,798	\$4,806	\$4,815
88	Space Cooling	Packaged DX 240 - 760kbtu	New Constr	New Construction	\$2,998	\$3,065	\$3,123	\$3,173	\$3,214	\$3,247	\$3,273	\$3,294	\$3,312	\$3,318	\$3,323	\$3,329	\$3,335	\$3,341	\$3,347	\$3,353	\$3,359	\$3,365	\$3,372
86	Space Cooling	Air Source Heat Pump	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
96	Space Cooling	Ceiling Insulation	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
93	Space Cooling	PTHP	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
73	Space Cooling	VRV-Variable Refrigerant Volume System	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
92	Space Cooling	PTAC	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
87	Space Cooling	Improved Duct Sealing - Cooling AC	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
97	Space Cooling	Cool Roof	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
112	Space Heating	Commercial EMS	New Constr	New Construction	\$776	\$902	\$1,022	\$1,131	\$1,229	\$1,312	\$1,383	\$1,441	\$1,489	\$1,529	\$1,553	\$1,575	\$1,599	\$1,604	\$1,619	\$1,633	\$1,648	\$1,664	\$1,679
121	Space Heating	Roof Insulation	New Constr	New Construction	\$1,412	\$1,431	\$1,448	\$1,463	\$1,472	\$1,482	\$1,491	\$1,501	\$1,510	\$1,520	\$1,530	\$1,540	\$1,550	\$1,560	\$1,571	\$1,581	\$1,592	\$1,602	\$1,613
120	Space Heating	Energy Efficient Windows	New Constr	New Construction	\$1,769	\$1,791	\$1,810	\$1,828	\$1,838	\$1,849	\$1,860	\$1,871	\$1,882	\$1,893	\$1,905	\$1,916	\$1,928	\$1,939	\$1,951	\$1,963	\$1,975	\$1,987	\$1,999
115	Space Heating	Zoning	New Constr	New Construction	\$3,446	\$3,690	\$3,896	\$4,066	\$4,204	\$4,319	\$4,382	\$4,437	\$4,486	\$4,514	\$4,542	\$4,571	\$4,600	\$4,629	\$4,659	\$4,688	\$4,719	\$4,749	\$4,780
114	Space Heating	EMS Optimization / Continuous Commissioning	New Constr	New Construction	\$10	\$12	\$13	\$14	\$15	\$16	\$16	\$17	\$17	\$17	\$17	\$17	\$18	\$18	\$18	\$18	\$18	\$18	\$18
111	Space Heating	Building Operator Certification	New Constr	New Construction	\$151	\$210	\$280	\$363	\$452	\$543	\$635	\$723	\$803	\$872	\$930	\$977	\$1,015	\$1,045	\$1,068	\$1,088	\$1,092	\$1,096	\$1,100
119	Space Heating	EMS Pump Scheduling Controls	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
107	Space Heating	ASHP >240kbtu	New Constr	New Construction	\$736	\$743	\$749	\$754	\$756	\$758	\$760	\$762	\$764	\$767	\$769	\$771	\$773	\$776	\$778	\$780	\$783	\$785	\$787
105	Space Heating	ASHP 65 - 135kbtu	New Constr	New Construction	\$526	\$530	\$533	\$534	\$535	\$537	\$538	\$540	\$541	\$542	\$544	\$545	\$547	\$548	\$550	\$551	\$552	\$554	\$556
106	Space Heating	ASHP 135 - 240kbtu	New Constr	New Construction	\$560	\$564	\$568	\$570	\$572	\$574	\$576	\$577	\$579	\$581	\$583	\$585	\$587	\$589	\$591	\$593	\$595	\$597	\$599
108	Space Heating	ASHP <65kbtu	New Constr	New Construction	\$544	\$547	\$550	\$551	\$552	\$553	\$554	\$555	\$556	\$557	\$558	\$559	\$560	\$561	\$562	\$563	\$564	\$565	\$566
109	Space Heating	Learning Thermostat	New Constr	New Construction	\$6,729	\$6,840	\$6,929	\$7,000	\$7,056	\$7,103	\$7,115	\$7,128	\$7,141	\$7,154	\$7,167	\$7,180	\$7,193	\$7,207	\$7,221	\$7,234	\$7,248	\$7,262	\$7,276
122	Space Heating	Window Improvements	New Constr	New Construction	\$8,741	\$8,755	\$8,770	\$8,785	\$8,800	\$8,815	\$8,831	\$8,846	\$8,862	\$8,878	\$8,894	\$8,910	\$8,926	\$8,943	\$8,960	\$8,977	\$8,994	\$9,011	\$9,028
102	Space Heating	General HVAC Equipment Upgrades - Heating	New Constr	New Construction	\$4,247	\$4,444	\$4,607	\$4,740	\$4,814	\$4,875	\$4,926	\$4,971	\$4,992	\$5,013	\$5,035	\$5,056	\$5,078	\$5,101	\$5,123	\$5,146	\$5,169	\$5,192	\$5,215
110	Space Heating	Wall Insulation - Building Shell	New Constr	New Construction	\$1,040	\$1,043	\$1,045	\$1,048	\$1,051	\$1,054	\$1,056	\$1,059	\$1,062	\$1,065	\$1,068	\$1,071	\$1,074	\$1,076	\$1,079	\$1,082	\$1,086	\$1,089	\$1,092
104	Space Heating	GSHP <135kbtu; ≥19EER	New Constr	New Construction	\$109	\$121	\$132	\$140	\$147	\$153	\$157	\$161	\$163	\$164	\$165	\$165	\$165	\$166	\$166	\$166	\$167	\$167	\$167
117	Space Heating	Ceiling Insulation	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
103	Space Heating	GSHP <135kbtu; ≥17EER	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
118	Space Heating	Cool Roof	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
132	Ventilation	Demand Control Ventilation - Cooling	New Constr	New Construction	\$28,864	\$29,610	\$30,196	\$30,439	\$30,642	\$30,703	\$30,765	\$30,827	\$30,890	\$30,954	\$31,019	\$31,084	\$31,149	\$31,216	\$31,283	\$31,350	\$31,419	\$31,488	\$31,557
125	Ventilation	Demand Control Ventilation - HVAC (Ventilation)	New Constr	New Construction	\$22,991	\$23,595	\$24,073	\$24,277	\$24,450	\$24,510	\$24,571	\$24,633	\$24,695	\$24,758	\$24,822	\$24,886	\$24,951	\$25,016	\$25,083	\$25,149	\$25,217	\$25,285	\$25,354
129	Ventilation	Packaged / Rooftop Unit Upgrade - HVAC (Ventilation)	New Constr	New Construction	\$50	\$50	\$50	\$51	\$51	\$51	\$51	\$51	\$51	\$51	\$51	\$52	\$52	\$52	\$52	\$52	\$52	\$53	\$53
127	Ventilation	General HVAC Equipment Upgrades - HVAC (Ventilation)	New Constr	New Construction	\$132	\$132	\$132	\$132	\$132	\$132	\$132	\$132	\$132	\$133	\$133	\$133	\$133	\$133	\$133	\$134	\$134	\$134	\$134
126	Ventilation	ECM Motor for HVAC - HVAC (Ventilation)	New Constr	New Construction	\$55,924	\$63,591	\$70,551	\$76,518	\$81,579	\$85,634	\$88,863	\$91,355	\$93,293	\$94,863	\$95,110	\$95,360	\$95,612	\$95,867	\$96,125	\$96,385	\$96,647	\$96,912	\$97,180
130	Ventilation	VFD for Fan - HVAC (Ventilation)	New Constr	New Construction	\$165,504	\$167,261	\$168,690	\$169,901	\$170,324	\$170,753	\$171,185	\$171,622	\$172,063	\$172,508	\$172,958	\$173,412	\$173,871	\$174,335	\$174,803	\$175,276	\$175,753	\$176,236	\$176,723
123	Ventilation	Advanced RTU Compressor Controller - HVAC (Ventilation)	New Constr	New Construction	\$34,132	\$34,998	\$35,678	\$35,946	\$36,170	\$36,237	\$36,304	\$36,373	\$36,442	\$36,512	\$36,582	\$36,653	\$36,725	\$36,798	\$36,871	\$36,945	\$37,020	\$37,096	\$37,172
131	Ventilation	Water Loop Heat Pump - HVAC (Ventilation)	New Constr	New Construction	\$46	\$46	\$46	\$46	\$46	\$47	\$47	\$47	\$47	\$47	\$47	\$47	\$48	\$48	\$48	\$48	\$48	\$48	
128	Ventilation	HVAC Controls (BMS, EMS...) - HVAC (Ventilation)	New Constr	New Construction	\$11,022	\$11,392	\$11,680	\$11,907	\$11,995	\$12,069	\$12,091	\$12,114	\$12,136	\$12,159	\$12,182	\$12,205	\$12,228	\$12,252	\$12,276	\$12,300	\$12,324	\$12,349	\$12,374
124	Ventilation	Air Cooled Chiller Upgrade - HVAC (Ventilation)	New Constr	New Construction	\$135	\$136	\$136	\$136	\$137	\$137	\$137	\$138	\$138	\$138	\$139	\$139	\$139	\$140	\$140	\$141	\$141	\$141	\$142
140	Ventilation	Demand Controlled Ventilation (Electric Heat)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
141	Ventilation	Demand Controlled Ventilation (Heat Pump)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
199	Motors	VFD on Chilled Water Pump 1-75HP	New																				

Ameren MO		Program RAP Measure Costs		Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Construction Type	Incentives and Admin																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
187	Cooking	Convection Oven (Full Size)	New Constr	New Construction	\$1,369	\$1,383	\$1,397	\$1,411	\$1,425	\$1,439	\$1,453	\$1,468	\$1,483	\$1,498	\$1,512	\$1,528	\$1,543	\$1,558	\$1,574	\$1,590	\$1,606	\$1,622	\$1,638
179	Cooking	6 Pan ENERGY STAR Steam Cooker	New Constr	New Construction	\$181	\$241	\$312	\$389	\$468	\$546	\$621	\$690	\$749	\$799	\$840	\$872	\$898	\$918	\$934	\$937	\$941	\$944	\$947
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	New Constr	New Construction	\$3,379	\$3,413	\$3,447	\$3,481	\$3,516	\$3,551	\$3,587	\$3,623	\$3,659	\$3,696	\$3,733	\$3,770	\$3,808	\$3,846	\$3,884	\$3,923	\$3,962	\$4,002	\$4,042
178	Cooking	5 Pan ENERGY STAR Steam Cooker	New Constr	New Construction	\$184	\$245	\$317	\$395	\$475	\$555	\$631	\$701	\$761	\$812	\$853	\$886	\$912	\$932	\$949	\$952	\$956	\$959	\$962
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	New Constr	New Construction	\$14,433	\$14,978	\$15,410	\$15,760	\$15,914	\$16,043	\$16,156	\$16,210	\$16,265	\$16,321	\$16,377	\$16,434	\$16,491	\$16,549	\$16,607	\$16,666	\$16,726	\$16,786	\$16,847
177	Cooking	4 Pan ENERGY STAR Steam Cooker	New Constr	New Construction	\$171	\$229	\$296	\$368	\$443	\$517	\$589	\$654	\$710	\$758	\$796	\$827	\$851	\$870	\$885	\$888	\$891	\$895	\$898
190	Cooking	Kitchen Demand Ventilation Controls	New Constr	New Construction	\$4,632	\$5,976	\$7,425	\$8,911	\$10,383	\$11,788	\$13,059	\$14,142	\$15,054	\$15,778	\$16,348	\$16,780	\$17,109	\$17,370	\$17,387	\$17,405	\$17,423	\$17,441	\$17,460
176	Cooking	3 Pan ENERGY STAR Steam Cooker	New Constr	New Construction	\$176	\$235	\$303	\$378	\$455	\$531	\$604	\$671	\$728	\$777	\$817	\$848	\$873	\$892	\$908	\$911	\$915	\$918	\$921
181	Cooking	ENERGY STAR Hot Holding Cabinet (13 ≤ V <28)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
186	Cooking	Large Vat Open Deep-Fat Fryer	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
183	Cooking	Combination Oven (Pan Capacity < 15)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
188	Cooking	Convection Oven (Half Size)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
189	Cooking	Griddle	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
180	Cooking	ENERGY STAR Hot Holding Cabinet (0 < V <13)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
191	Cooking	Induction Cooktop	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
268	Refrigeration	Strip Curtains - Walk-In Freezer	New Constr	New Construction	\$277	\$653	\$1,186	\$1,900	\$2,799	\$3,928	\$5,272	\$6,856	\$8,589	\$10,392	\$12,208	\$13,974	\$15,607	\$17,040	\$18,287	\$19,324	\$20,185	\$20,888	\$21,472
234	Refrigeration	Efficient Refrigeration Condenser	New Constr	New Construction	\$688	\$830	\$975	\$1,114	\$1,243	\$1,361	\$1,463	\$1,549	\$1,619	\$1,676	\$1,722	\$1,748	\$1,770	\$1,788	\$1,795	\$1,803	\$1,810	\$1,818	\$1,825
240	Refrigeration	Efficient Refrigeration Condenser	New Constr	New Construction	\$1,016	\$1,208	\$1,399	\$1,579	\$1,741	\$1,886	\$2,008	\$2,108	\$2,190	\$2,256	\$2,309	\$2,334	\$2,355	\$2,373	\$2,383	\$2,393	\$2,403	\$2,413	\$2,423
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	New Constr	New Construction	\$30,528	\$31,228	\$31,836	\$32,340	\$32,760	\$33,103	\$33,391	\$33,641	\$33,753	\$33,867	\$33,982	\$34,098	\$34,215	\$34,334	\$34,453	\$34,574	\$34,696	\$34,819	\$34,944
231	Refrigeration	Head Pressure Controls - Refrigeration	New Constr	New Construction	\$10,561	\$11,054	\$11,504	\$11,894	\$12,230	\$12,505	\$12,730	\$12,911	\$13,058	\$13,183	\$13,227	\$13,271	\$13,316	\$13,362	\$13,408	\$13,454	\$13,501	\$13,549	\$13,596
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	New Constr	New Construction	\$6,254	\$8,378	\$10,789	\$13,459	\$16,253	\$19,054	\$21,752	\$24,246	\$26,468	\$28,340	\$29,907	\$31,156	\$32,153	\$32,941	\$33,427	\$33,834	\$33,955	\$34,077	\$34,201
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	New Constr	New Construction	\$14,592	\$14,927	\$15,217	\$15,458	\$15,659	\$15,823	\$15,960	\$16,080	\$16,188	\$16,283	\$16,243	\$16,298	\$16,354	\$16,411	\$16,468	\$16,526	\$16,584	\$16,643	\$16,703
266	Refrigeration	Refrigeration Savings due to Lighting Savings	New Constr	New Construction	\$8	\$20	\$36	\$57	\$83	\$117	\$156	\$202	\$251	\$303	\$354	\$404	\$449	\$488	\$521	\$548	\$570	\$588	\$601
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	New Constr	New Construction	\$310	\$726	\$1,312	\$2,091	\$3,064	\$4,277	\$5,710	\$7,387	\$9,206	\$11,081	\$12,950	\$14,747	\$16,385	\$17,797	\$19,002	\$19,977	\$20,761	\$21,375	\$21,862
260	Refrigeration	Anti-Sweat Heater Controls Freezer	New Constr	New Construction	\$506	\$1,184	\$2,137	\$3,401	\$4,981	\$6,945	\$9,265	\$11,977	\$14,913	\$17,937	\$20,944	\$23,830	\$26,455	\$28,711	\$30,630	\$32,173	\$33,408	\$34,367	\$35,119
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	New Constr	New Construction	\$280	\$654	\$1,181	\$1,880	\$2,753	\$3,838	\$5,120	\$6,618	\$8,239	\$9,909	\$11,569	\$13,162	\$14,611	\$15,856	\$16,914	\$17,765	\$18,445	\$18,973	\$19,387
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	New Constr	New Construction	\$13,873	\$14,137	\$14,356	\$14,539	\$14,689	\$14,814	\$14,923	\$14,973	\$15,023	\$15,073	\$15,125	\$15,176	\$15,228	\$15,281	\$15,334	\$15,388	\$15,442	\$15,497	\$15,553
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	New Constr	New Construction	\$13,849	\$14,112	\$14,331	\$14,513	\$14,663	\$14,788	\$14,897	\$14,946	\$14,996	\$15,047	\$15,098	\$15,149	\$15,202	\$15,254	\$15,307	\$15,361	\$15,415	\$15,470	\$15,525
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	New Constr	New Construction	\$15,152	\$15,440	\$15,680	\$15,879	\$16,043	\$16,179	\$16,299	\$16,353	\$16,408	\$16,463	\$16,519	\$16,575	\$16,632	\$16,690	\$16,748	\$16,807	\$16,866	\$16,926	\$16,986
233	Refrigeration	Discus Compressors	New Constr	New Construction	\$4,109	\$4,268	\$4,405	\$4,517	\$4,609	\$4,683	\$4,744	\$4,795	\$4,814	\$4,832	\$4,851	\$4,870	\$4,889	\$4,909	\$4,928	\$4,948	\$4,968	\$4,988	\$5,008
269	Refrigeration	Zero-Energy Doors	New Constr	New Construction	\$5,796	\$7,467	\$9,289	\$11,236	\$13,218	\$15,141	\$16,931	\$18,566	\$19,985	\$21,174	\$22,156	\$22,941	\$23,576	\$23,946	\$24,247	\$24,503	\$24,593	\$24,684	\$24,775
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	New Constr	New Construction	\$15,242	\$15,532	\$15,773	\$15,974	\$16,138	\$16,276	\$16,396	\$16,450	\$16,505	\$16,561	\$16,617	\$16,674	\$16,731	\$16,789	\$16,848	\$16,907	\$16,966	\$17,027	\$17,088
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	New Constr	New Construction	\$12,639	\$12,879	\$13,079	\$13,245	\$13,381	\$13,495	\$13,595	\$13,640	\$13,686	\$13,732	\$13,778	\$13,826	\$13,873	\$13,921	\$13,970	\$14,019	\$14,068	\$14,118	\$14,168
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	New Constr	New Construction	\$227	\$436	\$719	\$1,079	\$1,528	\$2,068	\$2,701	\$3,407	\$4,148	\$4,895	\$5,623	\$6,300	\$6,897	\$7,407	\$7,829	\$8,168	\$8,435	\$8,645	\$8,814
267	Refrigeration	Strip Curtains - Walk-In Cooler	New Constr	New Construction	\$1,602	\$2,856	\$3,752	\$5,246	\$7,015	\$9,092	\$11,349	\$13,684	\$16,019	\$18,273	\$20,338	\$22,128	\$23,667	\$24,923	\$25,946	\$26,759	\$27,414	\$27,965	\$28,129
232	Refrigeration	Refrigeration Insulation - Refrigeration	New Constr	New Construction	\$1,513	\$3,539	\$6,386	\$10,163	\$14,876	\$20,739	\$27,657	\$35,741	\$44,488	\$53,489	\$62,436	\$71,017	\$78,814	\$85,507	\$91,191	\$95,754	\$99,396	\$102,216	\$104,417
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	New Constr	New Construction	\$14,191	\$14,461	\$14,685	\$14,872	\$15,025	\$15,153	\$15,264	\$15,315	\$15,366	\$15,418	\$15,471	\$15,523	\$15,577	\$15,631	\$15,685	\$15,740	\$15,796	\$15,852	\$15,908
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	New Constr	New Construction	\$13,576	\$13,835	\$14,050	\$14,229	\$14,375	\$14,498	\$14,605	\$14,654	\$14,703	\$14,753	\$14,804	\$14,855	\$14,906	\$14,958	\$15,010	\$15,063	\$15,117	\$15,171	\$15,225
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	New Constr	New Construction	\$7,990	\$8,142	\$8,268	\$8,373	\$8,459	\$8,531	\$8,594	\$8,623	\$8,652	\$8,681	\$8,710	\$8,740	\$8,770	\$8,800	\$8,831	\$8,862	\$8,893	\$8,925	\$8,957
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	New Constr	New Construction	\$22,498	\$22,926	\$23,282	\$23,578	\$23,821	\$24,024	\$24,201	\$24,281	\$24,362	\$24,445	\$24,527	\$24,611	\$24,696	\$24,781	\$24,868	\$24,955	\$25,043	\$25,132	\$25,222
265	Refrigeration	Refrigerant charging correction	New Constr	New Construction	\$1,498	\$3,507	\$6,334	\$10,088	\$14,779	\$20,620	\$27,521	\$35,597	\$44,345	\$53,362	\$62,341	\$70,971	\$78,830	\$85,598	\$91,367	\$96,022	\$99,761	\$102,680	\$104,984
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	New Constr	New Construction	\$420	\$983	\$1,773	\$2,822	\$4,130	\$5,758	\$7,678	\$9,922	\$12,349	\$14,847	\$17,329	\$19,710	\$21,873	\$23,728	\$25,304	\$26,569	\$27,578	\$28,358	\$28,967
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	New Constr	New Construction	\$34,921	\$35,293	\$35,589	\$35,828	\$36,028	\$36,093	\$36,157	\$36,223	\$36,289	\$36,356	\$36,423	\$36,491	\$36,560	\$36,629	\$36,700	\$36,771	\$36,842	\$36,914	\$36,987
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
264	Refrigeration	Reach-in Refrigerated display case door retrofit	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
239	Refrigeration	Evaporator Coil Defrost Control</																					

Ameren MO		Program RAP Measure Costs		Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
211	Office & Computing	Energy Star POS Terminal	New Constr	New Construction	\$65	\$153	\$277	\$445	\$656	\$921	\$1,237	\$1,611	\$2,019	\$2,446	\$2,875	\$3,294	\$3,682	\$4,024	\$4,322	\$4,570	\$4,778	\$4,949	\$5,091
207	Office & Computing	Electrically Commutated Plug Fans in data centers	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
214	Office & Computing	Computer Power Management Software	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
210	Office & Computing	Energy Star Computers	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
215	Office & Computing	Vending Miser for Non-Refrig Equip	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
213	Office & Computing	High Efficiency Hand Dryer	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
205	Office & Computing	Computer Room Hot Aisle Cold Aisle Configuration	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
209	Office & Computing	Energy Star Compliant Refrigerator	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
202	Office & Computing	Commercial Plug Load - Smart Strip Outlets	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
212	Office & Computing	Energy Star UPS	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	New Constr	New Construction	\$240	\$256	\$271	\$282	\$292	\$302	\$310	\$317	\$323	\$329	\$334	\$337	\$340	\$344	\$347	\$351	\$354	\$358	\$361
223	Other	Clothes Dryer Ventless Electric, Compact (240V (<4.4 ft3))	New Constr	New Construction	\$239	\$250	\$261	\$271	\$279	\$287	\$293	\$299	\$304	\$309	\$312	\$315	\$318	\$322	\$325	\$328	\$331	\$335	\$338
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	New Constr	New Construction	\$266	\$295	\$322	\$346	\$367	\$386	\$402	\$412	\$422	\$430	\$438	\$444	\$449	\$453	\$458	\$462	\$467	\$472	\$476
222	Other	Clothes Dryer Vented Electric, Compact (240V (<4.4 ft3))	New Constr	New Construction	\$243	\$255	\$265	\$275	\$284	\$292	\$298	\$304	\$310	\$314	\$317	\$321	\$324	\$327	\$330	\$334	\$337	\$340	\$344
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	New Constr	New Construction	\$266	\$295	\$322	\$346	\$367	\$386	\$402	\$412	\$422	\$430	\$438	\$444	\$449	\$453	\$458	\$462	\$467	\$472	\$476
221	Other	Clothes Dryer Vented Electric, Compact (120V (< 4.4 ft3))	New Constr	New Construction	\$242	\$254	\$264	\$274	\$283	\$291	\$297	\$303	\$308	\$313	\$316	\$319	\$323	\$326	\$329	\$332	\$336	\$339	\$342
225	Other	High Efficiency Transformer, single-phase	New Constr	New Construction	\$11	\$16	\$23	\$31	\$41	\$52	\$64	\$76	\$88	\$99	\$109	\$118	\$125	\$132	\$137	\$141	\$145	\$147	\$148
226	Other	High Efficiency Transformer, three-phase	New Constr	New Construction	\$11	\$16	\$23	\$31	\$41	\$52	\$64	\$76	\$88	\$99	\$109	\$118	\$126	\$132	\$137	\$142	\$145	\$148	\$149
228	Other	NEMA Premium Transformer, three-phase	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
227	Other	NEMA Premium Transformer, single-phase	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
224	Other	Clothes Dryer Vented Gas	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	New Constr	New Construction	\$154	\$155	\$157	\$158	\$160	\$162	\$163	\$165	\$167	\$168	\$170	\$172	\$173	\$175	\$177	\$179	\$180	\$182	\$184
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	New Constr	New Construction	\$639	\$806	\$982	\$1,160	\$1,334	\$1,496	\$1,639	\$1,762	\$1,864	\$1,947	\$2,013	\$2,065	\$2,108	\$2,129	\$2,139	\$2,150	\$2,160	\$2,171	\$2,182
282	Water Heating	Pre-Rinse Spray Valve	New Constr	New Construction	\$315	\$423	\$551	\$691	\$837	\$984	\$1,128	\$1,260	\$1,377	\$1,479	\$1,564	\$1,636	\$1,694	\$1,743	\$1,785	\$1,803	\$1,821	\$1,839	\$1,858
290	Water Heating	Low Flow Showerhead	New Constr	New Construction	\$190	\$255	\$332	\$416	\$504	\$593	\$679	\$759	\$830	\$891	\$943	\$985	\$1,021	\$1,050	\$1,075	\$1,086	\$1,097	\$1,108	\$1,119
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	New Constr	New Construction	\$697	\$880	\$1,071	\$1,265	\$1,454	\$1,630	\$1,785	\$1,918	\$2,029	\$2,118	\$2,189	\$2,245	\$2,290	\$2,313	\$2,323	\$2,333	\$2,344	\$2,354	\$2,365
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	New Constr	New Construction	\$149	\$151	\$152	\$154	\$155	\$157	\$158	\$160	\$162	\$163	\$165	\$166	\$168	\$170	\$171	\$173	\$175	\$177	\$178
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	New Constr	New Construction	\$873	\$1,100	\$1,339	\$1,579	\$1,813	\$2,031	\$2,223	\$2,387	\$2,522	\$2,631	\$2,716	\$2,783	\$2,838	\$2,863	\$2,873	\$2,883	\$2,894	\$2,905	\$2,915
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	New Constr	New Construction	\$129	\$131	\$132	\$133	\$135	\$136	\$137	\$139	\$140	\$142	\$143	\$144	\$146	\$147	\$149	\$150	\$152	\$153	\$155
289	Water Heating	Hot Water (DHW) Pipe Insulation	New Constr	New Construction	\$7	\$7	\$8	\$8	\$8	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$9	\$10	\$10	\$10	\$10	\$10	\$10
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	New Constr	New Construction	\$45	\$61	\$78	\$97	\$117	\$137	\$156	\$173	\$187	\$200	\$210	\$218	\$224	\$229	\$233	\$234	\$234	\$235	\$236
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	New Constr	New Construction	\$878	\$1,107	\$1,347	\$1,589	\$1,825	\$2,044	\$2,237	\$2,402	\$2,538	\$2,647	\$2,733	\$2,801	\$2,855	\$2,880	\$2,891	\$2,901	\$2,912	\$2,922	\$2,933
281	Water Heating	Low Flow Faucet Aerator	New Constr	New Construction	\$196	\$264	\$344	\$431	\$522	\$613	\$703	\$785	\$858	\$922	\$975	\$1,019	\$1,056	\$1,086	\$1,112	\$1,123	\$1,135	\$1,146	\$1,157
291	Water Heating	Water Heater Timer	New Constr	New Construction	\$211	\$246	\$280	\$310	\$338	\$361	\$381	\$398	\$412	\$423	\$430	\$437	\$441	\$446	\$450	\$455	\$459	\$464	\$468
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	New Constr	New Construction	\$827	\$1,044	\$1,271	\$1,501	\$1,725	\$1,933	\$2,116	\$2,273	\$2,403	\$2,507	\$2,589	\$2,654	\$2,706	\$2,731	\$2,740	\$2,750	\$2,760	\$2,770	\$2,780
284	Water Heating	Efficient Hot Water Pump	New Constr	New Construction	\$264	\$266	\$269	\$272	\$274	\$277	\$280	\$283	\$285	\$288	\$291	\$294	\$297	\$300	\$303	\$306	\$309	\$312	\$315
285	Water Heating	On Demand (tankless)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
283	Water Heating	Circulator Pump	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	New Constr	New Construction	\$42	\$56	\$72	\$90	\$108	\$127	\$144	\$160	\$174	\$185	\$195	\$202	\$208	\$213	\$216	\$217	\$218	\$219	\$219
146	Compressed Air	Air Compressor Outdoor Air Intake	New Constr	New Construction	\$201	\$209	\$215	\$219	\$222	\$225	\$227	\$228	\$229	\$230	\$231	\$232	\$233	\$234	\$235	\$236	\$237	\$239	\$240
149	Compressed Air	Compressed Air Replacement with Air Blowers	New Constr	New Construction	\$1,140	\$1,520	\$1,966	\$2,448	\$2,944	\$3,438	\$3,912	\$4,343	\$4,714	\$5,029	\$5,283	\$5,486	\$5,644	\$5,767	\$5,869	\$5,888	\$5,908	\$5,928	\$5,948
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	New Constr	New Construction	\$78	\$83	\$87	\$90	\$92	\$95	\$96	\$97	\$97	\$97	\$98	\$98	\$99	\$99	\$100	\$100	\$100	\$101	\$101
168	Compressed Air	Compressed Air Nozzle (Reciprocating - On/off Control)	New Constr	New Construction	\$78	\$83	\$87	\$90	\$92	\$95	\$96	\$97	\$97	\$97	\$98	\$98	\$99	\$99	\$100	\$100	\$100	\$101	\$101
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	New Constr	New Construction	\$289	\$386	\$499	\$622	\$748	\$873	\$993	\$1,103	\$1,197	\$1,277	\$1,341	\$1,393	\$1,433	\$1,465	\$1,490	\$1,495	\$1,500	\$1,505	\$1,511
150	Compressed Air	Compressed Air Storage Tank	New Constr	New Construction	\$42	\$56	\$72	\$89	\$108	\$126	\$143	\$159	\$172	\$184	\$193	\$201	\$206	\$211	\$215	\$215	\$216	\$217	\$218
173	Compressed Air	Compressed Air Nozzle (Screw - Variable Displacement)	New Constr	New Construction	\$87	\$92	\$97	\$100	\$103	\$105	\$107	\$108	\$108	\$108	\$109	\$109	\$110	\$110	\$111	\$111	\$112	\$112	\$112
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	New Constr	New Construction	\$87	\$92	\$97	\$100	\$103	\$105	\$107	\$108	\$108	\$108	\$109	\$109	\$110	\$110	\$111	\$111	\$112	\$112	\$112
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	New Constr	New Construction	\$91	\$96	\$101	\$105	\$108	\$110	\$111	\$112	\$113	\$113	\$114	\$114	\$115	\$115	\$116	\$116	\$117	\$117	\$117
145	Compressed Air	VFD for Air Compressor - Air Comp	New Constr	New Construction	\$302	\$403	\$521	\$648	\$780	\$911	\$1,036	\$1,150	\$1,248	\$1,331	\$1,398	\$1,452	\$1,493	\$1,526	\$1,553	\$1,558	\$1,563	\$1,568	\$1,573
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	New Constr	New Construction	\$1,355	\$1,405	\$1,446	\$1,469	\$1,487	\$1,502	\$1,515	\$1,519	\$1,524	\$1,528	\$1,533	\$1,538	\$1,543	\$1,548	\$1,553	\$1,558	\$1,563	\$1,568	\$1,573

Ameren MO		Program RAP Measure Costs		Incentives and Admin																			
Measure #	End-Use	Measure Name	Construction		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Program	Type																			
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	New Constr	New Construction	\$169	\$179	\$188	\$194	\$199	\$203	\$205	\$207	\$207	\$208	\$208	\$209	\$209	\$209	\$210	\$210	\$211	\$211	\$212
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	New Constr	New Construction	\$169	\$179	\$188	\$194	\$199	\$203	\$205	\$207	\$207	\$208	\$208	\$209	\$209	\$209	\$210	\$210	\$211	\$211	\$212
143	Compressed Air	Compressed Air Optimization - Air Comp	New Constr	New Construction	\$4,267	\$4,426	\$4,554	\$4,626	\$4,684	\$4,731	\$4,771	\$4,785	\$4,800	\$4,815	\$4,830	\$4,845	\$4,860	\$4,875	\$4,891	\$4,906	\$4,922	\$4,938	\$4,955
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	New Constr	New Construction	\$29	\$31	\$31	\$32	\$32	\$32	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33	\$33
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	New Constr	New Construction	\$30	\$31	\$32	\$33	\$33	\$33	\$34	\$34	\$34	\$34	\$34	\$34	\$34	\$34	\$34	\$34	\$34	\$34	\$34
155	Compressed Air	Receiver Capacity Addition	New Constr	New Construction	\$481	\$497	\$507	\$514	\$521	\$526	\$530	\$532	\$534	\$535	\$537	\$538	\$540	\$542	\$543	\$545	\$547	\$549	\$550
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	New Constr	New Construction	\$35	\$36	\$37	\$37	\$38	\$38	\$38	\$38	\$38	\$38	\$39	\$39	\$39	\$39	\$39	\$39	\$39	\$39	\$39
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	New Constr	New Construction	\$35	\$36	\$37	\$38	\$38	\$38	\$39	\$39	\$39	\$39	\$39	\$39	\$39	\$39	\$39	\$39	\$39	\$39	\$39
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	New Constr	New Construction	\$38	\$40	\$41	\$41	\$42	\$42	\$42	\$43	\$43	\$43	\$43	\$43	\$43	\$43	\$43	\$43	\$43	\$43	\$43
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	New Constr	New Construction	\$275	\$367	\$475	\$591	\$711	\$830	\$945	\$1,049	\$1,138	\$1,215	\$1,276	\$1,325	\$1,363	\$1,393	\$1,418	\$1,422	\$1,427	\$1,432	\$1,437
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	New Constr	New Construction	\$223	\$235	\$245	\$252	\$259	\$262	\$264	\$267	\$267	\$268	\$269	\$270	\$271	\$272	\$272	\$273	\$274	\$275	\$276
153	Compressed Air	High Efficiency Air Dryers	New Constr	New Construction	\$4,388	\$4,474	\$4,545	\$4,601	\$4,647	\$4,686	\$4,700	\$4,713	\$4,727	\$4,742	\$4,756	\$4,770	\$4,785	\$4,799	\$4,814	\$4,829	\$4,844	\$4,860	\$4,875
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
156	Compressed Air	Variable Displacement Air Compressor	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
152	Compressed Air	Cycling Dryers	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
175	Compressed Air	VSD Air Compressor ≤ 40 HP	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
154	Compressed Air	Low Pressure Drop-Filters	New Constr	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
503	Behavioral	In-Home Energy Use Displays	SEM	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
501	Behavioral	SEM	SEM	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
502	Behavioral	Whole-Building Energy Monitoring	SEM	New Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
277	Pools	Pool Heater Heat Pump (Uncovered)	New Constr	New Construction	\$8	\$19	\$34	\$54	\$80	\$112	\$150	\$194	\$243	\$294	\$345	\$394	\$439	\$479	\$513	\$541	\$564	\$583	\$599
279	Pools	Pool Pump w/ Variable Frequency Drive	New Constr	New Construction	\$1,170	\$1,206	\$1,238	\$1,266	\$1,289	\$1,307	\$1,323	\$1,335	\$1,346	\$1,350	\$1,354	\$1,358	\$1,362	\$1,367	\$1,371	\$1,375	\$1,380	\$1,384	\$1,389
278	Pools	Pool Heater Heat Pump (Covered)	New Constr	New Construction	\$18	\$42	\$75	\$120	\$176	\$245	\$328	\$424	\$528	\$635	\$742	\$844	\$938	\$1,018	\$1,086	\$1,142	\$1,186	\$1,221	\$1,248
280	Pools	Pool Pump Timer	New Constr	New Construction	\$19	\$45	\$81	\$129	\$189	\$264	\$352	\$455	\$567	\$682	\$796	\$906	\$1,005	\$1,091	\$1,164	\$1,223	\$1,269	\$1,306	\$1,334

Ameren MO		Program R&P Participants By Measure		Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
69	Space Cooling	VFD for Pump - Cooling	Custom	Existing	433	514	593	668	737	797	847	888	919	944	959	970	979	979	979	979	979	979	
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
94	Space Cooling	Air Cooled Chiller	Standard	Existing	377	398	413	425	435	443	448	453	456	456	456	456	456	456	456	456	456	456	
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	11	14	17	20	22	25	27	28	30	31	32	32	33	33	33	33	33	33	
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	45	48	50	52	53	54	54	54	55	55	55	55	55	55	55	55	55	55	
72	Space Cooling	VFD for Process Fans - CRAC units	Custom	Existing	272	324	375	423	467	506	539	565	586	602	612	619	625	625	625	625	625	625	
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	157	192	228	264	297	327	353	374	392	405	415	423	426	429	429	429	429	429	
62	Space Cooling	Chiller Control Optimization - Cooling	Custom	Existing	60	74	88	103	116	129	139	148	156	161	166	169	171	172	172	172	172	172	
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	Custom	Existing	243	278	309	338	362	382	399	411	421	426	430	433	433	433	433	433	433	433	
68	Space Cooling	VFD for Fan - Cooling	Custom	Existing	3,949	4,599	5,218	5,782	6,285	6,712	7,061	7,340	7,556	7,724	7,801	7,859	7,904	7,904	7,904	7,904	7,904	7,904	
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	Custom	Existing	124	130	135	139	142	144	146	147	148	148	148	148	148	148	148	148	148	148	
71	Space Cooling	Water Loop Heat Pump - Cooling	Custom	Existing	24	28	32	35	38	41	43	45	46	47	48	48	48	48	48	48	48	48	
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	RCx	Existing	162	291	463	675	939	1,249	1,610	1,998	2,396	2,789	3,164	3,501	3,788	4,029	4,218	4,366	4,477	4,561	
75	Space Cooling	Building Operator Certification	Custom	Existing	2	3	4	6	9	12	15	19	23	27	30	34	36	39	40	42	43	44	
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	Custom	Existing	12,647	15,477	18,362	21,188	23,832	26,190	28,233	29,901	31,249	32,286	33,080	33,686	33,917	34,097	34,097	34,097	34,097	34,097	
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	Custom	Existing	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1		
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	Custom	Existing	924	971	1,011	1,042	1,066	1,085	1,098	1,109	1,109	1,109	1,109	1,109	1,109	1,109	1,109	1,109	1,109	1,109	
98	Space Cooling	EMS Pump Scheduling Controls	Standard	Existing	10	18	29	43	60	79	102	127	152	177	201	222	240	255	267	277	284	289	
67	Space Cooling	VFD for Chiller - Cooling	Custom	Existing	464	535	602	663	716	760	796	824	846	859	868	876	876	876	876	876	876	876	
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	Custom	Existing	60	62	64	66	67	68	68	69	69	69	69	69	69	69	69	69	69	69	
63	Space Cooling	CRAC Unit Upgrade - Cooling	Custom	Existing	1	1	2	2	3	4	6	7	8	10	11	12	13	14	14	15	15	16	
89	Space Cooling	Packaged DX 65 -135kbtu	Standard	Existing	2,201	2,397	2,573	2,723	2,846	2,948	3,011	3,060	3,096	3,124	3,145	3,145	3,145	3,145	3,145	3,145	3,145	3,145	
95	Space Cooling	Small Commercial Programmable Thermostats	Standard	Existing	17,862,620	18,608,774	19,242,493	19,774,000	20,193,072	20,520,153	20,765,464	20,949,447	21,092,545	21,092,545	21,092,545	21,092,545	21,092,545	21,092,545	21,092,545	21,092,545	21,092,545	21,092,545	
74	Space Cooling	Wall Insulation - Building Shell	Custom	Existing	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	
90	Space Cooling	Packaged DX >760kbtu	Standard	Existing	1,852	1,926	1,988	2,041	2,082	2,115	2,139	2,157	2,171	2,171	2,171	2,171	2,171	2,171	2,171	2,171	2,171	2,171	
101	Space Cooling	Window Improvements	Standard	Existing	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	2,074	
91	Space Cooling	Packaged DX <65kbtu	Standard	Existing	2,617	2,721	2,810	2,884	2,942	2,988	3,022	3,048	3,068	3,068	3,068	3,068	3,068	3,068	3,068	3,068	3,068	3,068	
88	Space Cooling	Packaged DX 240 - 760kbtu	Standard	Existing	1,912	1,989	2,053	2,107	2,150	2,184	2,209	2,227	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	2,242	
86	Space Cooling	Air Source Heat Pump	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
96	Space Cooling	Ceiling Insulation	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
93	Space Cooling	PTHP	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
73	Space Cooling	VRV-Variable Refrigerant Volume System	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
92	Space Cooling	PTAC	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
87	Space Cooling	Improved Duct Sealing - Cooling AC	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
97	Space Cooling	Cool Roof	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
112	Space Heating	Commercial EMS	Custom	Existing	96	111	126	139	150	160	168	174	178	182	183	185	185	185	185	185	185	185	
121	Space Heating	Roof Insulation	Standard	Existing	2,116	2,138	2,155	2,168	2,168	2,168	2,168	2,168	2,168	2,168	2,168	2,168	2,168	2,168	2,168	2,168	2,168	2,168	
120	Space Heating	Energy Efficient Windows	Standard	Existing	53	53	53	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
115	Space Heating	Zoning	Custom	Existing	759	814	859	896	925	947	958	967	974	974	974	974	974	974	974	974	974	974	
114	Space Heating	EMS Optimization / Continuous Commissioning	Custom	Existing	2	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	
111	Space Heating	Building Operator Certification	Custom	Existing	1	1	2	2	2	3	3	4	4	5	5	5	5	6	6	6	6	6	
119	Space Heating	EMS Pump Scheduling Controls	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
107	Space Heating	ASHP >240kbtu	Standard	Existing	112	113	113	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	
105	Space Heating	ASHP 65 - 135kbtu	Standard	Existing	119	119	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	
106	Space Heating	ASHP 135 - 240kbtu	Standard	Existing	115	115	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	
108	Space Heating	ASHP <65kbtu	Standard	Existing	103	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	
109	Space Heating	Learning Thermostat	Standard	Existing	532	543	552	559	564	568	568	568	568	568	568	568	568	568	568	568	568	568	
122	Space Heating	Window Improvements	Standard	Existing	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	237	
102	Space Heating	General HVAC Equipment Upgrades - Heating	Custom	Existing	159	168	174	180	183	185	187	188	188	188	188	188	188	188	188	188	188	188	
110	Space Heating	Wall Insulation - Building Shell	Custom	Existing	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
104	Space Heating	GSHP <135kbtu; ≥19EER	Standard	Existing	26	29	31	33	35	36	37	38	38	38	38	38	38	38	38	38	38	38	
117	Space Heating	Ceiling Insulation	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
103	Space Heating	GSHP <135kbtu; ≥17EER	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
118	Space Heating	Cool Roof	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
134	Ventilation	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	1,751	1,794	1,827	1,840	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	
132	Ventilation	Demand Control Ventilation - Cooling	Custom	Existing	84	86	88	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	
136	Ventilation	HVAC-HVAC Optimization - Airside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	
133	Ventilation	HVAC-Demand Control Ventilation Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	65	67	68	6															

Ameren MO		Program R&P Participants By Measure			Incremental Annual Participants																		
Measure #	End-Use	Measure Name	Program	Construction																			
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
200	Motors	VFD on Hot Water Pump 1-75HP	Standard	Existing	410	410	410	410	410	410	410	410	410	410	410	410	410	410	410	410	410	410	
201	Motors	VFD on HVAC Fans 1-100HP	Standard	Existing	1,028	1,080	1,123	1,155	1,181	1,192	1,200	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207	1,207	
195	Motors	VFD for Process Motor - Motors	Custom	Existing	316	332	345	355	362	366	369	371	371	371	371	371	371	371	371	371	371	371	
193	Motors	Efficient Pump - Motors	Custom	Existing	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	
194	Motors	VFD for Chiller - Motors	Custom	Existing	767	807	838	863	882	890	897	901	901	901	901	901	901	901	901	901	901	901	
192	Motors	ECM Motor - Motors	Custom	Existing	2,075	2,130	2,157	2,178	2,194	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	2,206	
196	Motors	VFD for Pump - Motors	Custom	Existing	242	255	265	273	279	281	283	285	285	285	285	285	285	285	285	285	285	285	
185	Cooking	Standard Open Deep-Fat Fryer	Standard	Existing	182	184	186	187	188	188	188	188	188	188	188	188	188	188	188	188	188	188	
187	Cooking	Convection Oven (Full Size)	Standard	Existing	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	
179	Cooking	6 Pan ENERGY STAR Steam Cooker	Standard	Existing	1	2	2	3	3	4	4	4	5	5	6	6	6	6	6	6	6	6	
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	Standard	Existing	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	
178	Cooking	5 Pan ENERGY STAR Steam Cooker	Standard	Existing	1	2	2	3	3	4	5	5	6	6	6	7	7	7	7	7	7	7	
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	Standard	Existing	200	206	212	216	217	218	219	219	219	219	219	219	219	219	219	219	219	219	
177	Cooking	4 Pan ENERGY STAR Steam Cooker	Standard	Existing	1	2	2	3	4	4	5	5	6	6	7	7	7	7	7	7	7	7	
190	Cooking	Kitchen Demand Ventilation Controls	Standard	Existing	30	38	48	57	67	76	84	90	96	101	104	107	109	110	110	110	110	110	
176	Cooking	3 Pan ENERGY STAR Steam Cooker	Standard	Existing	2	2	3	4	4	5	6	6	7	8	8	8	8	9	9	9	9	9	
181	Cooking	ENERGY STAR Hot Holding Cabinet (13 ≤ V <28)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
186	Cooking	Large Vat Open Deep-Fat Fryer	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
183	Cooking	Combination Oven (Pan Capacity < 15)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
188	Cooking	Convection Oven (Half Size)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
189	Cooking	Griddle	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
180	Cooking	ENERGY STAR Hot Holding Cabinet (0 < V <13)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
191	Cooking	Induction Cooktop	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
268	Refrigeration	Strip Curtains - Walk-In Freezer	Standard	Existing	133	310	587	885	1,291	1,796	2,388	3,078	3,821	4,582	5,334	6,050	6,696	7,244	7,704	8,067	8,390	8,562	8,721
234	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	12	14	16	19	21	23	24	26	27	28	28	29	29	29	29	29	29	29	29
240	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	17	20	24	26	29	31	33	35	36	37	38	38	38	38	38	38	38	38	38
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	Standard	Existing	217	222	225	228	230	232	233	234	234	234	234	234	234	234	234	234	234	234	234
231	Refrigeration	Head Pressure Controls - Refrigeration	Custom	Existing	47	49	50	52	53	54	55	56	56	56	56	56	56	56	56	56	56	56	56
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	Custom	Existing	226	302	388	482	580	678	772	857	933	995	1,047	1,087	1,117	1,141	1,154	1,164	1,164	1,164	1,164
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	Standard	Existing	383	390	396	401	405	408	410	412	412	412	412	412	412	412	412	412	412	412	412
266	Refrigeration	Refrigeration Savings due to Lighting Savings	Standard	Existing	840	1,960	3,528	5,599	8,175	11,366	15,118	19,485	24,189	29,004	33,764	38,299	42,386	45,858	48,770	51,065	52,857	54,201	55,209
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	Custom	Existing	18	42	75	120	175	243	323	417	517	620	722	819	906	980	1,043	1,092	1,130	1,150	1,180
260	Refrigeration	Anti-Sweat Heater Controls Freezer	Standard	Existing	52	121	219	347	507	705	937	1,208	1,499	1,798	2,093	2,374	2,627	2,842	3,023	3,165	3,276	3,359	3,422
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	Standard	Existing	34	78	141	224	327	454	604	779	967	1,159	1,350	1,531	1,694	1,833	1,949	2,041	2,113	2,166	2,207
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	216	220	223	225	226	227	228	228	228	228	228	228	228	228	228	228	228	228	228
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	176	179	181	183	184	185	186	186	186	186	186	186	186	186	186	186	186	186	186
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	110	112	113	115	115	116	116	116	116	116	116	116	116	116	116	116	116	116	116
233	Refrigeration	Discus Compressors	Custom	Existing	457	473	487	497	505	512	516	520	520	520	520	520	520	520	520	520	520	520	520
269	Refrigeration	Zero-Energy Doors	Standard	Existing	298	383	475	573	672	767	855	934	1,002	1,058	1,103	1,138	1,166	1,180	1,190	1,199	1,199	1,199	1,199
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	Standard	Existing	179	182	184	186	187	188	189	189	189	189	189	189	189	189	189	189	189	189	189
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	Standard	Existing	362	368	373	376	379	381	382	382	382	382	382	382	382	382	382	382	382	382	382
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	Custom	Existing	0	1	1	1	1	2	2	3	3	4	4	5	5	6	6	6	6	6	6
267	Refrigeration	Strip Curtains - Walk-In Cooler	Standard	Existing	3,454	5,482	8,004	11,129	14,802	19,078	23,684	28,398	33,058	37,499	41,501	44,900	47,751	49,999	51,753	53,069	54,056	54,823	54,823
232	Refrigeration	Refrigeration Insulation - Refrigeration	Custom	Existing	150	350	630	1,000	1,460	2,030	2,701	3,481	4,321	5,181	6,031	6,841	7,572	8,192	8,712	9,122	9,442	9,682	9,682
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	90	92	93	94	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	1,348	1,370	1,386	1,399	1,409	1,417	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	Standard	Existing	859	872	883	891	898	902	906	906	906	906	906	906	906	906	906	906	906	906	906
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	Standard	Existing	691	702	711	718	723	727	730	730	730	730	730	730	730	730	730	730	730	730	730
265	Refrigeration	Refrigerant charging correction	Standard	Existing	4,125	9,625	17,325	27,501	40,151	55,826	74,252	95,703	118,803	142,454	165,829	188,105	208,181	225,231	239,531	250,807	259,607	266,207	271,157
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	Custom	Existing	29	68	122	193	282	392	521	672	834	1,000	1,164	1,320	1,461	1,581	1,681	1,760	1,822	1,869	1,903
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	538	543	547	550	552	552	552	552	552	552	552	552	552	552	552	552	552	552	552
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
264	Refrigeration	Reach-in Refrigerated display case door retrofit	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0																		

Ameren MO		Program R&P Participants By Measure			Incremental Annual Participants																				
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																				
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
212	Office & Computing	Energy Star UPS	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	Standard	Existing	46	49	51	53	54	55	56	57	57	58	58	58	58	58	58	58	58	58	58	58	
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	90	93	96	99	101	103	104	105	106	107	107	107	107	107	107	107	107	107	107	107	
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	Standard	Existing	52	57	62	66	69	72	74	76	77	77	78	78	78	78	78	78	78	78	78	78	
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	115	120	124	127	130	132	134	135	136	137	137	137	137	137	137	137	137	137	137	137	
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	Standard	Existing	63	69	75	80	84	87	90	91	93	93	94	95	95	95	95	95	95	95	95	95	
221	Other	Clothes Dryer Vented Electric, Compact (120V) (< 4.4 ft3)	Standard	Existing	127	132	136	140	143	145	147	149	150	151	151	151	151	151	151	151	151	151	151	151	
225	Other	High Efficiency Transformer, single-phase	Standard	Existing	1,350	2,022	2,855	3,852	5,017	6,309	7,657	9,008	10,314	11,519	12,569	13,455	14,172	14,735	15,165	15,487	15,734	15,821	15,821	15,821	
226	Other	High Efficiency Transformer, three-phase	Standard	Existing	332	498	703	948	1,235	1,553	1,885	2,217	2,539	2,836	3,094	3,312	3,489	3,627	3,733	3,812	3,873	3,895	3,895	3,895	
228	Other	NEMA Premium Transformer, three-phase	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
227	Other	NEMA Premium Transformer, single-phase	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
224	Other	Clothes Dryer Vented Gas	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	Standard	Existing	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	Standard	Existing	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
282	Water Heating	Pre-Rinse Spray Valve	Standard	Existing	21	28	36	44	53	62	70	78	84	90	94	97	100	101	103	103	103	103	103	103	
290	Water Heating	Low Flow Showerhead	Standard	Existing	81	107	138	172	206	239	272	301	325	346	362	375	384	391	397	397	397	397	397	397	
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	Standard	Existing	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	Standard	Existing	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	Standard	Existing	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	Standard	Existing	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
289	Water Heating	Hot Water (DHW) Pipe Insulation	Standard	Existing	37	39	42	44	45	46	47	48	48	48	48	48	48	48	48	48	48	48	48	48	
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	Custom	Existing	2	2	3	4	5	5	6	7	7	8	8	9	9	9	9	9	9	9	9	9	
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	Standard	Existing	2	2	3	3	4	4	5	5	5	5	6	6	6	6	6	6	6	6	6	6	
281	Water Heating	Low Flow Faucet Aerator	Standard	Existing	1,365	1,816	2,340	2,905	3,483	4,055	4,600	5,091	5,508	5,857	6,133	6,348	6,509	6,631	6,725	6,725	6,725	6,725	6,725	6,725	
291	Water Heating	Water Heater Timer	Standard	Existing	72	83	95	105	114	121	128	132	136	139	140	141	141	141	141	141	141	141	141	141	141
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	Standard	Existing	4	5	7	8	9	10	11	12	12	13	13	14	14	14	14	14	14	14	14	14	
284	Water Heating	Efficient Hot Water Pump	Standard	Existing	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	
285	Water Heating	On Demand (tankless)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
283	Water Heating	Circulator Pump	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	Custom	Existing	8	11	14	17	20	24	27	30	32	34	36	37	38	39	39	39	39	39	39	39	
146	Compressed Air	Air Compressor Outdoor Air Intake	Custom	Existing	142	147	150	152	154	155	156	156	156	156	156	156	156	156	156	156	156	156	156	156	
149	Compressed Air	Compressed Air Replacement with Air Blowers	Custom	Existing	15	20	25	31	38	44	50	55	60	63	66	69	70	72	73	73	73	73	73	73	
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	Standard	Existing	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
168	Compressed Air	Compressed Air nozzle (reciprocating - on/off Control)	Standard	Existing	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	Custom	Existing	9	12	15	19	22	26	30	33	36	38	40	41	42	43	43	43	43	43	43	43	43
150	Compressed Air	Compressed Air Storage Tank	Custom	Existing	7	9	12	15	18	20	23	26	28	30	31	32	33	33	34	34	34	34	34	34	34
173	Compressed Air	Compressed Air nozzle (screw - variable Displacement)	Standard	Existing	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	Standard	Existing	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	Standard	Existing	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
158	Compressed Air	Compressed Air-Compressed Air Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Air Comp	RCx	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
145	Compressed Air	VFD for Air Compressor - Air Comp	Custom	Existing	11	15	19	24	29	34	38	42	46	49	51	53	54	55	56	56	56	56	56	56	56
160	Compressed Air	Compressed Air-Compressed Air System Leak Repair Retro-Commissioning Air Comp	RCx	Existing	33	44	57	70	84	98	111	123	133	142	149	154	158	161	163	163	163	163	163	163	
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	Custom	Existing	22	23	24	24	24	24	25	25	25	25	25	25	25	25	25	25	25	25	25	25	
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	Standard	Existing	12	13	14	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	12	13	14	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
143	Compressed Air	Compressed Air Optimization - Air Comp	Custom	Existing	96	99	102	103	104	105	106	106	106	106	106	106	106	106	106	106	106	106	106	106	
159	Compressed Air	Compressed Air-No Loss Drains Replacing Condensate Drains Retro-Commissioning Air Comp	RCx	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
155	Compressed Air	Receiver Capacity Addition	Custom	Existing	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	Standard	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	5	7	9	11	13	15	17	19	21	22	23	24	24	25	25	25	25	25	25	25	
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	Custom	Existing	206	216	224	231																	

Ameren MO		Program R&P Participants By Measure			Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
360	Process - Process Cooling & Refrigeration	Improved Refrigeration	Custom	Existing	207,479	257,560	308,833	359,510	407,803	451,325	488,290	519,293	543,737	562,815	577,124	587,856	596,203	596,203	596,203	596,203	596,203	596,203	596,203	
358	Process - Process Cooling & Refrigeration	Electric Supply System Improvements	Custom	Existing	8,880	11,023	13,218	15,387	17,454	19,317	20,899	22,226	23,272	24,088	24,701	25,160	25,517	25,517	25,517	25,517	25,517	25,517	25,517	
356	Process - Process Cooling & Refrigeration	Evaporator Motor Reduction - ROB	Custom	Existing	1,185	1,434	1,719	2,001	2,270	2,512	2,718	2,891	3,027	3,133	3,212	3,272	3,319	3,319	3,319	3,319	3,319	3,319	3,319	
359	Process - Process Cooling & Refrigeration	Sensors & Controls	Custom	Existing	53,267	58,952	63,780	67,830	71,023	73,515	75,384	76,786	77,876	77,876	77,876	77,876	77,876	77,876	77,876	77,876	77,876	77,876	77,876	
362	Process - Process Cooling & Refrigeration	Energy Information System	Custom	Existing	9,057	11,244	13,482	15,694	17,802	19,702	21,316	22,669	23,737	24,569	25,194	25,663	26,027	26,027	26,027	26,027	26,027	26,027	26,027	
357	Process - Process Cooling & Refrigeration	Floating Head Pressure Control	Custom	Existing	153	163	171	177	181	185	187	187	187	187	187	187	187	187	187	187	187	187	187	
361	Process - Process Cooling & Refrigeration	Refrigerant charging correction	Custom	Existing	1,539	2,444	3,868	4,960	6,598	8,504	10,556	12,658	14,735	16,714	18,498	20,013	21,284	22,285	23,067	23,654	24,094	24,436	24,436	
363	Process - Process Cooling & Refrigeration	Evaporator Fan Motor Controls	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
364	Process - Process Heating	Electric Supply System Improvements	Custom	Existing	9,218	11,443	13,721	15,973	18,119	20,052	21,695	23,072	24,158	25,006	25,642	26,118	26,489	26,489	26,489	26,489	26,489	26,489	26,489	26,489
365	Process - Process Heating	Sensors & Controls	Custom	Existing	54,948	60,813	65,794	69,971	73,265	75,835	77,763	79,209	80,334	80,334	80,334	80,334	80,334	80,334	80,334	80,334	80,334	80,334	80,334	80,334
367	Process - Process Heating	Energy Information System	Custom	Existing	9,340	11,594	13,902	16,184	18,357	20,317	21,961	23,376	24,477	25,335	25,960	26,463	26,838	26,838	26,838	26,838	26,838	26,838	26,838	26,838
366	Process - Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	Custom	Existing	304	377	452	526	597	661	715	760	796	824	845	860	873	873	873	873	873	873	873	873
369	Process - Process Agriculture	Fan Thermostat Controller	Custom	Existing	22	24	26	28	29	30	31	32	32	32	32	32	32	32	32	32	32	32	32	
371	Process - Process Agriculture	Milk Pre-Cooler Heat Exchanger	Custom	Existing	35,085	40,842	46,328	51,273	55,472	58,994	61,771	63,938	65,564	66,783	67,731	67,731	67,731	67,731	67,731	67,731	67,731	67,731	67,731	67,731
383	Process - Process Agriculture	Engine Block Heater	Custom	Existing	62	99	144	200	266	343	426	510	594	674	746	807	858	898	930	954	971	985	985	985
373	Process - Process Agriculture	VFD for Process Fans - Agriculture	Custom	Existing	92	110	128	145	161	174	185	193	200	205	209	212	212	212	212	212	212	212	212	212
374	Process - Process Agriculture	Grain Storage Temperature and Moisture Management Controller	Custom	Existing	94	107	118	128	136	142	147	151	154	156	156	156	156	156	156	156	156	156	156	156
375	Process - Process Agriculture	VFD for Process Pumps - Agriculture	Custom	Existing	223	289	294	325	352	374	392	406	416	424	430	430	430	430	430	430	430	430	430	430
382	Process - Process Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	Custom	Existing	490,034	521,147	545,679	564,826	579,186	589,956	598,332	598,332	598,332	598,332	598,332	598,332	598,332	598,332	598,332	598,332	598,332	598,332	598,332	598,332
379	Process - Process Agriculture	VFD for Process Pumps - Irrigation	Custom	Existing	496	577	654	724	783	833	872	903	926	943	957	957	957	957	957	957	957	957	957	957
372	Process - Process Agriculture	Low Pressure Sprinkler Nozzles	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
380	Process - Process Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
370	Process - Process Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
378	Process - Process Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
377	Process - Process Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
381	Process - Process Agriculture	Variable Speed Drive withHeat Exchanger, Milk	Custom	Existing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
369	Process - Process Agriculture	Fan Thermostat Controller	Custom	Existing	22	24	26	28	29	30	31	32	32	32	32	32	32	32	32	32	32	32	32	32
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constru	New Constructor	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249	249	
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	New Constru	New Constructor	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718	718
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	New Constru	New Constructor	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197	197
13	Interior Lighting	Stairwell Bi-Level Control	New Constru	New Constructor	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
28	Interior Lighting	LED Specialty Lamp	New Constru	New Constructor	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356	3,356
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	New Constru	New Constructor	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	New Constru	New Constructor	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961	961
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constru	New Constructor	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	New Constru	New Constructor	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107	5,107
25	Interior Lighting	LED Replacing Interior T5 Fluorescent	New Constru	New Constructor	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352	3,352
5	Interior Lighting	High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constru	New Constructor	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
1	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constru	New Constructor	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constru	New Constructor	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	New Constru	New Constructor	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076	1,076
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	New Constru	New Constructor	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911	911
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	New Constru	New Constructor	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440	7,440
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constru	New Constructor	777	777	777	777	777	777	777	777	777	777	777	777	777	777	777	777	777	777	777	777
34	Interior Lighting	Central Lighting Controls	New Constru	New Constructor	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	New Constru	New Constructor	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	New Constru	New Constructor	694	694	694	694	694	694	694	694	694	694	694	694	694	694	694	694	694	694	694	694
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	New Constru	New Constructor	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	New Constru	New Constructor	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 17																						

Ameren MO		Program R&P Participants By Measure		Incremental Annual Participants																		
Measure #	End-Use	Measure Name	Program	Construction																		
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constru	New Constructor	913	913	913	913	913	913	913	913	913	913	913	913	913	913	913	913	913	913
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	New Constru	New Constructor	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149
10	Interior Lighting	Smart Web-based lighting Mgmt System	New Constru	New Constructor	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253	884,253
14	Interior Lighting	Switching Controls for Multi-Level Lighting	New Constru	New Constructor	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	New Constru	New Constructor	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403	5,403
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constru	New Constructor	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >50 and <=120 Watts	New Constru	New Constructor	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632
37	Interior Lighting	LED Case Lighting (retrofit)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Interior Lighting	Smart Advanced Lighting Controls	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Interior Lighting	Illuminated Signs to LED	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	New Constru	New Constructor	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constru	New Constructor	578	598	614	625	630	634	634	634	634	634	634	634	634	634	634	634	634	634
59	Exterior Lighting	LED Pedestrian Signals	New Constru	New Constructor	22	25	28	30	32	33	34	35	36	36	36	36	36	36	36	36	36	36
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constru	New Constructor	9	9	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constru	New Constructor	164	170	175	178	179	180	180	180	180	180	180	180	180	180	180	180	180	180
47	Exterior Lighting	Garage BiLevel Controls	New Constru	New Constructor	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356
57	Exterior Lighting	LED Auto Traffic Signals	New Constru	New Constructor	68	77	85	92	98	103	106	109	111	112	112	112	112	112	112	112	112	112
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	New Constru	New Constructor	14	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	New Constru	New Constructor	18	18	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constru	New Constructor	1,187	1,346	1,490	1,612	1,714	1,795	1,858	1,905	1,940	1,968	1,968	1,968	1,968	1,968	1,968	1,968	1,968	1,968
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constru	New Constructor	8	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	New Constru	New Constructor	38	40	41	41	42	42	42	42	42	42	42	42	42	42	42	42	42	42
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	New Constru	New Constructor	37	38	39	40	41	41	41	41	41	41	41	41	41	41	41	41	41	41
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	New Constru	New Constructor	31	32	33	33	34	34	34	34	34	34	34	34	34	34	34	34	34	34
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	New Constru	New Constructor	24	25	26	26	26	27	27	27	27	27	27	27	27	27	27	27	27	27
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	New Constru	New Constructor	28	29	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constru	New Constructor	14	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
46	Exterior Lighting	Exterior BiLevel Controls	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	Exterior Lighting	Lighting Power Density - Parking Garage	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Exterior Lighting	Lighting Power Density - Exterior	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	Space Cooling	Commercial EMS	New Constru	New Constructor	38	48	59	70	81	91	100	108	115	120	124	127	130	131	131	131	131	131
100	Space Cooling	Roof Insulation	New Constru	New Constructor	2,534	2,583	2,621	2,651	2,674	2,691	2,704	2,704	2,704	2,704	2,704	2,704	2,704	2,704	2,704	2,704	2,704	2,704
99	Space Cooling	Energy Efficient Windows	New Constru	New Constructor	68	69	70	71	71	72	72	72	72	72	72	72	72	72	72	72	72	72
79	Space Cooling	Zoning	New Constru	New Constructor	471	535	593	644	688	724	753	775	792	800	806	811	811	811	811	811	811	811
78	Space Cooling	EMS Optimization / Continuous Commissioning	New Constru	New Constructor	1	1	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3
69	Space Cooling	VFD for Pump - Cooling	New Constru	New Constructor	59	70	80	89	98	106	112	117	121	124	126	127	128	128	128	128	128	128
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	Space Cooling	Air Cooled Chiller	New Constru	New Constructor	62	65	67	69	71	72	73	74	74	74	74	74	74	74	74	74	74	74
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constru	New Constructor	1	2	2	2	3	3	3	4	4	4	4	4	4	4	4	4	4	4
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constru	New Constructor	8	9	9	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10
72	Space Cooling	VFD for Process Fans -CRAC units	New Constru	New Constructor	38	45	52	59	65	70	74	78	81	83	84	85	86	86	86	86	86	86
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constru	New Constructor	21	26	31	36	40	44	48	50	53	54	56	57	57	57	57	57	57	57
62	Space Cooling	Chiller Control Optimization - Cooling	New Constru	New Constructor	7	9	11	12	14	15	17	18	19	19	20	20	20	20	20	20	20	20
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	New Constru	New Constructor	28	32	35	38	40	42	43	44	45	46	46	46	46	46	46	46	46	46
68	Space Cooling	VFD for Fan - Cooling	New Constru	New Constructor	584	677	765	845	915	975	1,023	1,061	1,091	1,114	1,123	1,131	1,136	1,136	1,136	1,136	1,136	1,136
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	New Constru	New Constructor	17	17	18	18	18	18	18	19	19	19	19	19	19	19	19	19	19	19
71	Space Cooling	Water Loop Heat Pump - Cooling	New Constru	New Constructor	4	4	5	5	6	6	6	7	7	7	7	7	7	7	7	7	7	
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	New Constru	New Constructor	21	37	59	86	119	159	204	254	304	354	402	445	481	512	536	555	569	579
75	Space Cooling	Building Operator Certification	New Constru	New Constructor	0	0	1	1	1	1	2	2	3	3	4	4	5	5	5	5	5	5
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	New Constru	New Constructor	1,834	2,237	2,645	3,044	3,415	3,743	4,027	4,257	4,442	4,584	4,692	4,775	4,803	4,825	4,825	4,825	4,825	4,825
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	New Constru	New Constructor	154	161	167	172	176	179	181	183	183	183	183	183	183	183	183	183	183	183
98	Space Cooling	EMS Pump Scheduling Controls	New Constru	New Constructor	1	2	3	5	7	9	12	15	17	20	23	25	28	29	31	32	33	34
67	Space Cooling	VFD for Chiller - Cooling	New Constru	New Constructor	70	81	90	99	107	113	118	122	125	127	128	129	129	129	129	129	129	129
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	New Constru	New Constructor	10	10	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
63	Space Cooling	CRAC Unit Upgrade - Cooling	New Constru	New Constructor	0	0	0	0	0	0	1	1	1	1	1	1	1	2	2	2	2	
89	Space Cooling	Packaged DX 65 -135kbtu	New Constru	New Constructor	242	258	273															

Ameren MO		Program R&P Participants By Measure		Incremental Annual Participants																				
Measure #	End-Use	Measure Name	Program	Construction																				
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	New Constru	New Construction	169	171	173	175	176	177	178	178	178	178	178	178	178	178	178	178	178	178		
265	Refrigeration	Refrigerant charging correction	New Constru	New Construction	513	1,197	2,154	3,419	4,991	6,940	9,231	11,897	14,769	17,709	20,615	23,385	25,880	28,000	29,778	31,180	32,274	33,094	33,710	
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	New Constru	New Construction	4	8	15	24	35	49	65	83	103	124	144	164	181	196	209	218	226	232	236	
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	New Constru	New Construction	131	133	133	134	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
264	Refrigeration	Reach-in Refrigerated display case door retrofit	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
239	Refrigeration	Evaporator Coil Defrost Control	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
263	Refrigeration	Night Covers	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
204	Office & Computing	Computer Room Air Side Economizer	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
203	Office & Computing	Computer Room Air Conditioner Economizer	New Constru	New Construction	6	14	26	41	60	83	110	142	176	212	246	279	309	334	356	372	385	395	403	
211	Office & Computing	Energy Star POS Terminal	New Constru	New Construction	1	2	4	6	8	11	15	19	24	29	34	38	42	46	49	51	53	54	55	
207	Office & Computing	Electrically Commutated Plug Fans in data centers	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
214	Office & Computing	Computer Power Management Software	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
210	Office & Computing	Energy Star Computers	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
215	Office & Computing	Vending Miser for Non-Refrig Equip	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
213	Office & Computing	High Efficiency Hand Dryer	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
205	Office & Computing	Computer Room Hot Aisle Cold Aisle Configuration	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
209	Office & Computing	Energy Star Compliant Refrigerator	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
202	Office & Computing	Commercial Plug Load - Smart Strip Outlets	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
212	Office & Computing	Energy Star UPS	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	New Constru	New Construction	8	9	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	New Constru	New Construction	18	17	17	18	18	18	18	19	19	19	19	19	19	19	19	19	19	19	19	19
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	New Constru	New Construction	8	9	10	11	11	12	12	12	12	12	12	13	13	13	13	13	13	13	13	
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	New Constru	New Construction	20	21	22	22	23	23	24	24	24	24	24	24	24	24	24	24	24	24	24	24
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	New Constru	New Construction	10	11	12	13	13	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15
221	Other	Clothes Dryer Ventless Electric, Compact (120V) (< 4.4 ft3)	New Constru	New Construction	23	23	24	25	25	26	26	26	27	27	27	27	27	27	27	27	27	27	27	27
225	Other	High Efficiency Transformer, single-phase	New Constru	New Construction	166	249	351	474	617	776	941	1,107	1,268	1,416	1,545	1,654	1,742	1,811	1,863	1,903	1,933	1,944	1,944	
226	Other	High Efficiency Transformer, three-phase	New Constru	New Construction	41	61	86	117	152	191	232	273	312	349	380	407	429	446	459	468	476	479	479	
228	Other	NEMA Premium Transformer, three-phase	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
227	Other	NEMA Premium Transformer, single-phase	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
224	Other	Clothes Dryer Vented Gas	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
282	Water Heating	Pre-Rinse Spray Valve	New Constru	New Construction	2	2	3	4	4	5	6	6	7	7	8	8	8	8	8	8	8	8	8	
290	Water Heating	Low Flow Showerhead	New Constru	New Construction	7	9	11	14	17	20	22	25	27	28	30	31	32	32	33	33	33	33	33	
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	New Constru	New Construction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
289	Water Heating	Hot Water (DHW) Pipe Insulation	New Constru	New Construction	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	New Constru	New Construction	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
281	Water Heating	Low Flow Faucet Aerator	New Constru	New Construction	116	155	199	247	296	345	391	433	469	498	522	540	554	564	572	572	572	572	572	
291	Water Heating	Water Heater Timer	New Constru	New Construction	7	8	9	10	11	11	12	12	12	13	13	13	13	13	13	13	13	13	13	
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	New Constru	New Construction	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
284	Water Heating	Efficient Hot Water Pump	New Constru	New Construction	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	
285	Water Heating	On Demand (tankless)	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
283	Water Heating	Circulator Pump	New Constru	New Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	New Constru	New Construction	1	1	2	2	2	3	3	4	4	4	4	4	5	5	5	5	5	5	5	
146	Compressed Air	Air Compressor Outdoor Air Intake	New Constru	New Construction	23	24	24	24	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	
149	Compressed Air	Compressed Air Replacement with Air Blowers	New Constru	New Construction	2	2	3	4	5	5	6													

Ameren MO		Program R&P Participants By Measure		Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	New Constru	New Constructor	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
143	Compressed Air	Compressed Air Optimization - Air Comp	New Constru	New Constructor	15	16	16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
155	Compressed Air	Receiver Capacity Addition	New Constru	New Constructor	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	New Constru	New Constructor	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	New Constru	New Constructor	27	28	30	30	31	31	32	32	32	32	32	32	32	32	32	32	32	32	
153	Compressed Air	High Efficiency Air Dryers	New Constru	New Constructor	3,378	3,435	3,479	3,512	3,537	3,556	3,556	3,556	3,556	3,556	3,556	3,556	3,556	3,556	3,556	3,556	3,556	3,556	
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
156	Compressed Air	Variable Displacement Air Compressor	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
152	Compressed Air	Cycling Dryers	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
175	Compressed Air	VSD Air Compressor ≤ 40 HP	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
154	Compressed Air	Low Pressure Drop-Filters	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
503	Behavioral	In-Home Energy Use Displays	SEM	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
501	Behavioral	SEM	SEM	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
502	Behavioral	Whole-Building Energy Monitoring	SEM	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
277	Pools	Pool Heater Heat Pump (Uncovered)	New Constru	New Constructor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
279	Pools	Pool Pump w/ Variable Frequency Drive	New Constru	New Constructor	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
278	Pools	Pool Heater Heat Pump (Covered)	New Constru	New Constructor	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2	2	2	2	
280	Pools	Pool Pump Timer	New Constru	New Constructor	0	1	1	2	3	4	5	6	8	9	11	12	14	15	16	16	17	17	

Ameren MO Program MAP Adoption Rates by Measure																							
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
13	Interior Lighting	Stairwell Bi-Level Control	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
28	Interior Lighting	LED Specialty Lamp	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
25	Interior Lighting	LED Replacing Interior T5 Fluorescent	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
5	Interior Lighting	High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
1	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
34	Interior Lighting	Central Lighting Controls	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
10	Interior Lighting	Smart Web-based lighting Mgmt System	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
14	Interior Lighting	Switching Controls for Multi-Level Lighting	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >50 and <=120 Watts	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
37	Interior Lighting	LED Case Lighting (retrofit)	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
11	Interior Lighting	Smart Advanced Lighting Controls	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
35	Interior Lighting	Illuminated Signs to LED	Standard	Existing	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
59	Exterior Lighting	LED Pedestrian Signals	Standard	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
47	Exterior Lighting	Garage BiLevel Controls	Custom	Existing	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
57	Exterior Lighting	LED Auto Traffic Signals	Standard	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	Standard	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	Standard	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	Standard	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	Standard	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	Standard	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	Standard	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
46	Exterior Lighting	Exterior BiLevel Controls	Custom	Existing	44%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
49	Exterior Lighting	Lighting Power Density - Parking Garage	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
48	Exterior Lighting	Lighting Power Density - Exterior	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	64%	65%	66%	66%	66%	66%	
76	Space Cooling	Commercial EMS	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
100	Space Cooling	Roof Insulation	Standard	Existing	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	
99	Space Cooling	Energy Efficient Windows	Standard	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
79	Space Cooling	Zoning	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
78	Space Cooling	EMS Optimization / Continuous Commissioning	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
69	Space Cooling	VFD for Pump - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	10%	15%	22%	30%	38%	45%	52%	57%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	
94	Space Cooling	Air Cooled Chiller	Standard	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
72	Space Cooling	VFD for Process Fans -CRAC units	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
62	Space Cooling	Chiller Control Optimization - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
68	Space Cooling	VFD for Fan - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	Custom	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
71	Space Cooling	Water Loop Heat Pump - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	RCx	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
75	Space Cooling	Building Operator Certification	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	Custom	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
98	Space Cooling	EMS Pump Scheduling Controls	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
67	Space Cooling	VFD for Chiller - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	Custom	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
63	Space Cooling	CRAC Unit Upgrade - Cooling	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
89	Space Cooling	Packaged DX 65 -135kbtu	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
95	Space Cooling	Small Commercial Programmable Thermostats	Standard	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
74	Space Cooling	Wall Insulation - Building Shell	Custom	Existing	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
90	Space Cooling	Packaged DX >760kbtu	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
101	Space Cooling	Window Improvements	Standard	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
91	Space Cooling	Packaged DX <65kbtu	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
88	Space Cooling	Packaged DX 240 - 760kbtu	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
86	Space Cooling	Air Source Heat Pump	Standard	Existing	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
96	Space Cooling	Ceiling Insulation	Standard	Existing	22%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
93	Space Cooling	PTHP	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
73	Space Cooling	VRV-Variable Refrigerant Volume System	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
92	Space Cooling	PTAC	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
87	Space Cooling	Improved Duct Sealing - Cooling AC	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
97	Space Cooling	Cool Roof	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
112	Space Heating	Commercial EMS	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
121	Space Heating	Roof Insulation	Standard	Existing	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
120	Space Heating	Energy Efficient Windows	Standard	Existing	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
115	Space Heating	Zoning	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
114	Space Heating	EMS Optimization / Continuous Commissioning	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
111	Space Heating	Building Operator Certification	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
119	Space Heating	EMS Pump Scheduling Controls	Standard	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
107	Space Heating	ASHP >240kbtu	Standard	Existing	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
105	Space Heating	ASHP 65 - 135kbtu	Standard	Existing	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
106	Space Heating	ASHP 135 - 240kbtu	Standard	Existing	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
108	Space Heating	ASHP <65kbtu	Standard	Existing	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
109	Space Heating	Learning Thermostat	Standard	Existing	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
122	Space Heating	Window Improvements	Standard	Existing	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
102	Space Heating	General HVAC Equipment Upgrades - Heating	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
110	Space Heating	Wall Insulation - Building Shell	Custom	Existing	51%	56%	60%	63%	64%	63%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
104	Space Heating	GSHP <135kbtu; ≥19EER	Standard	Existing	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
117	Space Heating	Ceiling Insulation	Standard	Existing	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
103	Space Heating	GSHP <135kbtu; ≥17EER	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
118	Space Heating	Cool Roof	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
134	Ventilation	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
132	Ventilation	Demand Control Ventilation - Cooling	Custom	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
136	Ventilation	HVAC-HVAC Optimization - Airside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
133	Ventilation	HVAC-Demand Control Ventilation Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
138	Ventilation	HVAC-HVAC Optimization - Set Point Control Retro-Commissioning HVAC (Ventilation)	RCx	Existing	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
135	Ventilation	HVAC-Minimize Outside Air Retro-Commissioning HVAC (Ventilation)	RCx	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
125	Ventilation	Demand Control Ventilation - HVAC (Ventilation)	Custom	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
137	Ventilation	HVAC-HVAC Optimization - Waterside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
129	Ventilation	Packaged / Rooftop Unit Upgrade - HVAC (Ventilation)	Custom	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
127	Ventilation	General HVAC Equipment Upgrades - HVAC (Ventilation)	Custom	Existing	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
126	Ventilation	ECM Motor for HVAC - HVAC (Ventilation)	Custom	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
130	Ventilation	VFD for Fan - HVAC (Ventilation)	Custom	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
123	Ventilation	Advanced RTU Compressor Controller - HVAC (Ventilation)	Custom	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
131	Ventilation	Water Loop Heat Pump - HVAC (Ventilation)	Custom	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
128	Ventilation	HVAC Controls (BMS, EMS...) - HVAC (Ventilation)	Custom	Existing	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
124	Ventilation	Air Cooled Chiller Upgrade - HVAC (Ventilation)	Custom	Existing	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
139	Ventilation	Economizer	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
140	Ventilation	Demand Controlled Ventilation (Electric Heat)	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
141	Ventilation	Demand Controlled Ventilation (Heat Pump)	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
199	Motors	VFD on Chilled Water Pump 1-75HP	Standard	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
200	Motors	VFD on Hot Water Pump 1-75HP	Standard	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
201	Motors	VFD on HVAC Fans 1-100HP	Standard	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
195	Motors	VFD for Process Motor - Motors	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
193	Motors	Efficient Pump - Motors	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
194	Motors	VFD for Chiller - Motors	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
192	Motors	ECM Motor - Motors	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
196	Motors	VFD for Pump - Motors	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
185	Cooking	Standard Open Deep-Fat Fryer	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
187	Cooking	Convection Oven (Full Size)	Standard	Existing	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
179	Cooking	6 Pan ENERGY STAR Steam Cooker	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	Standard	Existing	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
178	Cooking	5 Pan ENERGY STAR Steam Cooker	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
177	Cooking	4 Pan ENERGY STAR Steam Cooker	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
190	Cooking	Kitchen Demand Ventillation Controls	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
176	Cooking	3 Pan ENERGY STAR Steam Cooker	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
181	Cooking	ENERGY STAR Hot Holding Cabinet (13 ≤ V <28)	Standard	Existing	22%	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
186	Cooking	Large Vat Open Deep-Fat Fryer	Standard	Existing	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
183	Cooking	Combination Oven (Pan Capacity < 15)	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
188	Cooking	Convection Oven (Half Size)	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
189	Cooking	Griddle	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
180	Cooking	ENERGY STAR Hot Holding Cabinet (0 < V <13)	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
191	Cooking	Induction Cooktop	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
268	Refrigeration	Strip Curtains - Walk-In Freezer	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
234	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
240	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
231	Refrigeration	Head Pressure Controls - Refrigeration	Custom	Existing	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	Custom	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
266	Refrigeration	Refrigeration Savings due to Lighting Savings	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	Custom	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
260	Refrigeration	Anti-Sweat Heater Controls Freezer	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
233	Refrigeration	Discus Compressors	Custom	Existing	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	
269	Refrigeration	Zero-Energy Doors	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	Custom	Existing	3%	6%	10%	15%	22%	30%	38%	45%	52%	57%	61%	63%	65%	66%	67%	67%	67%	67%	
267	Refrigeration	Strip Curtains - Walk-In Cooler	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
232	Refrigeration	Refrigeration Insulation - Refrigeration	Custom	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
265	Refrigeration	Refrigerant charging correction	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	Custom	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
264	Refrigeration	Reach-in Refrigerated display case door retrofit	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	15%	22%	29%	37%	44%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	15%	22%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
239	Refrigeration	Evaporator Coil Defrost Control	Custom	Existing	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
263	Refrigeration	Night Covers	Standard	Existing	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	Standard	Existing	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	Standard	Existing	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
204	Office & Computing	Computer Room Air Side Economizer	Custom	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
203	Office & Computing	Computer Room Air Conditioner Economizer	Custom	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
211	Office & Computing	Energy Star POS Terminal	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
207	Office & Computing	Electrically Commutated Plug Fans in data centers	Custom	Existing	0%	0%	0%	0%	0%	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	
214	Office & Computing	Computer Power Management Software	Standard	Existing	0%	0%	0%	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	
210	Office & Computing	Energy Star Computers	Standard	Existing	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	Custom	Existing	0%	0%	0%	0%	0%	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	
215	Office & Computing	Vending Miser for Non-Refrig Equip	Standard	Existing	15%	22%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
213	Office & Computing	High Efficiency Hand Dryer	Standard	Existing	0%	0%	0%	0%	0%	3%	6%	10%	15%	22%	66%	66%	66%	66%	66%	66%	66%	66%	
208		Ongoing Commissioning of Economizers in a Data Center	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
205		Computer Room Hot Aisle Cold Aisle Configuration	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
209		Energy Star Compliant Refrigerator	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
202		Commercial Plug Load - Smart Strip Outlets	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
212		Energy Star UPS	Standard	Existing	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
223		Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
222		Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
221		Clothes Dryer Vented Electric, Compact (120V) (< 4.4 ft3)	Standard	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
225	Other	High Efficiency Transformer, single-phase	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
226		High Efficiency Transformer, three-phase	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
228	Other	NEMA Premium Transformer, three-phase	Standard	Existing	0%	0%	0%	0%	0%	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	
217		Clothes Washer (Gas DHW; Electric Dryer)	Standard	Existing	3%	6%	10%	15%	22%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
227	Other	NEMA Premium Transformer, single-phase	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
219		Clothes Washer (Gas DHW; Gas Dryer)	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
224	Other	Clothes Dryer Vented Gas	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
288		Water Heating	ES Dishwasher, Low Temp, Elec Heat	Standard	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
282		Pre-Rinse Spray Valve	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
290	Water Heating	Low Flow Showerhead	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
275		Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	Standard	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
274		Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	Standard	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
289		Hot Water (DHW) Pipe Insulation	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
273		Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
281	Water Heating	Low Flow Faucet Aerator	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
291		Water Heater Timer	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
284		Efficient Hot Water Pump	Standard	Existing	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
285	Water Heating	On Demand (tankless)	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
283		Circulator Pump	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
146		Air Compressor Outdoor Air Intake	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
149	Compressed Air	Compressed Air Replacement with Air Blowers	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
174		Compressed Air Nozzle (Screw - VFD)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
168	Compressed Air	Compressed Air Nozzle (Reciprocating - On/off Control)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
157		Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
150	Compressed Air	Compressed Air Storage Tank	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
173		Compressed Air Nozzle (Screw - Variable Displacement)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
169		Compressed Air Nozzle (Reciprocating - Load/Unload)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
158	Compressed Air	Compressed Air-Compressed Air Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Air Comp	RCx	Existing	30%	38%	45%	52%	57%	60%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%	67%	
145		VFD for Air Compressor - Air Comp	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
160	Compressed Air	Compressed Air-Compressed Air System Leak Repair Retro-Commissioning Air Comp	RCx	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
144		Efficient Air Compressor Upgrade - Air Comp	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
143	Compressed Air	Compressed Air Optimization - Air Comp	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
159	Compressed Air	Compressed Air-No Loss Drains Replacing Condensate Drains Retro-Commissioning Air Comp	RCx	Existing	30%	38%	45%	52%	57%	60%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%	67%	
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
155	Compressed Air	Receiver Capacity Addition	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	Standard	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
153	Compressed Air	High Efficiency Air Dryers	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	Standard	Existing	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
156	Compressed Air	Variable Displacement Air Compressor	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
152	Compressed Air	Cycling Dryers	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
175	Compressed Air	VSD Air Compressor ≤ 40 HP	Standard	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
154	Compressed Air	Low Pressure Drop-Filters	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
503	Behavioral	In-Home Energy Use Displays	SEM	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
501	Behavioral	SEM	SEM	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
502	Behavioral	Whole-Building Energy Monitoring	SEM	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
277	Pools	Pool Heater Heat Pump (Uncovered)	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
279	Pools	Pool Pump w/ Variable Frequency Drive	Standard	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	
278	Pools	Pool Heater Heat Pump (Covered)	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
280	Pools	Pool Pump Timer	Standard	Existing	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
321	Process - Machine Drive	Compressed Air - Advanced Compressor Controls	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
301	Process - Machine Drive	Advanced Lubricants	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
300	Process - Machine Drive	Air-Entraining Air Nozzles	Custom	Existing	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
307	Process - Machine Drive	Pump System Efficiency Improvements	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
323	Process - Machine Drive	Motor System Optimization (Including ASD)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
310	Process - Machine Drive	Electric Supply System Improvements	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
325	Process - Machine Drive	Sensors & Controls	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
316	Process - Machine Drive	Fan System Improvements	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
303	Process - Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
324	Process - Machine Drive	Industrial Motor Management	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
322	Process - Machine Drive	Energy Information System	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
304	Process - Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
302	Process - Machine Drive	Storage Tank Addition (comp air)	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
311	Process - Machine Drive	High Efficiency Pumps - ROB	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
306	Process - Machine Drive	Elec motors replacing pneumatic (comp air)	Custom	Existing	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
309	Process - Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
318	Process - Machine Drive	High Efficiency Pumps - Early Replacement	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
313	Process - Machine Drive	VFD for Process Pumps	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
312	Process - Machine Drive	Synchronous belt drives	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
317	Process - Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%
308	Process - Machine Drive	Compressed Air Audits and Leak Repair	Custom	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
314	Process - Machine Drive	VFD for Process Fans	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
315	Process - Machine Drive	Receiver Capacity Addition	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
320	Process - Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	Custom	Existing	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%
319	Process - Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
305	Process - Machine Drive	High Efficiency Dryers (comp air)	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
336	Process - Industrial	High Efficiency Welders	Custom	Existing	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
332	Process - Industrial	Barrel Insulation - Inj. Molding (plastics)	Custom	Existing	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
334	Process - Industrial	3 Phase High Eff Battery Charger	Custom	Existing	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
330	Process - Industrial	Process Controls / EMS - Process	Custom	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
346	Process - Industrial	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
327	Process - Industrial	Efficient Process Motor Upgrade - Process	Custom	Existing	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
348	Process - Industrial	Motors-Efficient Motor Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
329	Process - Industrial	Process Compressor Optimization - Process	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
347	Process - Industrial	Process-Compressor Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
328	Process - Industrial	Insulation for Process Environment or Equipment - Process	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
349	Process - Industrial	Building Shell-Wall Insulation Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
335	Process - Industrial	Hybrid Injection Molding Machine	Custom	Existing	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
337	Process - Industrial	On-Demand ventilation control for Dust and Fume Collection Systems	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
326	Process - Industrial	Air Cooled Chiller Upgrade - Process	Custom	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
343	Process - Industrial	HVAC-Air Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
340	Process - Industrial	Lab Fume Hood Ventilation Reduction	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
339	Process - Industrial	Industrial Air Curtain	Custom	Existing	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
345	Process - Industrial	HVAC-Water Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
351	Process - Industrial	Miscellaneous-Efficient Equipment Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
341	Process - Industrial	High Speed Turbo Blower for Wastewater	Custom	Existing	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
331	Process - Industrial	Water Cooled Process Chiller - Process	Custom	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
344	Process - Industrial	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
350	Process - Industrial	Miscellaneous-Efficient Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
338	Process - Industrial	Pellet Dryer Insulation (plastics)	Custom	Existing	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
342	Process - Industrial	Process Fan Ventilation Reduction	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
333	Process - Industrial	Fiber Laser Replacing CO2 laser (auto industry)	Custom	Existing	57%	60%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%
360	Process - Process Cooling & Refrigeration	Improved Refrigeration	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
358	Process - Process Cooling & Refrigeration	Electric Supply System Improvements	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
356	Process - Process Cooling & Refrigeration	Evaporator Motor Reduction - ROB	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
359	Process - Process Cooling & Refrigeration	Sensors & Controls	Custom	Existing	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
362	Process - Process Cooling & Refrigeration	Energy Information System	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
357	Process - Process Cooling & Refrigeration	Floating Head Pressure Control	Custom	Existing	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
361	Process - Process Cooling & Refrigeration	Refrigerant charging correction	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%
363	Process - Process Cooling & Refrigeration	Evaporator Fan Motor Controls	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%
364	Process - Process Heating	Electric Supply System Improvements	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
365	Process - Process Heating	Sensors & Controls	Custom	Existing	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
367	Process - Process Heating	Energy Information System	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
366	Process - Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	Custom	Existing	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%
369	Process - Agriculture	Fan Thermostat Controller	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
371	Process - Agriculture	Milk Pre-Cooler Heat Exchanger	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
383	Process - Agriculture	Engine Block Heater	Custom	Existing	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%
373	Process - Agriculture	VFD for Process Fans - Agriculture	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
374	Process - Agriculture	Grain Storage Temperature and Moisture Management Controller	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
375	Process - Agriculture	VFD for Process Pumps - Agriculture	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
382	Process - Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
379	Process - Agriculture	VFD for Process Pumps - Irrigation	Custom	Existing	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
372	Process - Agriculture	Low Pressure Sprinkler Nozzles	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
380	Process - Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	Custom	Existing	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
370	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
378	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	Custom	Existing	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
377	Process - Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	Custom	Existing	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%
381	Process - Agriculture	Variable Speed Drive withHeat Exchanger, Milk	Custom	Existing	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%
369	Process - Agriculture	Fan Thermostat Controller	Custom	Existing	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
13	Interior Lighting	Stairwell Bi-Level Control	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
28	Interior Lighting	LED Specialty Lamp	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
25	Interior Lighting	LED Replacing Interior T5 Fluorescent	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
5	Interior Lighting	High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
1	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type																			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
34	Interior Lighting	Central Lighting Controls	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
10	Interior Lighting	Smart Web-based lighting Mgmt System	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
14	Interior Lighting	Switching Controls for Multi-Level Lighting	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >80 and <=120 Watts	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
37	Interior Lighting	LED Case Lighting (retrofit)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
11	Interior Lighting	Smart Advanced Lighting Controls	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
35	Interior Lighting	Illuminated Signs to LED	New Constructio	ew Constructio	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
59	Exterior Lighting	LED Pedestrian Signals	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
47	Exterior Lighting	Garage BiLevel Controls	New Constructio	ew Constructio	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
57	Exterior Lighting	LED Auto Traffic Signals	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constructio	ew Constructio	59%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
46	Exterior Lighting	Exterior BiLevel Controls	New Constructio	ew Constructio	44%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
49	Exterior Lighting	Lighting Power Density - Parking Garage	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
48	Exterior Lighting	Lighting Power Density - Exterior	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constructio	ew Constructio	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	64%	65%	66%	66%	66%	66%	
76	Space Cooling	Commercial EMS	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
100	Space Cooling	Roof Insulation	New Constructio	ew Constructio	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	
99	Space Cooling	Energy Efficient Windows	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
79	Space Cooling	Zoning	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
78	Space Cooling	EMS Optimization / Continuous Commissioning	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
69	Space Cooling	VFD for Pump - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constructio	ew Constructio	10%	15%	22%	30%	38%	45%	52%	57%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	
94	Space Cooling	Air Cooled Chiller	New Constructio	ew Constructio	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constructio	ew Constructio	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
72	Space Cooling	VFD for Process Fans -CRAC units	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
62	Space Cooling	Chiller Control Optimization - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
68	Space Cooling	VFD for Fan - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	New Constructio	ew Constructio	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
71	Space Cooling	Water Loop Heat Pump - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
75	Space Cooling	Building Operator Certification	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	New Constructio	ew Constructio	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
98	Space Cooling	EMS Pump Scheduling Controls	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
67	Space Cooling	VFD for Chiller - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	New Constructio	ew Constructio	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
63	Space Cooling	CRAC Unit Upgrade - Cooling	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
89	Space Cooling	Packaged DX 65 - 135kbtu	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
95	Space Cooling	Small Commercial Programmable Thermostats	New Constructio	ew Constructio	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	
74	Space Cooling	Wall Insulation - Building Shell	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
90	Space Cooling	Packaged DX >760kbtu	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
101	Space Cooling	Window Improvements	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
91	Space Cooling	Packaged DX <65kbtu	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
88	Space Cooling	Packaged DX 240 - 760kbtu	New Constructio	ew Constructio	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	
86	Space Cooling	Air Source Heat Pump	New Constructio	ew Constructio	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
96	Space Cooling	Ceiling Insulation	New Constructio	ew Constructio	22%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
93	Space Cooling	PTHP	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
73	Space Cooling	VRV-Variable Refrigerant Volume System	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
92	Space Cooling	PTAC	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
87	Space Cooling	Improved Duct Sealing - Cooling AC	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
97	Space Cooling	Cool Roof	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
112	Space Heating	Commercial EMS	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
121	Space Heating	Roof Insulation	New Constructio	ew Constructio	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
120	Space Heating	Energy Efficient Windows	New Constructio	ew Constructio	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
115	Space Heating	Zoning	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
114	Space Heating	EMS Optimization / Continuous Commissioning	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
111	Space Heating	Building Operator Certification	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
119	Space Heating	EMS Pump Scheduling Controls	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
107	Space Heating	ASHP >240kbtu	New Constructio	ew Constructio	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
105	Space Heating	ASHP 65 - 135kbtu	New Constructio	ew Constructio	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
106	Space Heating	ASHP 135 - 240kbtu	New Constructio	ew Constructio	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
108	Space Heating	ASHP <65kbtu	New Constructio	ew Constructio	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
109	Space Heating	Learning Thermostat	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
122	Space Heating	Window Improvements	New Constructio	ew Constructio	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
102	Space Heating	General HVAC Equipment Upgrades - Heating	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
110	Space Heating	Wall Insulation - Building Shell	New Constructio	ew Constructio	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
104	Space Heating	GSHP <135kbtu; ≥19EER	New Constructio	ew Constructio	22%	29%	37%	45%	51%	56%	60%	63%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	
117	Space Heating	Ceiling Insulation	New Constructio	ew Constructio	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
103	Space Heating	GSHP <135kbtu; ≥17EER	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
118	Space Heating	Cool Roof	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	

Ameren MO		Program MAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	New Construction	Construction	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
265	Refrigeration	Refrigerant charging correction	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	New Construction	Construction	15%	22%	29%	37%	44%	51%	56%	59%	62%	63%	65%	66%	66%	66%	66%	66%	66%	66%	
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	New Construction	Construction	15%	22%	29%	37%	44%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
264	Refrigeration	Reach-in Refrigerated display case door retrofit	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	44%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	New Construction	Construction	15%	22%	29%	37%	44%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	New Construction	Construction	15%	22%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	New Construction	Construction	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
239	Refrigeration	Evaporator Coil Defrost Control	New Construction	Construction	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	New Construction	Construction	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	New Construction	Construction	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
263	Refrigeration	Night Covers	New Construction	Construction	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	New Construction	Construction	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	New Construction	Construction	0%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
204	Office & Computing	Computer Room Air Side Economizer	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
203	Office & Computing	Computer Room Air Conditioner Economizer	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
211	Office & Computing	Energy Star POS Terminal	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
207	Office & Computing	Electrically Commutated Plug Fans in data centers	New Construction	Construction	0%	0%	0%	0%	0%	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	
214	Office & Computing	Computer Power Management Software	New Construction	Construction	0%	0%	0%	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	
210	Office & Computing	Energy Star Computers	New Construction	Construction	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	New Construction	Construction	0%	0%	0%	0%	0%	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	
215	Office & Computing	Vending Miser for Non-Refrig Equip	New Construction	Construction	15%	22%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
213	Office & Computing	High Efficiency Hand Dryer	New Construction	Construction	0%	0%	0%	0%	0%	3%	6%	10%	15%	22%	66%	66%	66%	66%	66%	66%	66%	66%	
205	Office & Computing	Computer Room Hot Aisle Cold Aisle Configuration	New Construction	Construction	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
209	Office & Computing	Energy Star Compliant Refrigerator	New Construction	Construction	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
202	Office & Computing	Commercial Plug Load - Smart Strip Outlets	New Construction	Construction	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
212	Office & Computing	Energy Star UPS	New Construction	Construction	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	New Construction	Construction	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	New Construction	Construction	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	New Construction	Construction	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
221	Other	Clothes Dryer Vented Electric, Compact (120V) (< 4.4 ft3)	New Construction	Construction	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	
225	Other	High Efficiency Transformer, single-phase	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
226	Other	High Efficiency Transformer, three-phase	New Construction	Construction	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
228	Other	NEMA Premium Transformer, three-phase	New Construction	Construction	0%	0%	0%	0%	0%	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	66%	66%	66%	
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	New Construction	Construction	3%	6%	10%	15%	22%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
227	Other	NEMA Premium Transformer, single-phase	New Construction	Construction	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	New Construction	Construction	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
224	Other	Clothes Dryer Vented Gas	New Construction	Construction	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	New Construction	Construction	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	New Construction	Construction	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
282	Water Heating	Pre-Rinse Spray Valve	New Construction	Construction	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
290	Water Heating	Low Flow Showerhead	New Construction	Construction	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	New Construction	Construction	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	New Construction	Construction	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	New Construction	Construction	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	New Construction	Construction	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	

Ameren MO Program MAP Adoption Rates by Measure																							
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
289	Water Heating	Hot Water (DHW) Pipe Insulation	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
281	Water Heating	Low Flow Faucet Aerator	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
291	Water Heating	Water Heater Timer	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
284	Water Heating	Efficient Hot Water Pump	New Constructio	ew Constructio	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
285	Water Heating	On Demand (tankless)	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
283	Water Heating	Circulator Pump	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
146	Compressed Air	Air Compressor Outdoor Air Intake	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
149	Compressed Air	Compressed Air Replacement with Air Blowers	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
168	Compressed Air	Compressed Air Nozzle (Reciprocating - On/off Control)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
150	Compressed Air	Compressed Air Storage Tank	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
173	Compressed Air	Compressed Air Nozzle (Screw - Variable Displacement)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
145	Compressed Air	VFD for Air Compressor - Air Comp	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
143	Compressed Air	Compressed Air Optimization - Air Comp	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
155	Compressed Air	Receiver Capacity Addition	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
153	Compressed Air	High Efficiency Air Dryers	New Constructio	ew Constructio	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	New Constructio	ew Constructio	29%	37%	45%	51%	56%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
156	Compressed Air	Variable Displacement Air Compressor	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
152	Compressed Air	Cycling Dryers	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
175	Compressed Air	VSD Air Compressor ≤ 40 HP	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
154	Compressed Air	Low Pressure Drop-Filters	New Constructio	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	ew Constructio	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
503	Behavioral	In-Home Energy Use Displays	SEM	ew Constructio	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
501	Behavioral	SEM	SEM	ew Constructio	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
502	Behavioral	Whole-Building Energy Monitoring	SEM	ew Constructio	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	
277	Pools	Pool Heater Heat Pump (Uncovered)	New Constructio	ew Constructio	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
279	Pools	Pool Pump w/ Variable Frequency Drive	New Constructio	ew Constructio	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	
278	Pools	Pool Heater Heat Pump (Covered)	New Constructio	ew Constructio	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	
280	Pools	Pool Pump Timer	New Constructio	ew Constructio	3%	6%	10%	15%	22%	29%	37%	45%	51%	56%	60%	62%	64%	65%	66%	66%	66%	66%	

Ameren MO Program RAP Adoption Rates by Measure																							
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
13	Interior Lighting	Stairwell Bi-Level Control	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
28	Interior Lighting	LED Specialty Lamp	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
25	Interior Lighting	LED Replacing Interior T5 Fluorescent	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
5	Interior Lighting	High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
1	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
34	Interior Lighting	Central Lighting Controls	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
10	Interior Lighting	Smart Web-based lighting Mgmt System	Custom	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
14	Interior Lighting	Switching Controls for Multi-Level Lighting	Custom	Existing	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	Custom	Existing	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >50 and <=120 Watts	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
37	Interior Lighting	LED Case Lighting (retrofit)	Standard	Existing	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
11	Interior Lighting	Smart Advanced Lighting Controls	Custom	Existing	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
35	Interior Lighting	Illuminated Signs to LED	Standard	Existing	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	Standard	Existing	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
59	Exterior Lighting	LED Pedestrian Signals	Standard	Existing	38%	43%	47%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
47	Exterior Lighting	Garage BiLevel Controls	Custom	Existing	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	
57	Exterior Lighting	LED Auto Traffic Signals	Standard	Existing	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	Standard	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	Standard	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	

Ameren MO Program RAP Adoption Rates by Measure																							
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	Standard	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	Standard	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	Standard	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	Standard	Existing	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	Custom	Existing	47%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Custom	Existing	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
46	Exterior Lighting	Exterior BiLevel Controls	Custom	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
49	Exterior Lighting	Lighting Power Density - Parking Garage	Custom	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
48	Exterior Lighting	Lighting Power Density - Exterior	Custom	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	Standard	Existing	23%	28%	32%	37%	40%	44%	47%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	
76	Space Cooling	Commercial EMS	Custom	Existing	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	
100	Space Cooling	Roof Insulation	Standard	Existing	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
99	Space Cooling	Energy Efficient Windows	Standard	Existing	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
79	Space Cooling	Zoning	Custom	Existing	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	
78	Space Cooling	EMS Optimization / Continuous Commissioning	Custom	Existing	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	
69	Space Cooling	VFD for Pump - Cooling	Custom	Existing	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
94	Space Cooling	Air Cooled Chiller	Standard	Existing	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
72	Space Cooling	VFD for Process Fans -CRAC units	Custom	Existing	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	RCx	Existing	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	
62	Space Cooling	Chiller Control Optimization - Cooling	Custom	Existing	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	Custom	Existing	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	
68	Space Cooling	VFD for Fan - Cooling	Custom	Existing	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	Custom	Existing	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
71	Space Cooling	Water Loop Heat Pump - Cooling	Custom	Existing	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	RCx	Existing	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	
75	Space Cooling	Building Operator Certification	Custom	Existing	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	Custom	Existing	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	Custom	Existing	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	Custom	Existing	40%	44%	46%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
98	Space Cooling	EMS Pump Scheduling Controls	Standard	Existing	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	
67	Space Cooling	VFD for Chiller - Cooling	Custom	Existing	23%	28%	32%	37%	40%	44%	46%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	Custom	Existing	40%	44%	46%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
63	Space Cooling	CRAC Unit Upgrade - Cooling	Custom	Existing	2%	3%	5%	8%	11%	14%	19%	23%	28%	32%	37%	40%	44%	46%	49%	50%	52%	53%	
89	Space Cooling	Packaged DX 65 -135kbtu	Standard	Existing	23%	27%	30%	33%	36%	38%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
95	Space Cooling	Small Commercial Programmable Thermostats	Standard	Existing	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
74	Space Cooling	Wall Insulation - Building Shell	Custom	Existing	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	
90	Space Cooling	Packaged DX >760kbtu	Standard	Existing	22%	25%	27%	29%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
101	Space Cooling	Window Improvements	Standard	Existing	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	
91	Space Cooling	Packaged DX <65kbtu	Standard	Existing	22%	25%	27%	29%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
88	Space Cooling	Packaged DX 240 - 760kbtu	Standard	Existing	22%	25%	27%	29%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
86	Space Cooling	Air Source Heat Pump	Standard	Existing	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
96	Space Cooling	Ceiling Insulation	Standard	Existing	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	
93	Space Cooling	PTHP	Standard	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
73	Space Cooling	VRV-Variable Refrigerant Volume System	Custom	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
92	Space Cooling	PTAC	Standard	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
87	Space Cooling	Improved Duct Sealing - Cooling AC	Standard	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
97	Space Cooling	Cool Roof	Standard	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	

Ameren MO Program RAP Adoption Rates by Measure																							
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
112	Space Heating	Commercial EMS	Custom	Existing	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	
121	Space Heating	Roof Insulation	Standard	Existing	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
120	Space Heating	Energy Efficient Windows	Standard	Existing	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
115	Space Heating	Zoning	Custom	Existing	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
114	Space Heating	EMS Optimization / Continuous Commissioning	Custom	Existing	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	
111	Space Heating	Building Operator Certification	Custom	Existing	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	
119	Space Heating	EMS Pump Scheduling Controls	Standard	Existing	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	
107	Space Heating	ASHP >240kbtu	Standard	Existing	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
105	Space Heating	ASHP 65 - 135kbtu	Standard	Existing	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
106	Space Heating	ASHP 135 - 240kbtu	Standard	Existing	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
108	Space Heating	ASHP <65kbtu	Standard	Existing	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	
109	Space Heating	Learning Thermostat	Standard	Existing	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
122	Space Heating	Window Improvements	Standard	Existing	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	
102	Space Heating	General HVAC Equipment Upgrades - Heating	Custom	Existing	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
110	Space Heating	Wall Insulation - Building Shell	Custom	Existing	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	
104	Space Heating	GSHP <135kbtu; ≥19EER	Standard	Existing	27%	30%	33%	36%	38%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
117	Space Heating	Ceiling Insulation	Standard	Existing	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	
103	Space Heating	GSHP <135kbtu; ≥17EER	Standard	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
118	Space Heating	Cool Roof	Standard	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
134	Ventilation	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
132	Ventilation	Demand Control Ventilation - Cooling	Custom	Existing	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
136	Ventilation	HVAC-HVAC Optimization - Airside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
133	Ventilation	HVAC-Demand Control Ventilation Replacing Existing Inefficient Equipment or Retro-Commissioning HVAC (Ventilation)	RCx	Existing	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
138	Ventilation	HVAC-HVAC Optimization - Set Point Control Retro-Commissioning HVAC (Ventilation)	RCx	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
135	Ventilation	HVAC-Minimize Outside Air Retro-Commissioning HVAC (Ventilation)	RCx	Existing	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
125	Ventilation	Demand Control Ventilation - HVAC (Ventilation)	Custom	Existing	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
137	Ventilation	HVAC-HVAC Optimization - Waterside Retro-Commissioning HVAC (Ventilation)	RCx	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
129	Ventilation	Packaged / Rooftop Unit Upgrade - HVAC (Ventilation)	Custom	Existing	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
127	Ventilation	General HVAC Equipment Upgrades - HVAC (Ventilation)	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
126	Ventilation	ECM Motor for HVAC - HVAC (Ventilation)	Custom	Existing	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
130	Ventilation	VFD for Fan - HVAC (Ventilation)	Custom	Existing	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
123	Ventilation	Advanced RTU Compressor Controller - HVAC (Ventilation)	Custom	Existing	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
131	Ventilation	Water Loop Heat Pump - HVAC (Ventilation)	Custom	Existing	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
128	Ventilation	HVAC Controls (BMS, EMS...) - HVAC (Ventilation)	Custom	Existing	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
124	Ventilation	Air Cooled Chiller Upgrade - HVAC (Ventilation)	Custom	Existing	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
139	Ventilation	Economizer	Standard	Existing	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
140	Ventilation	Demand Controlled Ventilation (Electric Heat)	Standard	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
141	Ventilation	Demand Controlled Ventilation (Heat Pump)	Standard	Existing	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
199	Motors	VFD on Chilled Water Pump 1-75HP	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
200	Motors	VFD on Hot Water Pump 1-75HP	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
201	Motors	VFD on HVAC Fans 1-100HP	Standard	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
195	Motors	VFD for Process Motor - Motors	Custom	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
193	Motors	Efficient Pump - Motors	Custom	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
194	Motors	VFD for Chiller - Motors	Custom	Existing	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
192	Motors	ECM Motor - Motors	Custom	Existing	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
196	Motors	VFD for Pump - Motors	Custom	Existing	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
185	Cooking	Standard Open Deep-Fat Fryer	Standard	Existing	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
187	Cooking	Convection Oven (Full Size)	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
179	Cooking	6 Pan ENERGY STAR Steam Cooker	Standard	Existing	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
178	Cooking	5 Pan ENERGY STAR Steam Cooker	Standard	Existing	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
177	Cooking	4 Pan ENERGY STAR Steam Cooker	Standard	Existing	11%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	
190	Cooking	Kitchen Demand Ventillation Controls	Standard	Existing	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	
176	Cooking	3 Pan ENERGY STAR Steam Cooker	Standard	Existing	11%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	

Ameren MO		Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
181	Cooking	ENERGY STAR Hot Holding Cabinet (13 ≤ V <28)	Standard	Existing	44%	47%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	
186	Cooking	Large Vat Open Deep-Fat Fryer	Standard	Existing	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
183	Cooking	Combination Oven (Pan Capacity < 15)	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
188	Cooking	Convection Oven (Half Size)	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
189	Cooking	Griddle	Standard	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
180	Cooking	ENERGY STAR Hot Holding Cabinet (0 < V <13)	Standard	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
191	Cooking	Induction Cooktop	Standard	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
268	Refrigeration	Strip Curtains - Walk-In Freezer	Standard	Existing	1%	2%	4%	6%	9%	13%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	61%	
234	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	
240	Refrigeration	Efficient Refrigeration Condenser	Custom	Existing	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	Standard	Existing	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	
231	Refrigeration	Head Pressure Controls - Refrigeration	Custom	Existing	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	Custom	Existing	9%	13%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	Standard	Existing	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	
266	Refrigeration	Refrigeration Savings due to Lighting Savings	Standard	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	Custom	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	
260	Refrigeration	Anti-Sweat Heater Controls Freezer	Standard	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	Standard	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
233	Refrigeration	Discus Compressors	Custom	Existing	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
269	Refrigeration	Zero-Energy Doors	Standard	Existing	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	Custom	Existing	1%	2%	4%	6%	9%	12%	16%	21%	25%	31%	36%	40%	45%	48%	51%	54%	56%	57%	
267	Refrigeration	Strip Curtains - Walk-In Cooler	Standard	Existing	4%	6%	9%	13%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	
232	Refrigeration	Refrigeration Insulation - Refrigeration	Custom	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	Standard	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
265	Refrigeration	Refrigerant charging correction	Standard	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	Custom	Existing	1%	2%	4%	6%	8%	11%	15%	19%	24%	29%	34%	38%	42%	46%	49%	51%	53%	54%	
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	51%	53%	54%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	49%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	
264	Refrigeration	Reach-in Refrigerated display case door retrofit	Standard	Existing	34%	38%	42%	46%	49%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	Standard	Existing	49%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	29%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	
239	Refrigeration	Evaporator Coil Defrost Control	Custom	Existing	0%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	Standard	Existing	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	
263	Refrigeration	Night Covers	Standard	Existing	0%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	Standard	Existing	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	Standard	Existing	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	
204	Office & Computing	Computer Room Air Side Economizer	Custom	Existing	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	
203	Office & Computing	Computer Room Air Conditioner Economizer	Custom	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	
211	Office & Computing	Energy Star POS Terminal	Standard	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	
207	Office & Computing	Electrically Commutated Plug Fans in data centers	Custom	Existing	1%	2%	3%	5%	8%	11%	15%	19%	23%	28%	33%	37%	41%	44%	47%	54%	54%	54%	
214	Office & Computing	Computer Power Management Software	Standard	Existing	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	60%	60%	60%	60%	60%	60%	60%	60%	
210	Office & Computing	Energy Star Computers	Standard	Existing	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	Custom	Existing	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	60%	60%	60%	
215	Office & Computing	Vending Miser for Non-Refrig Equip	Standard	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
213	Office & Computing	High Efficiency Hand Dryer	Standard	Existing	1%	2%	3%	5%	8%	11%	15%	19%	23%	28%	54%	54%	54%	54%	54%	54%	54%	54%	

Ameren MO		Program RAP Adoption Rates by Measure																						
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																			
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
208	Office & Computing	Ongoing Commissioning of Economizers in a Data Center	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
205		Computer Room Hot Aisle Cold Aisle Configuration	Custom	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
209		Energy Star Compliant Refrigerator	Standard	Existing	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
202		Commercial Plug Load - Smart Strip Outlets	Standard	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
212		Energy Star UPS	Standard	Existing	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	Standard	Existing	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	Standard	Existing	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	Standard	Existing	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	Standard	Existing	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	
221	Other	Clothes Dryer Vented Electric, Compact (120V) (< 4.4 ft3)	Standard	Existing	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
225	Other	High Efficiency Transformer, single-phase	Standard	Existing	3%	4%	6%	9%	12%	15%	19%	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	
226	Other	High Efficiency Transformer, three-phase	Standard	Existing	3%	4%	6%	9%	12%	15%	19%	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	
228	Other	NEMA Premium Transformer, three-phase	Standard	Existing	3%	4%	6%	9%	12%	15%	19%	23%	27%	30%	34%	36%	39%	44%	44%	44%	44%	44%	44%	
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	Standard	Existing	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
227	Other	NEMA Premium Transformer, single-phase	Standard	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	Standard	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
224	Other	Clothes Dryer Vented Gas	Standard	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	Standard	Existing	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
282	Water Heating	Pre-Rinse Spray Valve	Standard	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
290	Water Heating	Low Flow Showerhead	Standard	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	Standard	Existing	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	Standard	Existing	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	Standard	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
289	Water Heating	Hot Water (DHW) Pipe Insulation	Standard	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	Custom	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	Standard	Existing	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
281	Water Heating	Low Flow Faucet Aerator	Standard	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
291	Water Heating	Water Heater Timer	Standard	Existing	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	Standard	Existing	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
284	Water Heating	Efficient Hot Water Pump	Standard	Existing	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	
285	Water Heating	On Demand (tankless)	Standard	Existing	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	
283	Water Heating	Circulator Pump	Standard	Existing	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	Custom	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
146	Compressed Air	Air Compressor Outdoor Air Intake	Custom	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
149	Compressed Air	Compressed Air Replacement with Air Blowers	Custom	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	Standard	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
168	Compressed Air	Compressed Air Nozzle (Reciprocating - On/off Control)	Standard	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	Custom	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
150	Compressed Air	Compressed Air Storage Tank	Custom	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
173	Compressed Air	Compressed Air Nozzle (Screw - Variable Displacement)	Standard	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	Standard	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	Standard	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
158	Compressed Air	Compressed Air-Compressed Air Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Air Comp	RCx	Existing	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	
145	Compressed Air	VFD for Air Compressor - Air Comp	Custom	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
160	Compressed Air	Compressed Air-Compressed Air System Leak Repair Retro-Commissioning Air Comp	RCx	Existing	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	Custom	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	Standard	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	

Ameren MO		Program RAP Adoption Rates by Measure																							
Measure #	End-Use	Measure Name	Program	Construction		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
				Type																					
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
143	Compressed Air	Compressed Air Optimization - Air Comp	Custom	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
159	Compressed Air	Compressed Air-No Loss Drains Replacing Condensate Drains Retro-Commissioning Air Comp	RCx	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	Standard	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	Standard	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
155	Compressed Air	Receiver Capacity Addition	Custom	Existing	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	Standard	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	Standard	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	Standard	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	Custom	Existing	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
153	Compressed Air	High Efficiency Air Dryers	Custom	Existing	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	Standard	Existing	51%	55%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	Standard	Existing	51%	55%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
156	Compressed Air	Variable Displacement Air Compressor	Custom	Existing	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
152	Compressed Air	Cycling Dryers	Custom	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
175	Compressed Air	VSD Air Compressor ≤ 40 HP	Standard	Existing	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
154	Compressed Air	Low Pressure Drop-Filters	Custom	Existing	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	Existing	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	62%	62%
503	Behavioral	In-Home Energy Use Displays	SEM	Existing	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	62%	62%
501	Behavioral	SEM	SEM	Existing	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	62%	62%
502	Behavioral	Whole-Building Energy Monitoring	SEM	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
277	Pools	Pool Heater Heat Pump (Uncovered)	Standard	Existing	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	62%	62%
279	Pools	Pool Pump w/ Variable Frequency Drive	Standard	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
278	Pools	Pool Heater Heat Pump (Covered)	Standard	Existing	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	62%	62%
280	Pools	Pool Pump Timer	Standard	Existing	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	62%	62%
321	Process - Machine Drive	Compressed Air - Advanced Compressor Controls	Custom	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
301	Process - Machine Drive	Advanced Lubricants	Custom	Existing	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
300	Process - Machine Drive	Air-Entraining Air Nozzles	Custom	Existing	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
307	Process - Machine Drive	Pump System Efficiency Improvements	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
323	Process - Machine Drive	Motor System Optimization (Including ASD)	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
310	Process - Machine Drive	Electric Supply System Improvements	Custom	Existing	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
325	Process - Machine Drive	Sensors & Controls	Custom	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
316	Process - Machine Drive	Fan System Improvements	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
303	Process - Machine Drive	Compressed Air-Fixed Speed Air Compressor - ROB	Custom	Existing	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
324	Process - Machine Drive	Industrial Motor Management	Custom	Existing	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
322	Process - Machine Drive	Energy Information System	Custom	Existing	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
304	Process - Machine Drive	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed - ROB	Custom	Existing	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
302	Process - Machine Drive	Storage Tank Addition (comp air)	Custom	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
311	Process - Machine Drive	High Efficiency Pumps - ROB	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
306	Process - Machine Drive	Elec motors replacing pneumatic (comp air)	Custom	Existing	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
309	Process - Machine Drive	High Efficiency Dryers (comp air) - Early Replacement	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
318	Process - Machine Drive	High Efficiency Pumps - Early Replacement	Custom	Existing	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
313	Process - Machine Drive	VFD for Process Pumps	Custom	Existing	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
312	Process - Machine Drive	Synchronous belt drives	Custom	Existing	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%

Ameren MO		Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
317	Process - Machine Drive	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	Custom	Existing	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	
308	Process - Machine Drive	Compressed Air Audits and Leak Repair	Custom	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
314	Process - Machine Drive	VFD for Process Fans	Custom	Existing	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	
315	Process - Machine Drive	Receiver Capacity Addition	Custom	Existing	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
320	Process - Machine Drive	VSD Air Compressor-Install VSD Air Compressor for Trim	Custom	Existing	19%	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	
319	Process - Machine Drive	Automatic Drains, High efficiency nozzles and other (comp air)	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
305	Process - Machine Drive	High Efficiency Dryers (comp air)	Custom	Existing	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
336	Process - Industrial	High Efficiency Welders	Custom	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
332	Process - Industrial	Barrel Insulation - Inj. Molding (plastics)	Custom	Existing	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
334	Process - Industrial	3 Phase High Eff Battery Charger	Custom	Existing	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
330	Process - Industrial	Process Controls / EMS - Process	Custom	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
346	Process - Industrial	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
327	Process - Industrial	Efficient Process Motor Upgrade - Process	Custom	Existing	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
348	Process - Industrial	Motors-Efficient Motor Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
329	Process - Industrial	Process Compressor Optimization - Process	Custom	Existing	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
347	Process - Industrial	Process-Compressor Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
328	Process - Industrial	Insulation for Process Environment or Equipment - Process	Custom	Existing	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
349	Process - Industrial	Building Shell-Wall Insulation Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
335	Process - Industrial	Hybrid Injection Molding Machine	Custom	Existing	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
337	Process - Industrial	On-Demand ventilation control for Dust and Fume Collection Systems	Custom	Existing	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
326	Process - Industrial	Air Cooled Chiller Upgrade - Process	Custom	Existing	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	
343	Process - Industrial	HVAC-Air Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
340	Process - Industrial	Lab Fume Hood Ventilation Reduction	Custom	Existing	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%	
339	Process - Industrial	Industrial Air Curtain	Custom	Existing	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	
345	Process - Industrial	HVAC-Water Cooled Chiller Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	
351	Process - Industrial	Miscellaneous-Efficient Equipment Replacing No Existing Equipment Retro-Commissioning Process	RCx	Existing	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
341	Process - Industrial	High Speed Turbo Blower for Wastewater	Custom	Existing	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
331	Process - Industrial	Water Cooled Process Chiller - Process	Custom	Existing	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
344	Process - Industrial	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
350	Process - Industrial	Miscellaneous-Efficient Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Process	RCx	Existing	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
338	Process - Industrial	Pellet Dryer Insulation (plastics)	Custom	Existing	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
342	Process - Industrial	Process Fan Ventilation Reduction	Custom	Existing	20%	22%	25%	27%	28%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
333	Process - Industrial	Fiber Laser Replacing CO2 laser (auto industry)	Custom	Existing	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
360	Process - Process Cooling & Refrigeration	Improved Refrigeration	Custom	Existing	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
358	Process - Process Cooling & Refrigeration	Electric Supply System Improvements	Custom	Existing	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
356	Process - Process Cooling & Refrigeration	Evaporator Motor Reduction - ROB	Custom	Existing	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	

Ameren MO		Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
359	Process - Process Cooling & Refrigeration	Sensors & Controls	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
362	Process - Process Cooling & Refrigeration	Energy Information System	Custom	Existing	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
357	Process - Process Cooling & Refrigeration	Floating Head Pressure Control	Custom	Existing	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
361	Process - Process Cooling & Refrigeration	Refrigerant charging correction	Custom	Existing	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	
363	Process - Process Cooling & Refrigeration	Evaporator Fan Motor Controls	Custom	Existing	15%	19%	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	
364	Process - Process Heating	Electric Supply System Improvements	Custom	Existing	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
365	Process - Process Heating	Sensors & Controls	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
367	Process - Process Heating	Energy Information System	Custom	Existing	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
366	Process - Process Heating	Industrial-Process-WWTP Dissolved Oxygen (DO) Aeration	Custom	Existing	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	
369	Process - Agriculture	Fan Thermostat Controller	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
371	Process - Agriculture	Milk Pre-Cooler Heat Exchanger	Custom	Existing	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	
383	Process - Agriculture	Engine Block Heater	Custom	Existing	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	
373	Process - Agriculture	VFD for Process Fans - Agriculture	Custom	Existing	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	
374	Process - Agriculture	Grain Storage Temperature and Moisture Management Controller	Custom	Existing	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
375	Process - Agriculture	VFD for Process Pumps - Agriculture	Custom	Existing	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
382	Process - Agriculture	Scroll Compressor with Heat Exchanger for Dairy Refrigeration	Custom	Existing	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
379	Process - Agriculture	VFD for Process Pumps - Irrigation	Custom	Existing	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
372	Process - Agriculture	Low Pressure Sprinkler Nozzles	Custom	Existing	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
380	Process - Agriculture	Other Industrial -Dairy Refrigerator Tune-Up	Custom	Existing	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	
370	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer ROB	Custom	Existing	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
378	Process - Agriculture	Other Industrial -Low-Energy Livestock Waterer Early Replacement	Custom	Existing	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	
377	Process - Agriculture	Variable Speed Drives for Dairy Vacuum Pumps	Custom	Existing	11%	14%	17%	20%	22%	25%	27%	28%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%	
381	Process - Agriculture	Variable Speed Drive withHeat Exchanger, Milk	Custom	Existing	11%	14%	17%	20%	22%	25%	27%	28%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%	
369	Process - Agriculture	Fan Thermostat Controller	Custom	Existing	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
4	Interior Lighting	Halogen to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
17	Interior Lighting	LED 7-20 Watt Lamp Replacing Interior Halogen 53-70 Watt Lamp	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
12	Interior Lighting	Occupancy Sensors for LED Refrigerator Lighting	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
13	Interior Lighting	Stairwell Bi-Level Control	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
28	Interior Lighting	LED Specialty Lamp	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
16	Interior Lighting	LED <=11 Watt Lamp Replacing Interior Halogen A 28-52 Watt Lamp	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
24	Interior Lighting	LED or Electroluminescent Replacing Interior Incandescent/CFL Exit Sign	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
3	Interior Lighting	Daylight Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
36	Interior Lighting	Interior Non Highbay/Lowbay LED Fixtures	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
25	Interior Lighting	LED Replacing Interior T5 Fluorescent	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
5	Interior Lighting	High Intensity Discharge (HID) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
1	Interior Lighting	Compact Fluorescent (CFL) to LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
9	Interior Lighting	Occupancy Sensor: On/Off (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
19	Interior Lighting	LED <=13 Watt Lamp Replacing Interior Halogen MR-16 35-50 Watt Lamp	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	

Ameren MO		Program RAP Adoption Rates by Measure																				
Measure #	End-Use	Measure Name	Program	Construction																		
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
18	Interior Lighting	LED <=14 Watt Lamp Replacing Interior Halogen BR/R 45-65 Watt Lamp	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
27	Interior Lighting	LED Replacing Interior T12 Fluorescent	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
6	Interior Lighting	Linear Fluorescent to Linear LED Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
34	Interior Lighting	Central Lighting Controls	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
32	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >120 Watts	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
20	Interior Lighting	LED <=20 Watt Lamp Replacing Interior Halogen PAR 48-90 Watt Lamp	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
23	Interior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Interior HID 301-500 Watt Lamp or Fixture	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
21	Interior Lighting	LED <=80 Watt Lamp or Fixture Replacing Interior HID 100-175 Watt Lamp or Fixture	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
22	Interior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Interior HID 176-300 Watt Lamp or Fixture	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
8	Interior Lighting	Occupancy Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
33	Interior Lighting	Dual Technology Occupancy Sensor Controlling Lighting Circuit >150 Watts	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
2	Interior Lighting	Daylight Sensor: Dimming (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
30	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >=201 and <=500 Watts	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
10	Interior Lighting	Smart Web-based lighting Mgmt System	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
14	Interior Lighting	Switching Controls for Multi-Level Lighting	New Constructio	New Construction	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
26	Interior Lighting	LED Replacing Interior T8 Fluorescent	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
7	Interior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (Interior) - Lighting (Interior & 24/7 Exterior Lighting)	New Constructio	New Construction	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
31	Interior Lighting	Single Technology Occupancy Sensor Controlling Lighting Circuit >80 and <=120 Watts	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
37	Interior Lighting	LED Case Lighting (retrofit)	New Constructio	New Construction	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
11	Interior Lighting	Smart Advanced Lighting Controls	New Constructio	New Construction	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
35	Interior Lighting	Illuminated Signs to LED	New Constructio	New Construction	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
29	Interior Lighting	Fixture Mounted Occupancy Sensor Controlling >50 and <=200 Watts	New Constructio	New Construction	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
41	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	New Construction	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
39	Exterior Lighting	Halogen to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	New Construction	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
59	Exterior Lighting	LED Pedestrian Signals	New Constructio	New Construction	38%	43%	47%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%
40	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	New Construction	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
45	Exterior Lighting	Linear Fluorescent to Linear LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constructio	New Construction	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
47	Exterior Lighting	Garage BiLevel Controls	New Constructio	New Construction	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
57	Exterior Lighting	LED Auto Traffic Signals	New Constructio	New Construction	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
53	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 301-500 Watt Lamp or Fixture	New Constructio	New Construction	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
56	Exterior Lighting	LED 85 - 225 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 301-500 Watt Lamp or Fixture Misc.	New Constructio	New Construction	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
43	Exterior Lighting	Daylight Sensor: On/Off (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constructio	New Construction	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
38	Exterior Lighting	Compact Fluorescent (CFL) to LED Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	New Construction	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
51	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 100-175 Watt Lamp or Fixture	New Constructio	New Construction	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
54	Exterior Lighting	LED <=80 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 100-175 Watt Lamp or Fixture Misc.	New Constructio	New Construction	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
55	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior 24/7 HID 176-300 Watt Lamp or Fixture Misc.	New Constructio	New Construction	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
52	Exterior Lighting	LED 62 - 130 Watt Lamp or Fixture Replacing Garage or Exterior <24/7 HID 176-300 Watt Lamp or Fixture	New Constructio	New Construction	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
42	Exterior Lighting	Linear Fluorescent to Non-Linear LED Fixture Upgrade (24/7 Exterior) - Miscellaneous	New Constructio	New Construction	47%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
44	Exterior Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constructio	New Construction	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
46	Exterior Lighting	Exterior BiLevel Controls	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
49	Exterior Lighting	Lighting Power Density - Parking Garage	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
48	Exterior Lighting	Lighting Power Density - Exterior	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
385	Street Lighting	High Intensity Discharge (HID) to LED Upgrade (Less than 24/7 Exterior) - Exterior Lighting (< 24/7)	New Constructio	New Construction	23%	28%	32%	37%	40%	44%	47%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%
76	Space Cooling	Commercial EMS	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%
100	Space Cooling	Roof Insulation	New Constructio	New Construction	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%

Ameren MO		Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Type	Construction																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
99	Space Cooling	Energy Efficient Windows	New Constructio	New Construction	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	
79	Space Cooling	Zoning	New Constructio	New Construction	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%
78	Space Cooling	EMS Optimization / Continuous Commissioning	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%
69	Space Cooling	VFD for Pump - Cooling	New Constructio	New Construction	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%
81	Space Cooling	HVAC-Water Cooled Chiller Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constructio	New Construction	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
94	Space Cooling	Air Cooled Chiller	New Constructio	New Construction	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
83	Space Cooling	HVAC-Chiller Control Optimization Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%
84	Space Cooling	HVAC-Cooling Only HVAC Equipment Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constructio	New Construction	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
72	Space Cooling	VFD for Process Fans -CRAC units	New Constructio	New Construction	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%
82	Space Cooling	HVAC-HVAC Controls / EMS Replacing Existing Inefficient Equipment or Retro-Commissioning Cooling	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%
62	Space Cooling	Chiller Control Optimization - Cooling	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%
66	Space Cooling	Packaged / Rooftop Unit Upgrade - Cooling	New Constructio	New Construction	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
68	Space Cooling	VFD for Fan - Cooling	New Constructio	New Construction	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%
64	Space Cooling	General HVAC Equipment Upgrades - Cooling	New Constructio	New Construction	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
71	Space Cooling	Water Loop Heat Pump - Cooling	New Constructio	New Construction	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
85	Space Cooling	HVAC-HVAC Optimization - Airside Retro-Commissioning Cooling	New Constructio	New Construction	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%
75	Space Cooling	Building Operator Certification	New Constructio	New Construction	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%
60	Space Cooling	Advanced RTU Compressor Controller - Cooling	New Constructio	New Construction	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%
65	Space Cooling	HVAC Controls (BMS, EMS...) - Cooling	New Constructio	New Construction	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%
70	Space Cooling	Water Cooled Chiller Upgrade - Cooling	New Constructio	New Construction	40%	44%	46%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
98	Space Cooling	EMS Pump Scheduling Controls	New Constructio	New Construction	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%
67	Space Cooling	VFD for Chiller - Cooling	New Constructio	New Construction	23%	28%	32%	37%	40%	44%	46%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
61	Space Cooling	Air Cooled Chiller Upgrade - Cooling	New Constructio	New Construction	40%	44%	46%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
63	Space Cooling	CRAC Unit Upgrade - Cooling	New Constructio	New Construction	2%	3%	5%	8%	11%	14%	19%	23%	28%	32%	37%	40%	44%	46%	49%	50%	52%	53%	53%
89	Space Cooling	Packaged DX 65 -135kbtu	New Constructio	New Construction	23%	27%	30%	33%	36%	38%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
95	Space Cooling	Small Commercial Programmable Thermostats	New Constructio	New Construction	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
74	Space Cooling	Wall Insulation - Building Shell	New Constructio	New Construction	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
90	Space Cooling	Packaged DX >760kbtu	New Constructio	New Construction	22%	25%	27%	29%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
101	Space Cooling	Window Improvements	New Constructio	New Construction	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
91	Space Cooling	Packaged DX <65kbtu	New Constructio	New Construction	22%	25%	27%	29%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
88	Space Cooling	Packaged DX 240 - 760kbtu	New Constructio	New Construction	22%	25%	27%	29%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
86	Space Cooling	Air Source Heat Pump	New Constructio	New Construction	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
96	Space Cooling	Ceiling Insulation	New Constructio	New Construction	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
93	Space Cooling	PTHP	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
73	Space Cooling	VRV-Variable Refrigerant Volume System	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
92	Space Cooling	PTAC	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
87	Space Cooling	Improved Duct Sealing - Cooling AC	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
97	Space Cooling	Cool Roof	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
112	Space Heating	Commercial EMS	New Constructio	New Construction	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%
121	Space Heating	Roof Insulation	New Constructio	New Construction	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
120	Space Heating	Energy Efficient Windows	New Constructio	New Construction	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
115	Space Heating	Zoning	New Constructio	New Construction	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
114	Space Heating	EMS Optimization / Continuous Commissioning	New Constructio	New Construction	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%
111	Space Heating	Building Operator Certification	New Constructio	New Construction	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%
119	Space Heating	EMS Pump Scheduling Controls	New Constructio	New Construction	9%	13%	17%	22%	27%	33%	38%	43%	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%
107	Space Heating	ASHP >240kbtu	New Constructio	New Construction	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
105	Space Heating	ASHP 65 - 135kbtu	New Constructio	New Construction	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
106	Space Heating	ASHP 135 - 240kbtu	New Constructio	New Construction	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
108	Space Heating	ASHP <65kbtu	New Constructio	New Construction	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%	53%
109	Space Heating	Learning Thermostat	New Constructio	New Construction	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
122	Space Heating	Window Improvements	New Constructio	New Construction	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%	47%
102	Space Heating	General HVAC Equipment Upgrades - Heating	New Constructio	New Construction	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
110	Space Heating	Wall Insulation - Building Shell	New Constructio	New Construction	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%	52%
104	Space Heating	GSHP <135kbtu; ≥19EER	New Constructio	New Construction	27%	30%	33%	36%	38%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
117	Space Heating	Ceiling Insulation	New Constructio	New Construction	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
103	Space Heating	GSHP <135kbtu; ≥17EER	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
118	Space Heating	Cool Roof	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
132	Ventilation	Demand Control Ventilation - Cooling	New Constructio	New Construction	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%

Ameren MO		Program RAP Adoption Rates by Measure																				
Measure #	End-Use	Measure Name	Program	Construction																		
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
125	Ventilation	Demand Control Ventilation - HVAC (Ventilation)	New Constructio	New Construction	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
129	Ventilation	Packaged / Rooftop Unit Upgrade - HVAC (Ventilation)	New Constructio	New Construction	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
127	Ventilation	General HVAC Equipment Upgrades - HVAC (Ventilation)	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
126	Ventilation	ECM Motor for HVAC - HVAC (Ventilation)	New Constructio	New Construction	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%
130	Ventilation	VFD for Fan - HVAC (Ventilation)	New Constructio	New Construction	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
123	Ventilation	Advanced RTU Compressor Controller - HVAC (Ventilation)	New Constructio	New Construction	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
131	Ventilation	Water Loop Heat Pump - HVAC (Ventilation)	New Constructio	New Construction	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
128	Ventilation	HVAC Controls (BMS, EMS...) - HVAC (Ventilation)	New Constructio	New Construction	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
124	Ventilation	Air Cooled Chiller Upgrade - HVAC (Ventilation)	New Constructio	New Construction	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
140	Ventilation	Demand Controlled Ventillation (Electric Heat)	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
141	Ventilation	Demand Controlled Ventillation (Heat Pump)	New Constructio	New Construction	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
199	Motors	VFD on Chilled Water Pump 1-75HP	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
200	Motors	VFD on Hot Water Pump 1-75HP	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
201	Motors	VFD on HVAC Fans 1-100HP	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
195	Motors	VFD for Process Motor - Motors	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
193	Motors	Efficient Pump - Motors	New Constructio	New Construction	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
194	Motors	VFD for Chiller - Motors	New Constructio	New Construction	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
192	Motors	ECM Motor - Motors	New Constructio	New Construction	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
196	Motors	VFD for Pump - Motors	New Constructio	New Construction	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
185	Cooking	Standard Open Deep-Fat Fryer	New Constructio	New Construction	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
187	Cooking	Convection Oven (Full Size)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
179	Cooking	6 Pan ENERGY STAR Steam Cooker	New Constructio	New Construction	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%
184	Cooking	Combination Oven (Pan Capacity ≥ 15)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
178	Cooking	5 Pan ENERGY STAR Steam Cooker	New Constructio	New Construction	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%
182	Cooking	ENERGY STAR Hot Holding Cabinet (28 ≤ V)	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
177	Cooking	4 Pan ENERGY STAR Steam Cooker	New Constructio	New Construction	11%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%
190	Cooking	Kitchen Demand Ventillation Controls	New Constructio	New Construction	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%
176	Cooking	3 Pan ENERGY STAR Steam Cooker	New Constructio	New Construction	11%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%
181	Cooking	ENERGY STAR Hot Holding Cabinet (13 ≤ V <28)	New Constructio	New Construction	44%	47%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
186	Cooking	Large Vat Open Deep-Fat Fryer	New Constructio	New Construction	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
183	Cooking	Combination Oven (Pan Capacity < 15)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
188	Cooking	Convection Oven (Half Size)	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
189	Cooking	Griddle	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
180	Cooking	ENERGY STAR Hot Holding Cabinet (0 < V <13)	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
191	Cooking	Induction Cooktop	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
268	Refrigeration	Strip Curtains - Walk-In Freezer	New Constructio	New Construction	1%	2%	4%	6%	9%	13%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%
234	Refrigeration	Efficient Refrigeration Condenser	New Constructio	New Construction	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%
240	Refrigeration	Efficient Refrigeration Condenser	New Constructio	New Construction	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%
258	Refrigeration	Horizontal Closed - Solid or Glass Door Freezer - All Volumes	New Constructio	New Construction	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
231	Refrigeration	Head Pressure Controls - Refrigeration	New Constructio	New Construction	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%
230	Refrigeration	ECM Motor for Refrigeration - Refrigeration	New Constructio	New Construction	9%	13%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%
254	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Freezer	New Constructio	New Construction	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
266	Refrigeration	Refrigeration Savings due to Lighting Savings	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%
235	Refrigeration	Evaporator Fan Motor Control for freezers and coolers	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%
260	Refrigeration	Anti-Sweat Heater Controls Freezer	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%
259	Refrigeration	Anti-Sweat Heater Controls Refrigerator	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%
252	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Freezer	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
253	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Freezer	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
256	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Freezer	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
233	Refrigeration	Discus Compressors	New Constructio	New Construction	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
269	Refrigeration	Zero-Energy Doors	New Constructio	New Construction	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%	60%	60%	60%
255	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Freezer	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
251	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Freezer	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
229	Refrigeration	Commercial Refrigerator Upgrade - Refrigeration	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	25%	31%	36%	40%	45%	48%	51%	54%	56%	57%
267	Refrigeration	Strip Curtains - Walk-In Cooler	New Constructio	New Construction	4%	6%	9%	13%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%
232	Refrigeration	Refrigeration Insulation - Refrigeration	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%
257	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Freezer	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
241	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Refrigerator	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
250	Refrigeration	0 < V < 15 - Vertical Closed - Solid Door Freezer	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%

Ameren MO		Program RAP Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Construction																			
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
249	Refrigeration	Horizontal Closed - Solid or Glass Door Refrigerator - All Volumes	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	
265	Refrigeration	Refrigerant charging correction	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	46%	49%	52%	55%	57%	58%	59%
238	Refrigeration	Walk-in Cooler Evaporator Motor Reduction	New Constructio	New Construction	1%	2%	4%	6%	8%	11%	15%	19%	24%	29%	34%	38%	42%	46%	49%	51%	53%	54%	55%
244	Refrigeration	V ≥ 50 - Vertical Closed - Solid Door Refrigerator	New Constructio	New Construction	51%	53%	54%	55%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
243	Refrigeration	30 ≤ V < 50 - Vertical Closed - Solid Door Refrigerator	New Constructio	New Construction	49%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
264	Refrigeration	Reach-in Refrigerated display case door retrofit	New Constructio	New Construction	34%	38%	42%	46%	49%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
242	Refrigeration	15 ≤ V < 30 - Vertical Closed - Solid Door Refrigerator	New Constructio	New Construction	49%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
245	Refrigeration	0 < V < 15 - Vertical Closed - Glass Door Refrigerator	New Constructio	New Construction	29%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
246	Refrigeration	15 ≤ V < 30 - Vertical Closed - Glass Door Refrigerator	New Constructio	New Construction	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
239	Refrigeration	Evaporator Coil Defrost Control	New Constructio	New Construction	0%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
247	Refrigeration	30 ≤ V < 50 - Vertical Closed - Glass Door Refrigerator	New Constructio	New Construction	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
248	Refrigeration	V ≥ 50 - Vertical Closed - Glass Door Refrigerator	New Constructio	New Construction	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
263	Refrigeration	Night Covers	New Constructio	New Construction	0%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
262	Refrigeration	Refrigerated Beverage Vending Machine (Class B)	New Constructio	New Construction	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
261	Refrigeration	Refrigerated Beverage Vending Machine (Class A)	New Constructio	New Construction	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
204	Office & Computing	Computer Room Air Side Economizer	New Constructio	New Construction	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%
203	Office & Computing	Computer Room Air Conditioner Economizer	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%
211	Office & Computing	Energy Star POS Terminal	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%
207	Office & Computing	Electrically Commutated Plug Fans in data centers	New Constructio	New Construction	1%	2%	3%	5%	8%	11%	15%	19%	23%	28%	33%	37%	41%	44%	47%	54%	54%	54%	54%
214	Office & Computing	Computer Power Management Software	New Constructio	New Construction	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	60%	60%	60%	60%	60%	60%	60%	60%	60%
210	Office & Computing	Energy Star Computers	New Constructio	New Construction	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
206	Office & Computing	Desktop Virtualization/Thin Client Commercial Computer Networks	New Constructio	New Construction	1%	2%	4%	6%	9%	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	60%	60%	60%	60%
215	Office & Computing	Vending Miser for Non-Refrig Equip	New Constructio	New Construction	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
213	Office & Computing	High Efficiency Hand Dryer	New Constructio	New Construction	1%	2%	3%	5%	8%	11%	15%	19%	23%	28%	54%	54%	54%	54%	54%	54%	54%	54%	54%
205	Office & Computing	Computer Room Hot Aisle Cold Aisle Configuration	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
209	Office & Computing	Energy Star Compliant Refrigerator	New Constructio	New Construction	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
202	Office & Computing	Commercial Plug Load - Smart Strip Outlets	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
212	Office & Computing	Energy Star UPS	New Constructio	New Construction	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
220	Other	Clothes Dryer Vented Electric, Standard (≥ 4.4 ft3)	New Constructio	New Construction	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%
223	Other	Clothes Dryer Ventless Electric, Compact (240V) (<4.4 ft3)	New Constructio	New Construction	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
216	Other	Clothes Washer (Electric DHW; Electric Dryer)	New Constructio	New Construction	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
222	Other	Clothes Dryer Vented Electric, Compact (240V) (<4.4 ft3)	New Constructio	New Construction	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
218	Other	Clothes Washer (Electric DHW; Gas Dryer)	New Constructio	New Construction	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
221	Other	Clothes Dryer Vented Electric, Compact (120V) (< 4.4 ft3)	New Constructio	New Construction	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
225	Other	High Efficiency Transformer, single-phase	New Constructio	New Construction	3%	4%	6%	9%	12%	15%	19%	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%
226	Other	High Efficiency Transformer, three-phase	New Constructio	New Construction	3%	4%	6%	9%	12%	15%	19%	23%	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%
228	Other	NEMA Premium Transformer, three-phase	New Constructio	New Construction	3%	4%	6%	9%	12%	15%	19%	23%	27%	30%	34%	36%	39%	44%	44%	44%	44%	44%	44%
217	Other	Clothes Washer (Gas DHW; Electric Dryer)	New Constructio	New Construction	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
227	Other	NEMA Premium Transformer, single-phase	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
219	Other	Clothes Washer (Gas DHW; Gas Dryer)	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
224	Other	Clothes Dryer Vented Gas	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
288	Water Heating	ES Dishwasher, Low Temp, Elec Heat	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
276	Water Heating	Heat Pump Water Heater w/ 98% Efficiency >146.6 kW (above 500 MBH)	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%
282	Water Heating	Pre-Rinse Spray Valve	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%
290	Water Heating	Low Flow Showerhead	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%
275	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 88-146.5 kW (300 to 500 MBH)	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%
286	Water Heating	ES Dishwasher, High Temp, Elec Heat, Elec Booster	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
274	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 29.4-87.9 kW (100 to 300 MBH)	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%
287	Water Heating	ES Dishwasher, High Temp, Gas Heat, Elec Booster	New Constructio	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%

Ameren MO		Program RAP Adoption Rates by Measure																				
Measure #	End-Use	Measure Name	Program	Construction																		
				Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
289	Water Heating	Hot Water (DHW) Pipe Insulation	New Constructio	New Construction	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
270	Water Heating	HVAC Condenser Heater Recovery Water Heating	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%
273	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 14.7-29.3 kW (50 to 100 MBH)	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%
281	Water Heating	Low Flow Faucet Aerator	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%
291	Water Heating	Water Heater Timer	New Constructio	New Construction	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%
272	Water Heating	Heat Pump Water Heater w/ 98% Efficiency 2.9-14.6 kW (10 to 50 MBH)	New Constructio	New Construction	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%
284	Water Heating	Efficient Hot Water Pump	New Constructio	New Construction	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
285	Water Heating	On Demand (tankless)	New Constructio	New Construction	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
283	Water Heating	Circulator Pump	New Constructio	New Construction	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%
151	Compressed Air	Compressed Air-Fixed Speed Air Compressor	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%
146	Compressed Air	Air Compressor Outdoor Air Intake	New Constructio	New Construction	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
149	Compressed Air	Compressed Air Replacement with Air Blowers	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%
174	Compressed Air	Compressed Air Nozzle (Screw - VFD)	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
168	Compressed Air	Compressed Air Nozzle (Reciprocating - On/off Control)	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
157	Compressed Air	Variable Speed Air Compressor-Replace Fixed Speed Air Compressor with Variable Speed	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%
150	Compressed Air	Compressed Air Storage Tank	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%
173	Compressed Air	Compressed Air Nozzle (Screw - Variable Displacement)	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
170	Compressed Air	Compressed Air Nozzle (Screw - Load/Unload)	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
169	Compressed Air	Compressed Air Nozzle (Reciprocating - Load/Unload)	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
145	Compressed Air	VFD for Air Compressor - Air Comp	New Constructio	New Construction	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%
144	Compressed Air	Efficient Air Compressor Upgrade - Air Comp	New Constructio	New Construction	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
171	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation)	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
172	Compressed Air	Compressed Air Nozzle (Screw - Inlet Modulation w/ Unloading)	New Constructio	New Construction	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
143	Compressed Air	Compressed Air Optimization - Air Comp	New Constructio	New Construction	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
161	Compressed Air	No Loss Condensate Drain (Reciprocating - On/off Control)	New Constructio	New Construction	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
167	Compressed Air	No Loss Condensate Drain (Screw - VFD)	New Constructio	New Construction	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
155	Compressed Air	Receiver Capacity Addition	New Constructio	New Construction	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
166	Compressed Air	No Loss Condensate Drain (Screw - Variable Displacement)	New Constructio	New Construction	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
163	Compressed Air	No Loss Condensate Drain (Screw - Load/Unload)	New Constructio	New Construction	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
162	Compressed Air	No Loss Condensate Drain (Reciprocating - Load/Unload)	New Constructio	New Construction	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
147	Compressed Air	Air Compressor-Adding an Air Compressor to Aid Low Load Conditions	New Constructio	New Construction	12%	16%	21%	26%	31%	36%	41%	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%
148	Compressed Air	Compressed Air Pressure Flow Controller replacing no flow controller	New Constructio	New Construction	45%	49%	52%	55%	57%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
153	Compressed Air	High Efficiency Air Dryers	New Constructio	New Construction	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
164	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation)	New Constructio	New Construction	51%	55%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
165	Compressed Air	No Loss Condensate Drain (Screw - Inlet Modulation w/ Unloading)	New Constructio	New Construction	51%	55%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
156	Compressed Air	Variable Displacement Air Compressor	New Constructio	New Construction	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
152	Compressed Air	Cycling Dryers	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
175	Compressed Air	VSD Air Compressor ≤ 40 HP	New Constructio	New Construction	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
154	Compressed Air	Low Pressure Drop-Filters	New Constructio	New Construction	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
500	Behavioral	Behavior Based Efficiency (Commercial Energy Reports)	SEM	New Construction	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%
503	Behavioral	In-Home Energy Use Displays	SEM	New Construction	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%
501	Behavioral	SEM	SEM	New Construction	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%
502	Behavioral	Whole-Building Energy Monitoring	SEM	New Construction	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
277	Pools	Pool Heater Heat Pump (Uncovered)	New Constructio	New Construction	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%
279	Pools	Pool Pump w/ Variable Frequency Drive	New Constructio	New Construction	43%	48%	51%	55%	57%	59%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
278	Pools	Pool Heater Heat Pump (Covered)	New Constructio	New Construction	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%
280	Pools	Pool Pump Timer	New Constructio	New Construction	1%	2%	4%	6%	9%	13%	17%	22%	27%	33%	38%	43%	48%	51%	55%	57%	59%	61%

APPENDIX E: INCOME-ELIGIBLE DETAIL

Ameren MO		Income-Eligible Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	\$20.0	100%	\$20.0	0.067	0.067	8	8	\$140	\$50	1.29	3.61	3.14
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	1,027.5	100%	1,027.5	0.132	0.132	8	8	\$140	\$50	2.54	7.12	5.85
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	891.2	100%	891.2	0.150	0.150	8	8	\$140	\$50	2.39	6.68	5.12
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	857.0	100%	857.0	0.812	0.812	5	5	\$43	\$20	11.69	24.99	10.39
1005	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	857.0	24%	204.0	0.193	0.193	12	12	\$5	\$5	57.05	57.05	43.50
1006	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	501.7	47%	235.8	0.030	0.030	14	14	\$141	\$0	0.99	#DIV/0!	1.96
1007	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	242.3	47%	113.9	0.015	0.015	14	14	\$141	\$0	0.48	#DIV/0!	1.38
1008	Appliance	Heat Pump Dryer	N/A	SF	ROB	768.9	50%	384.5	0.052	0.052	14	14	\$405	\$0	0.57	#DIV/0!	1.11
1009	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	768.9	21%	160.0	0.021	0.021	16	16	\$152	\$0	0.70	#DIV/0!	1.36
1010	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	307.0	12%	37.0	0.003	0.003	11	11	\$76	\$0	0.21	#DIV/0!	0.48
1011	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	135.1	12%	16.3	0.001	0.001	11	11	\$76	\$0	0.09	#DIV/0!	0.32
1012	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	878.8	67%	588.8	0.068	0.068	9	9	\$70	\$50	3.28	4.59	7.66
1013	Appliance	Water Cooler	N/A	SF	ROB	398.1	31%	125.4	0.014	0.014	10	10	\$17	\$0	3.18	#DIV/0!	6.64
1014	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	857.0	24%	204.0	0.193	0.193	12	12	\$5	\$5	57.05	57.05	43.50
1015	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	501.7	47%	235.8	0.030	0.030	14	14	\$141	\$0	0.99	#DIV/0!	1.96
1016	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	242.3	47%	113.9	0.015	0.015	14	14	\$141	\$0	0.48	#DIV/0!	1.38
1017	Appliance	Heat Pump Dryer	N/A	SF	NC	768.9	50%	384.5	0.052	0.052	14	14	\$405	\$0	0.57	#DIV/0!	1.11
1018	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	768.9	21%	160.0	0.021	0.021	16	16	\$152	\$0	0.70	#DIV/0!	1.36
1019	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	307.0	12%	37.0	0.003	0.003	11	11	\$76	\$0	0.21	#DIV/0!	0.48
1020	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	135.1	12%	16.3	0.001	0.001	11	11	\$76	\$0	0.09	#DIV/0!	0.32
1021	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	878.8	67%	588.8	0.068	0.068	9	9	\$70	\$50	3.28	4.59	7.66
1022	Appliance	Water Cooler	N/A	SF	NC	398.1	31%	125.4	0.014	0.014	10	10	\$17	\$0	3.18	#DIV/0!	6.64
1023	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	\$20.0	100%	\$20.0	0.067	0.067	8	8	\$140	\$50	1.29	3.61	3.14
1024	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	1,027.5	100%	1,027.5	0.132	0.132	8	8	\$140	\$50	2.54	7.12	5.85
1025	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	891.2	100%	891.2	0.150	0.150	8	8	\$140	\$50	2.39	6.68	5.12
1026	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	857.0	100%	857.0	0.812	0.812	5	5	\$43	\$20	11.69	24.99	10.39
1027	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	857.0	24%	204.0	0.193	0.193	12	12	\$5	\$5	57.05	57.05	43.50
1028	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	501.7	47%	235.8	0.030	0.030	14	14	\$141	\$0	0.99	#DIV/0!	1.96
1029	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	242.3	47%	113.9	0.015	0.015	14	14	\$141	\$0	0.48	#DIV/0!	1.38
1030	Appliance	Heat Pump Dryer	N/A	MF	ROB	768.9	50%	384.5	0.052	0.052	14	14	\$405	\$0	0.57	#DIV/0!	1.11
1031	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	768.9	21%	160.0	0.021	0.021	16	16	\$152	\$0	0.70	#DIV/0!	1.36
1032	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	307.0	12%	37.0	0.003	0.003	11	11	\$76	\$0	0.21	#DIV/0!	0.48
1033	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	135.1	12%	16.3	0.001	0.001	11	11	\$76	\$0	0.09	#DIV/0!	0.32
1034	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	878.8	67%	588.8	0.068	0.068	9	9	\$70	\$50	3.28	4.59	7.66
1035	Appliance	Water Cooler	N/A	MF	ROB	398.1	31%	125.4	0.014	0.014	10	10	\$17	\$0	3.18	#DIV/0!	6.64
1036	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	857.0	24%	204.0	0.193	0.193	12	12	\$5	\$5	57.05	57.05	43.50
1037	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	501.7	47%	235.8	0.030	0.030	14	14	\$141	\$0	0.99	#DIV/0!	1.96
1038	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	242.3	47%	113.9	0.015	0.015	14	14	\$141	\$0	0.48	#DIV/0!	1.38
1039	Appliance	Heat Pump Dryer	N/A	MF	NC	768.9	50%	384.5	0.052	0.052	14	14	\$405	\$0	0.57	#DIV/0!	1.11
1040	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	768.9	21%	160.0	0.021	0.021	16	16	\$152	\$0	0.70	#DIV/0!	1.36
1041	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	307.0	12%	37.0	0.003	0.003	11	11	\$76	\$0	0.21	#DIV/0!	0.48
1042	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	135.1	12%	16.3	0.001	0.001	11	11	\$76	\$0	0.09	#DIV/0!	0.32
1043	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	878.8	67%	588.8	0.068	0.068	9	9	\$70	\$50	3.28	4.59	7.66
1044	Appliance	Water Cooler	N/A	MF	NC	398.1	31%	125.4	0.014	0.014	10	10	\$17	\$0	3.18	#DIV/0!	6.64
2001	Building Shell	Ceiling Insulation R5-R30 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	1,791.0	66%	1,189.7	0.555	0.555	25	25	\$1,500	\$1,500	1.23	1.23	2.37
2002	Building Shell	Ceiling Insulation R5-R38 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	1,791.0	71%	1,278.3	0.596	0.596	25	25	\$1,859	\$1,859	1.07	1.07	2.19
2003	Building Shell	Ceiling Insulation R5-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	1,791.0	76%	1,357.2	0.633	0.633	25	25	\$2,841	\$2,841	0.74	0.74	1.83
2004	Building Shell	Ceiling Insulation R11-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	1,119.4	65%	732.6	0.341	0.341	25	25	\$2,862	\$2,862	0.40	0.40	1.44
2005	Building Shell	Ceiling Insulation R5-R60 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	1,791.0	79%	1,409.4	0.657	0.657	25	25	\$3,787	\$3,787	0.58	0.58	1.64
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	11,449.1	0%	33.4	0.109	-0.061	25	25	\$166	\$0	0.30	#DIV/0!	0.35
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	11,449.1	0%	-20.0	0.135	-0.144	20	20	\$509	\$0	0.40	#DIV/0!	-0.06
2008	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	11,449.1	4%	427.5	0.199	0.199	15	15	\$400	\$400	1.16	1.16	2.32
2009	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	11,449.1	7%	854.9	0.398	0.398	15	15	\$400	\$400	2.31	2.31	3.64
2010	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	11,449.1	12%	1,424.8	0.664	0.664	15	15	\$400	\$400	3.85	3.85	5.39
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	11,449.1	6%	689.8	0.000	0.000	20	20	\$2,254	\$0	1.18	#DIV/0!	0.46
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	11,449.1	10%	1,170.0	0.613	1.615	25	25	\$1,251	\$0	1.41	#DIV/0!	1.62
2013	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	11,449.1	16%	1,831.9	0.665	2.497	15	15	\$2,769	\$0	0.63	#DIV/0!	0.82
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	11,449.1	16%	1,774.6	0.498	1.656	7	7	\$8,161	\$0	0.09	#DIV/0!	0.15
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	11,449.1	16%	1,774.6	0.498	1.656	7	7	\$14,875	\$0	0.05	#DIV/0!	0.08
2016	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	11,449.1	12%	1,332.9	0.621	0.621	20	20	\$509	\$509	3.51	3.51	4.94
2017	Building Shell	Duct Sealing	N/A	SF	Retrofit	11,449.1	1%	170.0	0.079	0.079	20	20	\$258	\$0	0.88	#DIV/0!	0.99

Ameren MO		Income-Eligible Measure Assumptions											Benefit-Cost Ratios				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
2018	Building Shell	Floor Insulation	SF Income Eligible	SF	Retrofit	11,449.1	15%	1,711.8	0.798	0.798	25	25	\$734	\$734	3.62	3.62	5.03
2019	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	11,449.1	5%	616.6	0.584	0.000	20	20	\$348	\$0	3.74	#DIV/0!	2.67
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	11,449.1	5%	616.6	0.584	0.000	20	20	\$341	\$0	3.82	#DIV/0!	2.72
2021	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	11,449.1	5%	594.1	0.563	0.000	20	20	\$696	\$0	1.14	#DIV/0!	1.29
2022	Building Shell	Ceiling Insulation R5-R30 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	1,125.9	66%	747.9	0.349	0.349	25	25	\$1,500	\$1,500	0.77	0.77	1.86
2023	Building Shell	Ceiling Insulation R5-R38 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	1,125.9	71%	803.5	0.375	0.375	25	25	\$1,859	\$1,859	0.67	0.67	1.75
2024	Building Shell	Ceiling Insulation R5-R49 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	1,125.9	76%	853.1	0.398	0.398	25	25	\$2,841	\$2,841	0.47	0.47	1.52
2025	Building Shell	Ceiling Insulation R11-R49 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	703.7	65%	460.5	0.215	0.215	25	25	\$2,862	\$2,862	0.25	0.25	1.28
2026	Building Shell	Ceiling Insulation R5-R60 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	1,125.9	79%	886.0	0.413	0.413	25	25	\$3,787	\$3,787	0.36	0.36	1.40
2027	Building Shell	Radiant Barrier	N/A	SF	Retrofit	5,134.0	1%	28.7	0.070	-0.069	25	25	\$166	\$0	0.27	#DIV/0!	0.30
2028	Building Shell	Cool Roof	N/A	SF	Retrofit	5,134.0	0%	5.4	0.074	-0.154	20	20	\$509	\$0	0.01	#DIV/0!	0.02
2029	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	5,134.0	7%	366.6	0.171	0.171	15	15	\$400	\$400	0.99	0.99	2.13
2030	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	5,134.0	14%	733.1	0.342	0.342	15	15	\$400	\$400	1.98	1.98	3.26
2031	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	5,134.0	24%	1,221.9	0.569	0.569	15	15	\$400	\$400	3.30	3.30	4.77
2032	Building Shell	Wall Insulation	N/A	SF	Retrofit	5,134.0	6%	322.6	0.000	0.000	20	20	\$2,254	\$0	0.08	#DIV/0!	0.22
2033	Building Shell	Storm Windows	N/A	SF	Retrofit	5,134.0	12%	619.0	0.422	1.488	25	25	\$1,251	\$0	0.77	#DIV/0!	0.85
2034	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	5,134.0	16%	821.4	0.452	1.871	15	15	\$2,769	\$0	0.32	#DIV/0!	0.37
2035	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	5,134.0	16%	795.8	0.471	1.840	7	7	\$8,161	\$0	0.05	#DIV/0!	0.07
2036	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	5,134.0	16%	795.8	0.471	1.840	7	7	\$14,875	\$0	0.03	#DIV/0!	0.04
2037	Building Shell	Duct Insulation	N/A	SF	Retrofit	5,134.0	12%	597.7	0.279	0.279	20	20	\$287	\$0	2.79	#DIV/0!	3.14
2038	Building Shell	Duct Sealing	SF Income Eligible	SF	Retrofit	5,134.0	3%	170.0	0.079	0.079	20	20	\$834	\$834	0.27	0.27	1.31
2039	Building Shell	Floor Insulation	N/A	SF	Retrofit	5,134.0	15%	767.6	0.388	0.388	25	25	\$734	\$0	1.62	#DIV/0!	1.81
2040	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	5,134.0	4%	182.0	0.172	0.000	20	20	\$348	\$0	1.10	#DIV/0!	0.79
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	5,134.0	4%	182.0	0.172	0.000	20	20	\$341	\$0	1.13	#DIV/0!	0.80
2042	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	5,134.0	4%	180.4	0.171	0.000	20	20	\$696	\$0	0.35	#DIV/0!	0.39
2043	Building Shell	Ceiling Insulation R5-R30 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	204.5	74%	152.0	0.071	0.071	25	25	\$1,500	\$1,500	0.16	0.16	1.78
2044	Building Shell	Ceiling Insulation R5-R38 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	208.1	78%	163.3	0.076	0.076	25	25	\$1,859	\$1,859	0.14	0.14	1.67
2045	Building Shell	Ceiling Insulation R5-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	211.3	82%	173.3	0.081	0.081	25	25	\$2,841	\$2,841	0.09	0.09	1.47
2046	Building Shell	Ceiling Insulation R11-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	127.4	73%	93.6	0.044	0.044	25	25	\$2,862	\$2,862	0.05	0.05	1.25
2047	Building Shell	Ceiling Insulation R5-R60 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	213.4	84%	180.0	0.084	0.084	25	25	\$3,787	\$3,787	0.07	0.07	1.36
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	1,547.4	1%	22.4	0.104	-0.012	25	25	\$166	\$0	0.21	#DIV/0!	0.29
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	1,547.4	2%	26.1	0.126	-0.026	20	20	\$509	\$0	0.07	#DIV/0!	-0.03
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	1,547.4	4%	59.7	0.028	0.028	15	15	\$400	\$0	0.16	#DIV/0!	0.66
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	1,547.4	8%	119.4	0.056	0.056	15	15	\$400	\$0	0.32	#DIV/0!	1.33
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	1,547.4	13%	199.0	0.093	0.093	15	15	\$400	\$0	0.54	#DIV/0!	2.21
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	1,547.4	3%	46.2	0.000	0.000	20	20	\$2,254	\$0	0.01	#DIV/0!	0.35
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	1,547.4	11%	175.1	0.584	0.135	25	25	\$1,251	\$0	0.22	#DIV/0!	1.17
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	1,547.4	16%	247.6	0.613	0.186	15	15	\$2,769	\$0	0.10	#DIV/0!	0.51
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	1,547.4	16%	239.8	0.531	0.115	7	7	\$8,161	\$0	0.02	#DIV/0!	0.09
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	1,547.4	16%	239.8	0.531	0.115	7	7	\$14,875	\$0	0.01	#DIV/0!	0.05
2058	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	1,547.4	7%	106.1	0.049	0.049	20	20	\$509	\$509	0.28	0.28	1.69
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	1,547.4	2%	28.0	0.079	0.079	20	20	\$258	\$0	0.56	#DIV/0!	0.97
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	1,547.4	15%	231.4	0.108	0.108	25	25	\$734	\$0	0.49	#DIV/0!	2.11
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	1,547.4	-2%	-24.8	-0.024	0.000	20	20	\$348	\$0	0.00	#DIV/0!	1.65
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	1,547.4	-2%	-24.8	-0.024	0.000	20	20	\$341	\$0	0.00	#DIV/0!	0.85
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	1,547.4	-2%	-31.1	-0.029	0.000	20	20	\$696	\$0	0.00	#DIV/0!	0.82
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	19,000.0	20%	3,800.0	0.868	0.868	30	30	\$1,828	\$0	2.57	#DIV/0!	3.97
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	9,000.0	20%	1,800.0	0.411	0.411	30	30	\$2,154	\$0	1.03	#DIV/0!	2.60
2066	Building Shell	Ceiling Insulation R5-R30 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	1,660.5	66%	1,103.1	0.514	0.514	25	25	\$836	\$836	2.05	2.05	3.28
2067	Building Shell	Ceiling Insulation R5-R38 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	1,660.5	71%	1,185.2	0.552	0.552	25	25	\$1,209	\$1,209	1.52	1.52	2.69
2068	Building Shell	Ceiling Insulation R5-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	1,660.5	76%	1,258.3	0.586	0.586	25	25	\$1,847	\$1,847	1.06	1.06	2.18
2069	Building Shell	Ceiling Insulation R11-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	1,037.8	65%	679.2	0.317	0.317	25	25	\$1,860	\$1,860	0.57	0.57	1.63
2070	Building Shell	Ceiling Insulation R5-R60 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	1,660.5	79%	1,306.7	0.609	0.609	25	25	\$2,462	\$2,462	0.82	0.82	1.92
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	6,772.9	0%	19.7	0.064	-0.036	25	25	\$166	\$0	0.18	#DIV/0!	0.21
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	6,772.9	0%	-11.8	0.080	-0.085	20	20	\$509	\$0	0.24	#DIV/0!	-0.03
2073	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	6,772.9	4%	275.7	0.128	0.128	15	15	\$400	\$400	0.75	0.75	1.85
2074	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	6,772.9	8%	551.3	0.257	0.257	15	15	\$400	\$400	1.49	1.49	2.70
2075	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	6,772.9	14%	918.9	0.428	0.428	15	15	\$400	\$400	2.48	2.48	3.83

Ameren MO		Income-Eligible Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	6,772.9	5%	361.2	0.000	0.000	20	20	\$969	\$0	0.22	#DIV/0!	0.56
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	6,772.9	10%	646.3	0.330	0.773	25	25	\$538	\$0	1.80	#DIV/0!	2.08
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	6,772.9	16%	1,083.7	0.423	1.245	15	15	\$1,190	\$0	0.89	#DIV/0!	1.12
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	6,772.9	16%	1,049.8	0.238	0.798	7	7	\$4,046	\$0	0.10	#DIV/0!	0.17
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	6,772.9	16%	1,049.8	0.238	0.798	7	7	\$8,500	\$0	0.05	#DIV/0!	0.08
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	6,772.9	12%	788.5	0.367	0.367	20	20	\$185	\$909	5.72	2.08	9.18
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	6,772.9	1%	100.6	0.047	0.047	20	20	\$166	\$0	0.81	#DIV/0!	0.91
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	6,772.9	15%	1,012.7	0.472	0.472	25	25	\$734	\$0	2.14	#DIV/0!	2.38
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	6,772.9	4%	249.0	0.236	0.000	20	20	\$91	\$0	5.75	#DIV/0!	4.10
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	6,772.9	4%	249.0	0.236	0.000	20	20	\$170	\$0	3.09	#DIV/0!	2.20
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	6,772.9	4%	241.4	0.229	0.000	20	20	\$183	\$0	1.77	#DIV/0!	1.99
2087	Building Shell	Ceiling Insulation R5-R30 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	1,043.8	66%	693.4	0.323	0.323	25	25	\$836	\$836	1.29	1.29	2.43
2088	Building Shell	Ceiling Insulation R5-R38 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	1,043.8	71%	745.0	0.347	0.347	25	25	\$1,209	\$1,209	0.96	0.96	2.07
2089	Building Shell	Ceiling Insulation R5-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	1,043.8	76%	791.0	0.369	0.369	25	25	\$1,847	\$1,847	0.66	0.66	1.74
2090	Building Shell	Ceiling Insulation R11-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	652.4	65%	427.0	0.199	0.199	25	25	\$1,860	\$1,860	0.36	0.36	1.40
2091	Building Shell	Ceiling Insulation R5-R60 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	1,043.8	79%	821.4	0.383	0.383	25	25	\$2,462	\$2,462	0.52	0.52	1.58
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	3,376.4	1%	18.9	0.046	-0.045	25	25	\$166	\$0	0.18	#DIV/0!	0.20
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	3,376.4	0%	3.6	0.048	-0.101	20	20	\$509	\$0	0.01	#DIV/0!	0.01
2094	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	3,376.4	7%	236.4	0.110	0.110	15	15	\$400	\$400	0.64	0.64	1.73
2095	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	3,376.4	14%	472.8	0.220	0.220	15	15	\$400	\$400	1.28	1.28	2.46
2096	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	3,376.4	23%	788.0	0.367	0.367	15	15	\$400	\$400	2.13	2.13	3.43
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	3,376.4	5%	180.1	0.000	0.000	20	20	\$969	\$0	0.11	#DIV/0!	0.28
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	3,376.4	10%	344.9	0.312	0.060	25	25	\$538	\$0	0.99	#DIV/0!	1.11
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	3,376.4	16%	540.2	0.285	1.008	15	15	\$1,190	\$0	0.49	#DIV/0!	0.56
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	3,376.4	16%	523.3	0.211	0.822	7	7	\$4,046	\$0	0.06	#DIV/0!	0.09
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	3,376.4	16%	523.3	0.211	0.822	7	7	\$8,500	\$0	0.03	#DIV/0!	0.04
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	3,376.4	12%	393.1	0.183	0.183	20	20	\$185	\$0	2.85	#DIV/0!	3.20
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	3,376.4	3%	100.6	0.047	0.047	20	20	\$166	\$0	0.81	#DIV/0!	0.91
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	3,376.4	15%	504.8	0.235	0.235	25	25	\$734	\$0	1.07	#DIV/0!	1.19
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	3,376.4	2%	68.6	0.065	0.000	20	20	\$91	\$0	1.59	#DIV/0!	1.13
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	3,376.4	2%	68.6	0.065	0.000	20	20	\$170	\$0	0.85	#DIV/0!	0.61
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	3,376.4	2%	63.9	0.061	0.000	20	20	\$183	\$0	0.47	#DIV/0!	0.53
2108	Building Shell	Ceiling Insulation R5-R30 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	189.6	74%	140.9	0.066	0.066	25	25	\$836	\$836	0.26	0.26	11.30
2109	Building Shell	Ceiling Insulation R5-R38 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	192.9	78%	151.4	0.071	0.071	25	25	\$1,209	\$1,209	0.19	0.19	8.66
2110	Building Shell	Ceiling Insulation R5-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	195.9	82%	160.7	0.075	0.075	25	25	\$1,847	\$1,847	0.13	0.13	6.32
2111	Building Shell	Ceiling Insulation R11-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	118.1	73%	86.8	0.040	0.040	25	25	\$1,860	\$1,860	0.07	0.07	3.85
2112	Building Shell	Ceiling Insulation R5-R60 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	197.8	84%	166.9	0.078	0.078	25	25	\$2,462	\$2,462	0.11	0.11	5.14
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	1,532.7	1%	22.2	0.103	-0.012	25	25	\$166	\$0	0.21	#DIV/0!	0.25
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	1,532.7	2%	25.8	0.125	-0.026	20	20	\$509	\$0	0.07	#DIV/0!	0.04
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	1,532.7	3%	38.5	0.018	0.018	15	15	\$400	\$0	0.10	#DIV/0!	0.40
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	1,532.7	5%	77.0	0.036	0.036	15	15	\$400	\$0	0.21	#DIV/0!	1.12
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	1,532.7	8%	128.3	0.060	0.060	15	15	\$400	\$0	0.35	#DIV/0!	1.87
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	1,532.7	3%	43.7	0.000	0.000	20	20	\$969	\$0	0.03	#DIV/0!	0.32
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	1,532.7	8%	129.5	0.312	0.060	25	25	\$538	\$0	0.37	#DIV/0!	1.21
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	1,532.7	16%	245.2	0.389	0.088	15	15	\$1,190	\$0	0.22	#DIV/0!	0.59
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	1,532.7	16%	237.6	0.531	0.115	7	7	\$4,046	\$0	0.03	#DIV/0!	0.09
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	1,532.7	16%	237.6	0.531	0.115	7	7	\$8,500	\$0	0.01	#DIV/0!	0.04
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	1,532.7	7%	105.1	0.049	0.049	20	20	\$185	\$909	0.76	0.28	3.85
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	1,532.7	2%	27.7	0.078	0.078	20	20	\$166	\$0	0.86	#DIV/0!	0.37
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	1,532.7	15%	229.2	0.107	0.107	25	25	\$734	\$0	0.48	#DIV/0!	1.23
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	1,532.7	-1%	-15.1	-0.014	0.000	20	20	\$91	\$0	0.00	#DIV/0!	1.78
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	1,532.7	-1%	-15.1	-0.014	0.000	20	20	\$170	\$0	0.00	#DIV/0!	0.82
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	1,532.7	-2%	-26.0	-0.025	0.000	20	20	\$183	\$0	0.00	#DIV/0!	0.85
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	11,000.0	20%	2,200.0	0.502	0.502	30	30	\$1,828	\$0	1.49	#DIV/0!	2.30
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	5,000.0	20%	1,000.0	0.228	0.228	30	30	\$2,154	\$0	0.57	#DIV/0!	1.24
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	18,127.6	1%	128.7	0.060	0.060	1	1	\$6	\$6	1.43	1.43	3.19
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	18,127.6	9%	1,631.5	0.186	0.186	1	1	\$100	\$0	0.70	#DIV/0!	1.75
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	18,127.6	3%	581.9	0.066	0.066	5	5	\$90	\$0	1.41	#DIV/0!	3.20

Ameren MO		Income-Eligible Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	9,963.5	1%	70.7	0.033	0.033	1	1	\$6	\$6	0.78	0.78	2.21
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	9,963.5	9%	896.7	0.102	0.102	1	1	\$100	\$0	0.38	#DIV/0!	0.96
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	9,963.5	3%	319.8	0.037	0.037	5	5	\$90	\$0	0.78	#DIV/0!	1.76
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	5,516.5	1%	39.2	0.018	0.018	1	1	\$6	\$6	0.43	0.43	1.67
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	5,516.5	9%	496.5	0.057	0.057	1	1	\$100	\$0	0.21	#DIV/0!	0.53
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	5,516.5	3%	177.1	0.020	0.020	5	5	\$90	\$0	0.43	#DIV/0!	0.97
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	18,127.6	1%	128.7	0.060	0.060	1	1	\$6	\$6	1.43	1.43	3.19
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	18,127.6	9%	1,631.5	0.186	0.186	1	1	\$100	\$0	0.70	#DIV/0!	1.75
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	18,127.6	3%	581.9	0.066	0.066	5	5	\$90	\$0	1.41	#DIV/0!	3.20
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	9,963.5	1%	70.7	0.033	0.033	1	1	\$6	\$6	0.78	0.78	2.21
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	9,963.5	9%	896.7	0.102	0.102	1	1	\$100	\$0	0.38	#DIV/0!	0.96
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	9,963.5	3%	319.8	0.037	0.037	5	5	\$90	\$0	0.78	#DIV/0!	1.76
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	5,516.5	1%	39.2	0.018	0.018	1	1	\$6	\$6	0.43	0.43	1.67
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	5,516.5	9%	496.5	0.057	0.057	1	1	\$100	\$0	0.21	#DIV/0!	0.53
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	5,516.5	3%	177.1	0.020	0.020	5	5	\$90	\$0	0.43	#DIV/0!	0.97
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	18,127.6	1%	128.7	0.060	0.060	1	1	\$6	\$6	1.43	1.43	3.19
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	18,127.6	9%	1,631.5	0.186	0.186	1	1	\$100	\$0	0.70	#DIV/0!	1.75
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	18,127.6	3%	581.9	0.066	0.066	5	5	\$90	\$0	1.41	#DIV/0!	3.20
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	9,963.5	1%	70.7	0.033	0.033	1	1	\$6	\$6	0.78	0.78	2.21
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	9,963.5	9%	896.7	0.102	0.102	1	1	\$100	\$0	0.38	#DIV/0!	0.96
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	9,963.5	3%	319.8	0.037	0.037	5	5	\$90	\$0	0.78	#DIV/0!	1.76
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	5,516.5	1%	39.2	0.018	0.018	1	1	\$6	\$6	0.43	0.43	1.67
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	5,516.5	9%	496.5	0.057	0.057	1	1	\$100	\$0	0.21	#DIV/0!	0.53
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	5,516.5	3%	177.1	0.020	0.020	5	5	\$90	\$0	0.43	#DIV/0!	0.97
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	18,127.6	1%	128.7	0.060	0.060	1	1	\$6	\$6	1.43	1.43	3.19
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	18,127.6	9%	1,631.5	0.186	0.186	1	1	\$100	\$0	0.70	#DIV/0!	1.75
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	18,127.6	3%	581.9	0.066	0.066	5	5	\$90	\$0	1.41	#DIV/0!	3.20
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	9,963.5	1%	70.7	0.033	0.033	1	1	\$6	\$6	0.78	0.78	2.21
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	9,963.5	9%	896.7	0.102	0.102	1	1	\$100	\$0	0.38	#DIV/0!	0.96
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	9,963.5	3%	319.8	0.037	0.037	5	5	\$90	\$0	0.78	#DIV/0!	1.76
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	5,516.5	1%	39.2	0.018	0.018	1	1	\$6	\$6	0.43	0.43	1.67
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	5,516.5	9%	496.5	0.057	0.057	1	1	\$100	\$0	0.21	#DIV/0!	0.53
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	5,516.5	3%	177.1	0.020	0.020	5	5	\$90	\$0	0.43	#DIV/0!	0.97
4001	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	Retrofit	432.0	38%	162.0	0.019	0.019	10	10	\$55	\$55	1.24	1.24	3.65
4002	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4003	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	Retrofit	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4004	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4005	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	Retrofit	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$20	1.58	1.58	4.38
4006	Electronics	ENERGY STAR Display	N/A	SF	ROB	66.2	61%	40.2	0.020	0.020	5	5	\$10	\$0	1.52	#DIV/0!	1.99
4007	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	50.3	72%	36.0	0.004	0.004	4	4	\$8	\$0	0.65	#DIV/0!	1.82
4008	Electronics	ENERGY STAR PC	N/A	SF	ROB	238.5	32%	77.0	0.023	0.023	4	4	\$8	\$0	2.23	#DIV/0!	3.89
4009	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	91.0	73%	66.0	0.008	0.008	7	7	\$5	\$0	3.19	#DIV/0!	8.81
4010	Electronics	ENERGY STAR TV	N/A	SF	ROB	123.8	26%	31.8	0.017	0.017	6	6	\$10	\$0	1.56	#DIV/0!	1.85
4011	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	NC	432.0	38%	162.0	0.019	0.019	10	10	\$55	\$55	1.24	1.24	3.65
4012	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4013	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	NC	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4014	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	NC	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4015	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	NC	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$20	1.58	1.58	4.38
4016	Electronics	ENERGY STAR Display	N/A	SF	NC	66.2	61%	40.2	0.020	0.020	5	5	\$10	\$0	1.52	#DIV/0!	1.99
4017	Electronics	ENERGY STAR Laptop	N/A	SF	NC	50.3	72%	36.0	0.004	0.004	4	4	\$8	\$0	0.65	#DIV/0!	1.82
4018	Electronics	ENERGY STAR PC	N/A	SF	NC	238.5	32%	77.0	0.023	0.023	4	4	\$8	\$0	2.23	#DIV/0!	3.89
4019	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	91.0	73%	66.0	0.008	0.008	7	7	\$5	\$0	3.19	#DIV/0!	8.81
4020	Electronics	ENERGY STAR TV	N/A	SF	NC	123.8	26%	31.8	0.017	0.017	6	6	\$10	\$0	1.56	#DIV/0!	1.85
4021	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	Retrofit	432.0	38%	162.0	0.019	0.019	10	10	\$55	\$55	1.24	1.24	3.65
4022	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4023	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	Retrofit	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4024	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4025	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	Retrofit	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$20	1.28	1.28	4.38

Ameren MO		Income-Eligible Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
4026	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$20	1.28	1.28	4.38
4027	Electronics	ENERGY STAR Display	N/A	MF	ROB	66.2	61%	40.2	0.020	0.020	5	5	\$10	\$0	1.52	#DIV/0!	1.99
4028	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	50.3	72%	36.0	0.004	0.004	4	4	\$8	\$0	0.65	#DIV/0!	1.82
4029	Electronics	ENERGY STAR PC	N/A	MF	ROB	238.5	32%	77.0	0.023	0.023	4	4	\$8	\$0	2.23	#DIV/0!	3.89
4030	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	91.0	73%	66.0	0.008	0.008	7	7	\$5	\$0	3.19	#DIV/0!	8.81
4031	Electronics	ENERGY STAR TV	N/A	MF	ROB	123.8	26%	31.8	0.017	0.017	6	6	\$10	\$0	1.56	#DIV/0!	1.85
4032	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	NC	432.0	38%	162.0	0.019	0.019	10	10	\$55	\$55	1.24	1.24	3.65
4033	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	NC	432.0	38%	162.0	0.019	0.019	10	10	\$30	\$20	2.27	3.40	5.53
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	NC	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4035	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Eligible Kits	MF	NC	432.0	10%	42.1	0.005	0.005	10	10	\$20	\$20	0.88	0.88	2.89
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	NC	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$20	1.28	1.28	4.38
4037	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	NC	432.0	17%	75.1	0.009	0.009	10	10	\$20	\$20	1.28	1.28	4.38
4038	Electronics	ENERGY STAR Display	N/A	MF	NC	66.2	61%	40.2	0.020	0.020	5	5	\$10	\$0	1.52	#DIV/0!	1.99
4039	Electronics	ENERGY STAR Laptop	N/A	MF	NC	50.3	72%	36.0	0.004	0.004	4	4	\$8	\$0	0.65	#DIV/0!	1.82
4040	Electronics	ENERGY STAR PC	N/A	MF	NC	238.5	32%	77.0	0.023	0.023	4	4	\$8	\$0	2.23	#DIV/0!	3.89
4041	Electronics	ENERGY STAR Sound Bar	N/A	MF	NC	91.0	73%	66.0	0.008	0.008	7	7	\$5	\$0	3.19	#DIV/0!	8.81
4042	Electronics	ENERGY STAR TV	N/A	MF	NC	123.8	26%	31.8	0.017	0.017	6	6	\$10	\$0	1.56	#DIV/0!	1.85
5001	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	SF	Recycle	302.5	100%	302.5	0.287	0.000	4	4	\$65	\$20	2.21	1.17	2.19
5002	HVAC Equipment	Dirty Filter Alarm_SF:Kits	SF Income Eligible	SF	Retrofit	4,701.7	3%	141.1	0.066	0.000	14	14	\$5	\$5	28.86	28.86	34.05
5003	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	Retrofit	45.2	85%	38.6	0.005	0.005	19	19	\$4	\$0	0.65	#DIV/0!	1.29
5004	HVAC Equipment	Smart Ceiling Fan	N/A	SF	Retrofit	1,419.0	8%	106.4	0.101	0.000	20	20	\$2,400	\$0	0.06	#DIV/0!	0.07
5005	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	11,449.1	10%	1,144.9	0.199	0.000	15	15	\$1,218	\$0	0.66	#DIV/0!	1.16
5006	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	9,768.2	7%	673.0	0.114	0.000	10	10	\$250	\$250	1.31	1.31	3.43
5007	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	9,768.2	7%	672.4	0.509	0.000	10	10	\$70	\$40	9.89	17.31	9.22
5008	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	5,134.0	10%	513.4	0.118	0.000	15	15	\$1,218	\$0	0.33	#DIV/0!	0.52
5009	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	15,699.3	7%	1,069.7	0.114	0.000	10	10	\$250	\$250	1.84	1.84	4.85
5010	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	15,699.3	5%	767.5	0.509	0.000	10	10	\$70	\$40	10.34	18.09	10.45
5011	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	1,419.0	10%	141.9	0.199	0.000	15	15	\$1,218	\$0	0.13	#DIV/0!	0.84
5012	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	Retrofit	1,547.4	10%	162.4	0.114	0.000	10	10	\$250	\$250	0.64	0.64	3.23
5013	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	Retrofit	1,547.4	35%	536.8	0.509	0.000	10	10	\$70	\$40	9.25	16.18	37.98
5014	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	10,790.4	55%	5,948.3	0.257	0.000	18	18	\$438	\$438	8.31	8.31	20.05
5015	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	10,582.6	63%	6,636.2	1.035	0.000	18	18	\$963	\$963	5.38	5.38	10.67
5016	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	11,259.7	61%	6,903.2	0.537	0.000	18	18	\$1,690	\$1,690	2.71	2.71	6.73
5017	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	SF Income Eligible	SF	ROB	9,180.2	66%	6,081.3	0.534	0.000	18	18	\$1,121	\$1,121	3.68	3.68	8.61
5018	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	SF Income Eligible	SF	Retrofit	1,331.6	5%	70.6	0.067	0.000	2	2	\$100	\$100	0.16	0.16	1.15
5019	HVAC Equipment	AC Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	1,331.6	22%	294.5	0.279	0.000	2	2	\$100	\$100	0.66	0.66	1.62
5020	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	1,331.6	4%	48.7	0.046	0.000	2	2	\$100	\$100	0.11	0.11	1.10
5021	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	1,331.6	7%	97.5	0.092	0.000	2	2	\$100	\$100	0.22	0.22	1.20
5022	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	1,419.0	8%	116.2	0.110	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
5023	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	1,419.0	14%	202.2	0.192	0.000	18	18	\$108	\$108	3.72	3.72	3.63
5024	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	1,419.0	20%	290.7	0.275	0.000	18	18	\$1,200	\$1,200	0.48	0.48	1.34
5025	HVAC Equipment	CAC - SEER 17 - Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	1,349.2	24%	317.5	0.301	0.000	18	18	\$1,200	\$1,200	0.53	0.53	1.37
5026	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible	SF	ROB	1,203.2	44%	528.1	0.500	0.000	18	18	\$1,545	\$1,545	0.68	0.68	1.48
5027	HVAC Equipment	General HP tune-up (no charge or coil clean)	SF Income Eligible	SF	Retrofit	14,323.2	2%	279.6	0.115	0.000	2	2	\$70	\$70	0.54	0.54	1.84
5028	HVAC Equipment	HP Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	14,323.2	9%	1,267.8	0.481	0.000	2	2	\$81	\$81	2.04	2.04	4.29
5029	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	14,323.2	1%	191.6	0.080	0.000	2	2	\$70	\$70	0.37	0.37	1.57
5030	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	14,323.2	3%	389.6	0.159	0.000	2	2	\$70	\$70	0.75	0.75	2.17
5031	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	SF Income Eligible	SF	ROB	5,289.6	7%	394.6	0.166	0.000	18	18	\$438	\$438	1.06	1.06	2.26
5032	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	SF Income Eligible	SF	ROB	5,615.9	18%	1,000.9	0.300	0.000	18	18	\$963	\$963	1.03	1.03	2.46
5033	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	SF Income Eligible	SF	ROB	5,615.9	21%	1,159.3	0.450	0.000	18	18	\$1,690	\$1,690	0.77	0.77	1.96
5034	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	SF Income Eligible	SF	ROB	4,487.1	32%	1,433.2	0.500	0.000	18	18	\$888	\$888	1.72	1.72	3.26
5035	HVAC Equipment	DFHP - SEER 19	N/A	SF	ROB	6,241.9	21%	1,285.8	0.487	0.000	18	18	\$2,937	\$0	0.49	#DIV/0!	0.14
5036	HVAC Equipment	DFHP - SEER 20	N/A	SF	ROB	6,241.9	24%	1,493.0	0.555	0.000	18	18	\$3,177	\$0	0.52	#DIV/0!	0.22
5037	HVAC Equipment	DFHP - SEER 21	N/A	SF	ROB	6,241.9	27%	1,683.4	0.616	0.000	18	18	\$3,627	\$0	0.51	#DIV/0!	0.26
5038	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	ROB	516.8	10%	49.7	0.047	0.000	9	9	\$20	\$20	2.75	2.75	3.05
5039	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	NC	45.2	85%	38.6	0.005	0.005	19	19	\$4	\$0	0.65	#DIV/0!	1.29

Ameren MO		Income-Eligible Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
5040	HVAC Equipment	Smart Ceiling Fan	N/A	SF	NC	1,419.0	8%	106.4	0.101	0.000	20	20	\$2,400	\$0	0.06	#DIV/0!	0.07
5041	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	5,134.0	10%	513.4	0.118	0.000	15	15	\$1,218	\$0	0.33	#DIV/0!	0.52
5042	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	NC	9,768.2	7%	673.0	0.114	0.000	10	10	\$250	\$250	1.31	1.31	3.43
5043	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	NC	9,768.2	7%	672.4	0.509	0.000	10	10	\$70	\$40	9.89	17.31	9.22
5044	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	1,419.0	10%	141.9	0.118	0.000	15	15	\$1,218	\$0	0.13	#DIV/0!	0.84
5045	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	NC	1,547.4	10%	162.4	0.114	0.000	10	10	\$250	\$250	0.64	0.64	3.23
5046	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	NC	1,547.4	35%	536.8	0.509	0.000	10	10	\$70	\$40	9.25	16.18	37.98
5047	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	1,419.0	8%	116.2	0.110	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
5048	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	1,419.0	14%	202.2	0.192	0.000	18	18	\$108	\$108	3.72	3.72	3.63
5049	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	1,419.0	20%	290.7	0.275	0.000	18	18	\$1,200	\$1,200	0.48	0.48	1.34
5050	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	1,349.2	24%	317.5	0.301	0.000	18	18	\$1,200	\$1,200	0.53	0.53	1.37
5051	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible	SF	NC	1,203.2	44%	528.1	0.500	0.000	18	18	\$1,545	\$1,545	0.68	0.68	1.48
5052	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	SF Income Eligible	SF	NC	5,289.6	7%	394.6	0.166	0.000	18	18	\$438	\$438	1.06	1.06	2.26
5053	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	SF Income Eligible	SF	NC	5,615.9	18%	1,000.9	0.300	0.000	18	18	\$963	\$963	1.03	1.03	2.46
5054	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	SF Income Eligible	SF	NC	5,615.9	21%	1,159.3	0.450	0.000	18	18	\$1,690	\$1,690	0.77	0.77	1.96
5055	HVAC Equipment	Ductless ASHP - replace on fail SF NC	SF Income Eligible	SF	NC	4,487.1	32%	1,433.2	0.500	0.000	18	18	\$888	\$888	1.72	1.72	3.26
5056	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	6,241.9	21%	1,285.8	0.487	0.000	18	18	\$2,937	\$0	0.49	#DIV/0!	0.14
5057	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	6,241.9	24%	1,493.0	0.555	0.000	18	18	\$3,177	\$0	0.52	#DIV/0!	0.22
5058	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	6,241.9	27%	1,683.4	0.616	0.000	18	18	\$3,627	\$0	0.51	#DIV/0!	0.26
5059	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	NC	916.8	10%	49.7	0.047	0.000	9	9	\$20	\$20	2.75	2.75	3.05
5060	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	302.5	100%	302.5	0.287	0.000	4	4	\$65	\$20	2.21	7.17	2.19
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	MF Income Eligible	MF	Retrofit	5,430.0	3%	162.9	0.076	0.000	14	14	\$5	\$5	33.34	33.34	39.17
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	45.2	85%	38.6	0.005	0.005	19	19	\$44	\$0	0.65	#DIV/0!	1.29
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	930.5	8%	69.8	0.066	0.000	20	20	\$2,400	\$0	0.04	#DIV/0!	0.04
5064	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	5,237.9	10%	523.8	0.136	0.000	15	15	\$1,218	\$0	0.35	#DIV/0!	0.53
5065	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	6,876.2	7%	479.6	0.114	0.000	10	10	\$175	\$50	1.51	5.28	2.75
5066	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	Retrofit	6,876.2	5%	363.5	0.298	0.000	10	10	\$70	\$40	5.65	9.89	5.25
5067	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	3,376.4	10%	337.6	0.081	0.000	15	15	\$1,218	\$0	0.22	#DIV/0!	0.34
5068	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	10,204.5	7%	695.3	0.074	0.000	10	10	\$175	\$50	1.71	5.97	3.86
5069	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC MF	MF Income Eligible	MF	Retrofit	10,204.5	4%	415.0	0.298	0.000	10	10	\$70	\$40	5.89	10.32	5.91
5070	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	930.5	10%	93.0	0.136	0.000	15	15	\$1,218	\$0	0.08	#DIV/0!	0.54
5071	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	1,532.7	10%	147.7	0.114	0.000	10	10	\$175	\$50	0.88	3.09	2.57
5072	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	Retrofit	1,532.7	21%	314.6	0.298	0.000	10	10	\$70	\$40	5.42	9.49	16.35
5073	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	7,206.2	55%	3,978.2	0.169	0.000	18	18	\$280	\$280	8.67	8.67	20.91
5074	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	6,772.9	63%	4,247.2	0.662	0.000	18	18	\$616	\$616	5.38	5.38	10.67
5075	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	7,206.2	61%	4,418.0	0.344	0.000	18	18	\$1,690	\$1,690	1.74	1.74	4.67
5076	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	MF Income Eligible	MF	ROB	5,967.1	66%	3,952.9	0.347	0.000	18	18	\$625	\$625	4.29	4.29	9.87
5077	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	MF Income Eligible	MF	Retrofit	981.7	5%	52.1	0.049	0.000	2	2	\$90	\$90	0.13	0.13	1.12
5078	HVAC Equipment	AC Tune-up / refrigerant charge	MF Income Eligible	MF	Retrofit	981.7	22%	217.1	0.206	0.000	2	2	\$90	\$90	0.54	0.54	1.51
5079	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	981.7	4%	35.9	0.034	0.000	2	2	\$90	\$90	0.09	0.09	1.08
5080	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	981.7	5%	52.1	0.049	0.000	2	2	\$90	\$90	0.13	0.13	1.12
5081	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	930.5	10%	96.3	0.091	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
5082	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	939.4	14%	133.9	0.127	0.000	18	18	\$71	\$71	3.72	3.72	3.63
5083	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	948.4	19%	177.8	0.168	0.000	18	18	\$1,200	\$1,200	0.29	0.29	1.21
5084	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	948.4	24%	223.1	0.211	0.000	18	18	\$1,200	\$1,200	0.37	0.37	1.26
5085	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	ROB	782.1	44%	343.3	0.325	0.000	18	18	\$979	\$979	0.70	0.70	1.49
5086	HVAC Equipment	General HP tune-up (no charge or coil clean)	MF Income Eligible	MF	Retrofit	9,510.4	2%	192.4	0.085	0.000	2	2	\$100	\$100	0.27	0.27	1.40
5087	HVAC Equipment	HP Tune-up / refrigerant charge MF	MF Income Eligible	MF	Retrofit	9,510.4	9%	868.4	0.355	0.000	2	2	\$90	\$90	1.30	1.30	3.03
5088	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	9,510.4	1%	131.9	0.059	0.000	2	2	\$100	\$100	0.19	0.19	1.28
5089	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	9,510.4	3%	267.9	0.117	0.000	2	2	\$100	\$100	0.37	0.37	1.56
5090	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	ROB	3,594.2	7%	265.3	0.108	0.000	18	18	\$280	\$280	1.09	1.09	2.33
5091	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	ROB	3,594.2	18%	640.6	0.192	0.000	18	18	\$616	\$616	1.03	1.03	2.46
5092	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	ROB	3,594.2	21%	742.0	0.288	0.000	18	18	\$1,082	\$1,082	0.77	0.77	1.96
5093	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	MF Income Eligible	MF	ROB	2,916.6	32%	931.6	0.325	0.000	18	18	\$705	\$705	1.41	1.41	2.85
5094	HVAC Equipment	DFHP - SEER 19	N/A	MF	ROB	4,601.8	8%	378.6	0.227	0.000	18	18	\$2,937	\$2,937	0.19	0.19	0.94
5095	HVAC Equipment	DFHP - SEER 20	N/A	MF	ROB	4,601.8	9%	431.6	0.316	0.000	18	18	\$3,177	\$3,177	0.22	0.22	0.97
5096	HVAC Equipment	DFHP - SEER 21	N/A	MF	ROB	4,601.8	10%	479.6	0.344	0.000	18	18	\$3,627	\$3,627	0.21	0.21	0.99

Ameren MO		Income-Eligible Measure Assumptions											Benefit-Cost Ratios				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
5097	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	ROB	2,127.7	42%	898.8	0.882	0.000	9	9	\$20	\$20	49.62	49.62	38.12
5098	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	45.2	85%	38.6	0.005	0.005	19	19	\$44	\$0	0.65	#DIV/0!	1.29
5099	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	930.5	8%	69.8	0.066	0.000	20	20	\$2,400	\$0	0.04	#DIV/0!	0.04
5100	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	3,376.4	10%	337.6	0.081	0.000	15	15	\$1,218	\$0	0.22	#DIV/0!	0.34
5101	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	6,876.2	7%	479.6	0.114	0.000	10	10	\$175	\$50	1.51	5.28	2.75
5102	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	NC	6,876.2	5%	363.5	0.298	0.000	10	10	\$70	\$40	5.65	9.89	5.25
5103	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	930.5	10%	93.0	0.081	0.000	15	15	\$1,218	\$0	0.08	#DIV/0!	0.54
5104	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	1,532.7	10%	147.7	0.114	0.000	10	10	\$175	\$50	0.88	3.09	2.57
5105	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	NC	1,532.7	21%	314.6	0.298	0.000	10	10	\$70	\$40	5.42	9.49	16.35
5106	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	930.5	10%	96.3	0.091	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
5107	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	939.4	14%	133.9	0.127	0.000	18	18	\$71	\$71	3.72	3.72	3.63
5108	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	948.4	19%	177.8	0.168	0.000	18	18	\$1,200	\$1,200	0.29	0.29	1.21
5109	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	948.4	24%	223.1	0.211	0.000	18	18	\$1,200	\$1,200	0.37	0.37	1.26
5110	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	NC	782.1	44%	343.3	0.325	0.000	18	18	\$979	\$979	0.70	0.70	1.49
5111	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	NC	3,594.2	7%	265.3	0.108	0.000	18	18	\$280	\$280	1.09	1.09	2.33
5112	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	NC	3,594.2	18%	640.6	0.192	0.000	18	18	\$616	\$616	1.03	1.03	2.46
5113	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	NC	3,594.2	21%	742.0	0.288	0.000	18	18	\$1,082	\$1,082	0.77	0.77	1.96
5114	HVAC Equipment	Ductless ASHP - replace on fail MF NC	MF Income Eligible	MF	NC	2,916.6	32%	931.6	0.325	0.000	18	18	\$705	\$705	1.41	1.41	2.85
5115	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	NC	4,601.8	8%	378.6	0.227	0.000	18	18	\$2,937	\$2,937	0.19	0.19	0.94
5116	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	NC	4,601.8	9%	431.6	0.316	0.000	18	18	\$3,177	\$3,177	0.22	0.22	0.97
5117	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	NC	4,601.8	10%	479.6	0.344	0.000	18	18	\$3,627	\$3,627	0.21	0.21	0.99
5118	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	NC	2,127.7	42%	898.8	0.852	0.000	9	9	\$20	\$20	49.62	49.62	38.12
6001	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	Retrofit	9.8	31%	3.0	0.000	0.000	9	19	\$6	\$6	0.39	0.39	1.73
6002	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	Retrofit	38.6	58%	22.5	0.003	0.003	9	19	\$6	\$6	2.94	2.94	6.46
6003	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	36.9	81%	29.7	0.004	0.004	9	19	\$5	\$5	4.67	4.67	9.64
6004	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	Retrofit	32.2	76%	24.5	0.004	0.004	9	19	\$6	\$6	3.20	3.20	6.94
6005	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	Retrofit	13.1	45%	5.9	0.001	0.001	9	19	\$6	\$6	0.78	0.78	2.44
6006	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	Retrofit	38.6	77%	29.6	0.004	0.004	9	19	\$8	\$8	2.91	2.91	6.39
6007	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	Retrofit	13.8	42%	5.8	0.001	0.001	9	19	\$8	\$8	0.57	0.57	2.06
6008	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	47.5	81%	38.3	0.006	0.006	9	19	\$5	\$5	6.02	6.02	12.14
6009	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	Retrofit	18.1	38%	6.9	0.001	0.001	9	19	\$8	\$8	0.67	0.67	2.25
6010	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	Retrofit	52.4	76%	39.8	0.006	0.006	9	19	\$8	\$8	3.91	3.91	8.25
6011	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	Retrofit	6.6	48%	3.1	0.000	0.000	9	19	\$7	\$7	0.35	0.35	1.65
6012	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	29.4	85%	25.1	0.004	0.004	9	19	\$7	\$7	2.81	2.81	6.22
6013	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	8.0	26%	2.1	0.000	0.000	9	19	\$7	\$7	0.23	0.23	1.44
6014	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	21.1	70%	14.7	0.002	0.002	9	19	\$7	\$7	1.64	1.64	4.05
6015	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	13.1	45%	5.9	0.001	0.001	9	19	\$6	\$6	0.78	0.78	2.44
6016	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	SF Income Eligible	SF	Retrofit	55.5	84%	46.9	0.007	0.007	9	19	\$6	\$6	6.12	6.12	12.36
6017	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	Retrofit	15.3	59%	9.1	0.001	0.001	9	19	\$6	\$6	1.19	1.19	3.20
6018	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	SF Income Eligible	SF	Retrofit	31.3	76%	23.8	0.004	0.004	9	19	\$6	\$6	3.11	3.11	6.76
6019	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	Retrofit	11.6	29%	3.4	0.001	0.001	9	19	\$10	\$10	0.26	0.26	1.49
6020	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	SF Income Eligible	SF	Retrofit	40.0	72%	28.7	0.004	0.004	9	19	\$15	\$15	1.50	1.50	3.28
6021	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	SF Income Eligible	SF	Retrofit	40.0	72%	28.7	0.004	0.004	9	19	\$10	\$10	2.25	2.25	5.17
6022	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	Retrofit	16.7	21%	3.5	0.001	0.001	9	19	\$15	\$15	0.18	0.18	1.34
6023	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	SF Income Eligible	SF	Retrofit	51.0	73%	37.1	0.006	0.006	9	19	\$15	\$15	1.94	1.94	4.59
6024	Lighting	LED Nightlights	N/A	SF	ROB	46.8	47%	22.0	0.003	0.003	12	19	\$0	\$0	46.65	46.65	92.45
6025	Lighting	T8 Linear Fluorescent	N/A	SF	ROB	70.1	29%	20.6	0.025	0.025	8	8	\$36	\$0	0.19	#DIV/0!	0.43
6026	Lighting	Occupancy Sensor	N/A	SF	Retrofit	94.7	30%	28.4	0.079	0.079	10	10	\$61	\$0	0.19	#DIV/0!	0.42
6027	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	NC	9.8	31%	3.0	0.000	0.000	9	19	\$6	\$6	0.39	0.39	1.73
6028	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	NC	38.6	58%	22.5	0.003	0.003	9	19	\$6	\$6	2.94	2.94	6.46
6029	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	NC	36.9	81%	29.7	0.004	0.004	9	19	\$5	\$5	4.67	4.67	9.64
6030	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	NC	32.2	76%	24.5	0.004	0.004	9	19	\$6	\$6	3.20	3.20	6.94
6031	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	NC	13.1	45%	5.9	0.001	0.001	9	19	\$6	\$6	0.78	0.78	2.44
6032	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	NC	38.6	77%	29.6	0.004	0.004	9	19	\$8	\$8	2.91	2.91	6.39
6033	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	NC	13.8	42%	5.8	0.001	0.001	9	19	\$8	\$8	0.57	0.57	2.06

Ameren MO		Income-Eligible Measure Assumptions												Benefit-Cost Ratios			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
6034	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	NC	47.5	81%	38.3	0.006	0.006	9	19	\$5	\$5	6.02	6.02	12.14
6035	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	NC	18.1	38%	6.9	0.001	0.001	9	19	\$8	\$8	0.67	0.67	2.25
6036	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	NC	52.4	76%	39.8	0.006	0.006	9	19	\$8	\$8	3.91	3.91	8.25
6037	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	NC	6.6	48%	3.1	0.000	0.000	9	19	\$7	\$7	0.35	0.35	1.65
6038	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	NC	29.4	85%	25.1	0.004	0.004	9	19	\$7	\$7	2.81	2.81	6.22
6039	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	NC	8.0	26%	2.1	0.000	0.000	9	19	\$7	\$7	0.23	0.23	1.44
6040	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	NC	21.1	70%	14.7	0.002	0.002	9	19	\$7	\$7	1.64	1.64	4.05
6041	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	NC	13.1	45%	5.9	0.001	0.001	9	19	\$6	\$6	0.78	0.78	2.44
6042	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	SF Income Eligible	SF	NC	55.5	84%	46.9	0.007	0.007	9	19	\$6	\$6	6.12	6.12	12.36
6043	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	NC	15.3	59%	9.1	0.001	0.001	9	19	\$6	\$6	1.19	1.19	3.20
6044	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	SF Income Eligible	SF	NC	31.3	76%	23.8	0.004	0.004	9	19	\$6	\$6	3.11	3.11	6.76
6045	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	NC	11.6	29%	3.4	0.001	0.001	9	19	\$10	\$10	0.26	0.26	1.49
6046	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	SF Income Eligible	SF	NC	40.0	72%	28.7	0.004	0.004	9	19	\$15	\$15	1.50	1.50	3.78
6047	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	SF Income Eligible	SF	NC	40.0	72%	28.7	0.004	0.004	9	19	\$10	\$10	2.25	2.25	5.17
6048	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	NC	16.7	21%	3.5	0.001	0.001	9	19	\$15	\$15	0.18	0.18	1.34
6049	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	SF Income Eligible	SF	NC	51.0	73%	37.1	0.006	0.006	9	19	\$15	\$15	1.94	1.94	4.59
6050	Lighting	LED Nightlights	N/A	SF	NC	46.8	47%	22.0	0.003	0.003	12	19	\$0	\$0	46.65	46.65	92.45
6051	Lighting	T8 Linear Fluorescent	N/A	SF	NC	70.1	29%	20.6	0.025	0.025	8	8	\$36	\$0	0.19	#DIV/0!	0.43
6052	Lighting	Occupancy Sensor	N/A	MF	NC	94.7	30%	28.4	0.079	0.079	10	10	\$61	\$0	0.19	#DIV/0!	0.42
6053	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	Retrofit	9.8	31%	3.0	0.000	0.000	9	19	\$7	\$7	0.32	0.32	1.59
6054	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	Retrofit	38.6	58%	22.5	0.003	0.003	9	19	\$7	\$7	2.40	2.40	5.45
6055	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	36.9	81%	29.7	0.004	0.004	9	19	\$5	\$5	4.67	4.67	9.64
6056	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	Retrofit	32.2	76%	24.5	0.004	0.004	9	19	\$7	\$7	2.61	2.61	5.84
6057	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	Retrofit	13.1	45%	5.9	0.001	0.001	9	19	\$7	\$7	0.63	0.63	2.17
6058	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	Retrofit	38.6	77%	29.6	0.004	0.004	9	19	\$6	\$6	3.71	3.71	7.88
6059	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	Retrofit	13.8	42%	5.8	0.001	0.001	9	19	\$6	\$6	0.73	0.73	2.35
6060	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	47.5	81%	38.3	0.006	0.006	9	19	\$5	\$5	6.02	6.02	12.14
6061	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	Retrofit	18.1	38%	6.9	0.001	0.001	9	19	\$7	\$7	0.73	0.73	2.35
6062	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	Retrofit	52.4	76%	39.8	0.006	0.006	9	19	\$7	\$7	4.25	4.25	8.88
6063	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	Retrofit	6.6	48%	3.1	0.000	0.000	9	19	\$7	\$7	0.38	0.38	1.70
6064	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	29.4	85%	25.1	0.004	0.004	9	19	\$7	\$7	3.01	3.01	6.58
6065	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	8.0	26%	2.1	0.000	0.000	9	19	\$7	\$7	0.25	0.25	1.47
6066	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	21.1	70%	14.7	0.002	0.002	9	19	\$7	\$7	1.76	1.76	4.27
6067	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	13.1	45%	5.9	0.001	0.001	9	19	\$7	\$7	0.66	0.66	2.22
6068	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	MF Income Eligible	MF	Retrofit	55.5	84%	46.9	0.007	0.007	9	19	\$7	\$7	5.20	5.20	10.66
6069	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	Retrofit	15.3	59%	9.1	0.001	0.001	9	19	\$7	\$7	1.08	1.08	3.00
6070	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	Retrofit	31.3	76%	23.8	0.004	0.004	9	19	\$7	\$7	2.82	2.82	6.24
6071	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	11.6	29%	3.4	0.001	0.001	9	19	\$10	\$10	0.27	0.27	1.50
6072	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	40.0	72%	28.7	0.004	0.004	9	19	\$10	\$10	2.28	2.28	5.24
6073	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	Retrofit	40.0	72%	28.7	0.004	0.004	9	19	\$10	\$10	2.28	2.28	5.24
6074	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	16.7	21%	3.5	0.001	0.001	9	19	\$15	\$15	0.18	0.18	1.34
6075	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	51.0	73%	37.1	0.006	0.006	9	19	\$15	\$15	1.94	1.94	4.59
6076	Lighting	LED Nightlights	Multifamily Market Rate	MF	ROB	46.8	47%	22.0	0.003	0.003	12	19	\$0	\$0	46.65	46.65	92.45
6077	Lighting	T8 Linear Fluorescent	N/A	MF	ROB	70.1	29%	20.6	0.025	0.025	8	8	\$36	\$0	0.19	#DIV/0!	0.43
6078	Lighting	Occupancy Sensor	N/A	MF	Retrofit	94.7	30%	28.4	0.079	0.079	10	10	\$61	\$0	0.19	#DIV/0!	0.42
6079	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	NC	9.8	31%	3.0	0.000	0.000	9	19	\$7	\$7	0.32	0.32	1.59
6080	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	NC	38.6	58%	22.5	0.003	0.003	9	19	\$7	\$7	2.40	2.40	5.45
6081	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	36.9	81%	29.7	0.004	0.004	9	19	\$5	\$5	4.67	4.67	9.64
6082	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	NC	32.2	76%	24.5	0.004	0.004	9	19	\$7	\$7	2.61	2.61	5.84
6083	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	NC	13.1	45%	5.9	0.001	0.001	9	19	\$7	\$7	0.63	0.63	2.17
6084	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	NC	38.6	77%	29.6	0.004	0.004	9	19	\$6	\$6	3.71	3.71	7.88
6085	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	NC	13.8	42%	5.8	0.001	0.001	9	19	\$6	\$6	0.73	0.73	2.35
6086	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	47.5	81%	38.3	0.006	0.006	9	19	\$5	\$5	6.02	6.02	12.14
6087	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	NC	18.1	38%	6.9	0.001	0.001	9	19	\$7	\$7	0.73	0.73	2.35

Ameren MO		Income-Eligible Measure Assumptions											Benefit-Cost Ratios				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
6088	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	NC	52.4	76%	39.8	0.006	0.006	9	19	\$7	\$7	4.25	4.25	8.88
6089	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	NC	6.6	48%	3.1	0.000	0.000	9	19	\$7	\$7	0.38	0.38	1.70
6090	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	29.4	85%	25.1	0.004	0.004	9	19	\$7	\$7	3.01	3.01	6.58
6091	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	NC	8.0	26%	2.1	0.000	0.000	9	19	\$7	\$7	0.25	0.25	1.47
6092	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	21.1	70%	14.7	0.002	0.002	9	19	\$7	\$7	1.76	1.76	4.27
6093	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	NC	13.1	45%	5.9	0.001	0.001	9	19	\$7	\$7	0.66	0.66	2.22
6094	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	MF Income Eligible	MF	NC	55.5	84%	46.9	0.007	0.007	9	19	\$7	\$7	5.20	5.20	10.66
6095	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	NC	15.3	59%	9.1	0.001	0.001	9	19	\$7	\$7	1.08	1.08	3.00
6096	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	NC	31.3	76%	23.8	0.004	0.004	9	19	\$7	\$7	2.82	2.82	6.24
6097	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	11.6	29%	3.4	0.001	0.001	9	19	\$10	\$10	0.27	0.27	1.50
6098	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	40.0	72%	28.7	0.004	0.004	9	19	\$10	\$10	2.28	2.28	5.24
6099	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	NC	40.0	72%	28.7	0.004	0.004	9	19	\$10	\$10	2.28	2.28	5.24
6100	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	16.7	21%	3.5	0.001	0.001	9	19	\$15	\$15	0.18	0.18	1.34
6101	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	51.0	73%	37.1	0.006	0.006	9	19	\$15	\$15	1.94	1.94	4.59
6102	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	46.8	47%	22.0	0.003	0.003	12	19	\$0	\$0	46.65	46.65	92.45
6103	Lighting	T8 Linear Fluorescent	N/A	MF	NC	70.1	29%	20.6	0.025	0.025	8	8	\$36	\$0	0.19	#DIV/0!	0.43
6104	Lighting	Occupancy Sensor	N/A	MF	NC	94.7	30%	28.4	0.079	0.079	10	10	\$61	\$0	0.19	#DIV/0!	0.42
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	571.3	0%	0.0	0.000	0.000	10	10	\$235	\$235	0.00	0.00	1.00
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	571.3	0%	0.0	0.000	0.000	10	10	\$235	\$235	0.00	0.00	1.00
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	571.3	0%	0.0	0.000	0.000	10	10	\$235	\$235	0.00	0.00	1.00
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	571.3	0%	0.0	0.000	0.000	10	10	\$235	\$235	0.00	0.00	1.00
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	571.3	39%	220.3	0.052	0.000	10	10	\$314	\$314	0.38	0.38	1.63
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	2,578.1	87%	1,863.9	0.199	0.199	13	13	\$588	\$500	1.92	2.25	5.07
8002	Water Heating	Water Heater Wrap	SF Income Eligible	SF	Retrofit	2,578.1	4%	100.5	0.009	0.009	12	12	\$58	\$58	0.82	0.82	2.81
8003	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	2,578.1	1%	30.2	0.003	0.003	10	10	\$3	\$2	4.02	7.83	9.59
8004	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	Retrofit	2,578.1	2%	62.2	0.006	0.006	10	10	\$11	\$11	2.19	2.19	5.94
8005	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	Retrofit	2,578.1	14%	356.3	0.032	0.032	10	10	\$40	\$40	3.55	3.55	9.02
8006	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	Retrofit	2,578.1	2%	63.5	0.005	0.005	10	10	\$50	\$50	0.49	0.49	2.14
8007	Water Heating	Pipe Insulation	SF Income Eligible	SF	Retrofit	2,578.1	1%	26.9	0.002	0.002	12	12	\$43	\$43	0.30	0.30	1.66
8008	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	2,578.1	8%	208.0	0.034	0.034	20	20	\$1,022	\$0	0.14	#DIV/0!	0.31
8009	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	2,578.1	87%	2,238.6	0.199	0.199	13	13	\$588	\$500	1.92	2.25	5.07
8010	Water Heating	Water Heater Wrap	SF Income Eligible	SF	NC	2,578.1	4%	100.5	0.009	0.009	12	12	\$58	\$58	0.82	0.82	2.81
8011	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	2,578.1	1%	30.2	0.003	0.003	10	10	\$3	\$2	4.02	7.83	9.59
8012	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	NC	2,578.1	2%	62.2	0.006	0.006	10	10	\$11	\$11	2.19	2.19	5.94
8013	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	NC	2,578.1	14%	356.3	0.032	0.032	10	10	\$40	\$40	3.55	3.55	9.02
8014	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	NC	2,578.1	2%	63.5	0.005	0.005	10	10	\$50	\$50	0.49	0.49	2.14
8015	Water Heating	Pipe Insulation	SF Income Eligible	SF	NC	2,578.1	1%	26.9	0.002	0.002	12	12	\$43	\$43	0.30	0.30	1.66
8016	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	2,578.1	8%	208.0	0.034	0.034	20	20	\$1,022	\$0	0.14	#DIV/0!	0.31
8017	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	1,863.9	87%	1,618.4	0.144	0.144	13	13	\$588	\$500	1.39	1.63	3.90
8018	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	1,863.9	5%	100.5	0.009	0.009	12	12	\$58	\$58	0.82	0.81	2.82
8019	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	1,863.9	5%	93.5	0.008	0.008	10	10	\$3	\$2	12.42	24.20	28.58
8020	Water Heating	Faucet Aerators (Kitchen) MFM	Multifamily Market Rate	MF	Retrofit	1,863.9	5%	93.5	0.008	0.008	10	10	\$3	\$3	4.66	14.91	10.84
8021	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	Retrofit	1,863.9	3%	62.2	0.006	0.006	10	10	\$11	\$11	2.19	2.19	5.94
8022	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	Retrofit	1,863.9	2%	28.4	0.003	0.003	10	10	\$11	\$11	1.00	1.00	3.26
8023	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	Retrofit	1,863.9	18%	335.4	0.030	0.030	10	10	\$24	\$24	5.57	5.57	13.59
8024	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	Retrofit	1,863.9	11%	213.3	0.019	0.019	10	10	\$7	\$7	12.15	12.15	28.45
8025	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	Retrofit	1,863.9	3%	57.6	0.005	0.005	10	10	\$50	\$50	0.46	0.46	2.04
8026	Water Heating	Pipe Insulation	MF Income Eligible	MF	Retrofit	1,863.9	1%	26.9	0.002	0.002	12	12	\$43	\$43	0.30	0.30	1.66
8027	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	1,863.9	7%	134.9	0.022	0.022	20	20	\$1,022	\$0	0.09	#DIV/0!	0.20
8028	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	1,863.9	87%	1,618.4	0.144	0.144	13	13	\$588	\$500	1.39	1.63	3.90
8029	Water Heating	Water Heater Wrap	N/A	MF	NC	1,863.9	5%	100.5	0.009	0.009	12	12	\$58	\$58	0.82	0.81	2.82

Ameren MO		Income-Eligible Measure Assumptions													Benefit-Cost Ratios		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
8030	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	1,863.9	5%	93.5	0.008	0.008	10	10	\$3	\$2	12.42	24.20	28.58
8031	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	1,863.9	5%	93.5	0.008	0.008	10	10	\$8	\$3	4.66	14.91	10.84
8032	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	NC	1,863.9	3%	62.2	0.006	0.006	10	10	\$11	\$11	2.19	2.19	5.94
8033	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	NC	1,863.9	2%	28.4	0.003	0.003	10	10	\$11	\$11	1.00	1.00	3.26
8034	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	NC	1,863.9	18%	335.4	0.030	0.030	10	10	\$24	\$24	5.57	5.57	13.59
8035	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	NC	1,863.9	11%	213.3	0.019	0.019	10	10	\$7	\$7	12.15	12.15	28.45
8036	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	NC	1,863.9	3%	57.6	0.005	0.005	10	10	\$50	\$50	0.46	0.46	2.04
8037	Water Heating	Pipe Insulation	MF Income Eligible	MF	NC	1,863.9	1%	26.9	0.002	0.002	12	12	\$43	\$43	0.30	0.30	1.66
8038	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	1,863.9	7%	134.9	0.022	0.022	20	20	\$1,022	\$0	0.09	#DIV/0!	0.20
9001	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER1	985.2	57%	564.7	0.073	0.073	17	6	\$753	\$753	0.20	0.20	1.44
9002	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER2	545.1	25%	136.3	0.021	0.021	17	11	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
9003	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER3	545.1	25%	136.3	0.021	0.021	17	17	\$140	\$140	0.69	0.69	2.31
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	891.2	53%	469.0	0.076	0.076	22	6	\$170	\$0	0.77	#DIV/0!	1.61
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	469.0	10%	46.8	0.008	0.008	22	16	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	469.0	10%	46.8	0.008	0.008	22	22	\$35	\$35	1.16	1.16	3.14
9007	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER1	985.2	57%	564.7	0.073	0.073	17	6	\$753	\$753	0.20	0.20	1.44
9008	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER2	545.1	25%	136.3	0.021	0.021	17	11	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
9009	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER3	545.1	25%	136.3	0.021	0.021	17	17	\$140	\$140	0.69	0.69	2.31
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	891.2	53%	469.0	0.076	0.076	22	6	\$170	\$0	0.77	#DIV/0!	1.61
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	469.0	10%	46.8	0.008	0.008	22	16	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	469.0	10%	46.8	0.008	0.008	22	22	\$35	\$35	1.16	1.16	3.14
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER1	11,449.1	59%	6,783.9	1.049	0.000	6	6	\$879	\$879	2.22	2.22	5.50
10002	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER2	10,790.4	55%	5,948.3	0.257	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10003	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER3	10,790.4	55%	5,948.3	0.257	0.000	18	18	\$438	\$438	8.31	8.31	20.05
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	11,449.1	63%	7,241.0	1.146	0.000	6	6	\$1,393	\$1,393	1.50	1.50	4.03
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	10,582.6	63%	6,636.2	1.035	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	10,582.6	63%	6,636.2	1.035	0.000	18	18	\$963	\$963	5.38	5.38	10.67
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	11,449.1	65%	7,389.8	1.287	0.000	6	6	\$2,120	\$2,120	1.04	1.04	3.03
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	11,259.7	61%	6,903.2	0.537	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	11,259.7	61%	6,903.2	0.537	0.000	18	18	\$1,690	\$1,690	2.71	2.71	6.73
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER1	10,192.4	70%	7,138.5	1.540	0.000	18	18	\$2,108	\$2,108	2.94	2.94	5.75
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER2	9,180.2	66%	6,081.3	0.534	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER3	9,180.2	66%	6,081.3	0.534	0.000	30	30	\$1,121	\$1,121	5.15	5.15	11.36
10013	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER1	2,214.5	41%	911.8	0.864	0.000	6	6	\$264	\$264	2.53	2.53	3.02
10014	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER2	1,419.0	8%	116.2	0.110	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10015	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER3	1,419.0	8%	116.2	0.110	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10016	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER1	2,214.5	45%	997.7	0.945	0.000	6	6	\$372	\$372	1.96	1.96	2.56
10017	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER2	1,419.0	14%	202.2	0.192	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10018	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER3	1,419.0	14%	202.2	0.192	0.000	18	18	\$108	\$108	3.72	3.72	3.63
10019	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER1	2,214.5	49%	1,086.3	1.029	0.000	6	6	\$485	\$485	1.64	1.64	2.31
10020	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER2	1,419.0	20%	290.7	0.275	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10021	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER3	1,419.0	20%	290.7	0.275	0.000	18	18	\$1,200	\$1,200	0.48	0.48	1.34
10022	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER1	2,214.5	52%	1,147.9	1.088	0.000	6	6	\$888	\$888	0.94	0.94	1.75
10023	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER2	1,349.2	24%	317.5	0.301	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10024	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER3	1,349.2	24%	317.5	0.301	0.000	18	18	\$1,200	\$1,200	0.53	0.53	1.37
10025	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER1	2,482.9	73%	1,807.8	1.713	0.000	18	6	\$2,108	\$2,108	0.63	0.63	1.50
10026	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER2	1,203.2	44%	528.1	0.500	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10027	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER3	1,203.2	44%	528.1	0.500	0.000	18	18	\$1,545	\$1,545	0.68	0.68	1.48
10028	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	6,969.5	33%	2,272.1	1.039	0.000	6	6	\$875	\$875	1.18	1.18	2.51
10029	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	5,289.6	7%	394.6	0.166	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10030	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	5,289.6	7%	394.6	0.166	0.000	18	18	\$438	\$438	1.06	1.06	2.26
10031	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	6,969.5	41%	2,892.3	1.220	0.000	6	6	\$1,420	\$1,420	0.88	0.88	2.19
10032	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	5,615.9	18%	1,000.9	0.300	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10033	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	5,615.9	18%	1,000.9	0.300	0.000	18	18	\$963	\$963	1.03	1.03	2.46
10034	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	6,969.5	44%	3,050.7	1.370	0.000	6	6	\$2,147	\$2,147	0.64	0.64	1.83

Ameren MO		Income-Eligible Measure Assumptions											Benefit-Cost Ratios				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
10035	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	5,615.9	21%	1,159.3	0.450	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10036	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	5,615.9	21%	1,159.3	0.450	0.000	18	18	\$1,690	\$1,690	0.77	0.77	1.96
10037	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER1	7,122.5	57%	4,068.6	1.419	0.000	18	6	\$1,982	\$1,982	0.81	0.81	2.20
10038	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER2	4,487.1	70%	1,433.2	0.500	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10039	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER3	4,487.1	70%	1,433.2	0.500	0.000	18	18	\$2,108	\$2,108	0.73	0.73	1.95
10040	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	6,772.9	65%	4,371.4	0.654	0.000	6	6	\$713	\$713	1.74	1.74	4.57
10041	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	7,206.2	55%	3,978.2	0.169	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10042	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	7,206.2	55%	3,978.2	0.169	0.000	18	18	\$280	\$280	8.67	8.67	20.91
10043	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	6,772.9	68%	4,634.2	0.733	0.000	6	6	\$1,238	\$1,238	1.08	1.08	3.18
10044	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	6,772.9	63%	4,247.2	0.662	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10045	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	6,772.9	63%	4,247.2	0.662	0.000	18	18	\$616	\$616	5.38	5.38	10.67
10046	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	6,772.9	70%	4,729.5	0.823	0.000	6	6	\$1,965	\$1,965	0.72	0.72	2.40
10047	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	7,206.2	61%	4,418.0	0.344	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10048	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	7,206.2	61%	4,418.0	0.344	0.000	18	18	\$1,690	\$1,690	1.74	1.74	4.67
10049	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER1	6,625.1	70%	4,640.1	1.001	0.000	18	18	\$1,590	\$1,590	2.54	2.54	5.09
10050	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER2	5,967.1	66%	3,952.9	0.347	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10051	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER3	5,967.1	66%	3,952.9	0.347	0.000	30	30	\$625	\$625	6.00	6.00	13.08
10052	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER1	1,452.2	43%	617.9	0.585	0.000	6	6	\$800	\$800	0.56	0.56	1.45
10053	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER2	930.5	10%	96.3	0.091	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10054	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER3	930.5	10%	96.3	0.091	0.000	18	18	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10055	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER1	1,452.2	45%	660.5	0.626	0.000	6	6	\$800	\$800	0.60	0.60	1.48
10056	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER2	939.4	14%	133.9	0.127	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10057	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER3	939.4	14%	133.9	0.127	0.000	18	18	\$71	\$71	3.72	3.72	3.63
10058	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER1	2,214.5	32%	709.5	0.672	0.000	6	6	\$1,200	\$1,200	0.43	0.43	1.34
10059	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER2	948.4	19%	177.8	0.168	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10060	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER3	948.4	19%	177.8	0.168	0.000	18	18	\$1,200	\$1,200	0.29	0.29	1.21
10061	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER1	1,452.2	52%	754.8	0.715	0.000	6	6	\$796	\$796	0.69	0.69	1.55
10062	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER2	948.4	24%	223.1	0.211	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10063	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER3	948.4	24%	223.1	0.211	0.000	18	18	\$1,200	\$1,200	0.37	0.37	1.26
10064	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER1	1,613.9	73%	1,175.0	1.113	0.000	18	6	\$1,413	\$1,413	0.61	0.61	1.48
10065	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER2	782.1	44%	343.3	0.325	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10066	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER3	782.1	44%	343.3	0.325	0.000	18	18	\$979	\$979	0.70	0.70	1.49
10067	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER1	5,237.9	30%	1,546.6	0.696	0.000	6	6	\$731	\$731	0.95	0.95	2.23
10068	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER2	3,594.2	7%	265.3	0.108	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10069	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER3	3,594.2	7%	265.3	0.108	0.000	18	18	\$280	\$280	1.09	1.09	2.33
10070	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	5,237.9	35%	1,851.1	0.781	0.000	6	6	\$1,256	\$1,256	0.64	0.64	1.86
10071	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	3,594.2	18%	640.6	0.192	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10072	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	3,594.2	18%	640.6	0.192	0.000	18	18	\$616	\$616	1.03	1.03	2.46
10073	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	5,237.9	37%	1,952.4	0.877	0.000	6	6	\$1,983	\$1,983	0.44	0.44	1.57
10074	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	3,594.2	21%	742.0	0.288	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10075	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	3,594.2	21%	742.0	0.288	0.000	18	18	\$1,082	\$1,082	0.77	0.77	1.96
10076	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER1	4,629.6	57%	2,644.6	0.922	0.000	18	6	\$1,440	\$1,440	0.72	0.72	2.07
10077	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER2	2,916.6	32%	931.6	0.325	0.000	12	12	\$0	\$0	#DIV/0!	#DIV/0!	#DIV/0!
10078	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER3	2,916.6	32%	931.6	0.325	0.000	18	18	\$705	\$705	1.41	1.41	2.85
List of Acronyms																	
EE EUL: Replacement cycle, number of years (energy efficiency measure)																	
MF: Multifamily																	
NC: New construction																	
NCP: Non-coincident peak																	
PA: Program Administrator																	
RC EUL: Replacement Cycle, number of years (baseline)																	
ROB: Replace-on-burnout																	

Ameren MO		Income-Eligible Measure Assumptions											Benefit-Cost Ratios				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Base Annual Electric	% Elec Savings	Per Unit Elec Savings	Per Unit Summer NCP kW	Per Unit Winter NCP kW	RC EUL	EE EUL	Measure Cost	Incentive Amount	TRC Ratio	UCT/PA Ratio	Participant Test Ratio
		SF: Single-family															
		TRC: Total Resource Cost															
		UCT: Utility Cost Test															

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Home Replacement																				
				Type	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	183	192	198	203	207	210	210	210	210	210	210	210	210	210	210	210	210	210	210
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	359	376	389	399	407	413	413	413	413	413	413	413	413	413	413	413	413	413	413
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	170	193	214	231	246	258	267	274	279	283	283	283	283	283	283	283	283	283	283
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	23	30	39	49	60	72	84	95	105	113	121	126	131	134	137	139	139	139	139
1005	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	13	18	24	32	42	54	68	84	100	117	132	146	158	168	176	183	187	191	194
1006	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	0	0	0	0	0	186	211	234	253	269	282	292	299	305	309	309	309	309	309
1007	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1008	Appliance	Heat Pump Dryer	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1009	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	129	162	199	235
1010	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1011	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1012	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	111	142	179	220	264	307	348	385	417	443	464	480	493	502	509	509	509	509	509
1013	Appliance	Water Cooler	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1014	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	1	1	1	2	3	3	4	5	6	8	8	9	15	18	19	20	26	26	26
1015	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	0	0	0	0	0	6	7	8	9	10	11	11	10	10	18	20	27	28	28
1016	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1017	Appliance	Heat Pump Dryer	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1018	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	23	29	33	33
1019	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1020	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1021	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	2	3	5	6	7	8	9	10	11	21	24	25	25	25	24	23	31	31	41
1022	Appliance	Water Cooler	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1023	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
1024	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
1025	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	21	22	23	24	24	25	25	25	25	25	25	25	25	25	25	25	25	25	25
1026	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	11	14	17	21	26	30	34	37	40	43	45	47	48	49	49	49	49	49	49
1027	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	7	9	12	16	20	25	31	37	43	49	54	59	62	65	67	69	71	72	72
1028	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	0	0	0	0	0	76	84	91	97	101	105	107	109	111	111	111	111	111	111
1029	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030	Appliance	Heat Pump Dryer	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1031	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	72	86	99	99
1032	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1033	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1034	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	52	66	81	97	113	128	142	154	163	171	177	182	185	188	188	188	188	188	188
1035	Appliance	Water Cooler	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1036	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	0	1	1	1	1	1	2	2	3	3	3	3	6	7	7	7	10	10	10
1037	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	0	0	0	0	0	2	2	3	3	3	4	4	3	3	6	7	10	10	10
1038	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1039	Appliance	Heat Pump Dryer	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1040	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	9	11	11
1041	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1042	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1043	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	1	2	2	3	3	3	4	4	4	8	9	9	9	9	9	8	11	11	15
1044	Appliance	Water Cooler	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	Building Shell	Ceiling Insulation R5-R30 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	44	57	73	91	111	132	152	171	187	201	211	218	223	227	228	229	226	223	221
2002	Building Shell	Ceiling Insulation R5-R38 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	47	61	78	98	120	142	164	184	201	216	227	235	240	243	245	246	243	240	238
2003	Building Shell	Ceiling Insulation R5-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	50	65	83	104	127	151	174	195	214	229	241	249	255	258	260	261	258	255	252
2004	Building Shell	Ceiling Insulation R11-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	27	35	45	56	69	81	94	105	115	124	130	134	138	139	141	141	139	138	136
2005	Building Shell	Ceiling Insulation R5-R60 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	52	67	86	108	132	156	181	203	222	238	250	259	265	268	270	271	268	265	262
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	38	51	68	90	118	150	188	228	270	311	349	382	408	429	444	454	461	464	466
2009	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	66	89	120	158	206	263	328	399	473	544	611	668	714	750	777	795	806	812	815
2010	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	26	35	47	62	80	102	128	155	184	212	238	260	278	292	302	309	314	316	317
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	281	366	469	587	716	850	981	1,102	1,206	1,291	1,358	1,406	1,438	1,458	1,469	1,472	1,455	1,438	1,423
2013	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	757	878	990	1,088	1,169	1,233	1,280	1,312	1,332	1,342	1,347	1,331	1,316	1,300	1,286	1,270	1,256	1,241	1,229
2017	Building Shell	Duct Sealing	N/A	SF	Retrofit	0	0	0	0	0	18	23	30	37	45	53	62	69	75	81	85	88	90	91
2018	Building Shell	Floor Insulation	SF Income Eligible	SF	Retrofit	138	160	180	198	213	225	233	239	243	245	245	242	240	237	234	231	229	226	224
2019	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Replacement																					
				Home Type	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
2021	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	76	100	127	160	195	231	267	299	328	351	369	382	391	396	399	400	395	391	387	
2022	Building Shell	Ceiling Insulation R5-R30 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	9	11	13	15	16	18	19	20	21	21	22	22	22	22	22	22	21	21	21	21
2023	Building Shell	Ceiling Insulation R5-R38 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	9	11	13	16	18	19	21	22	23	23	23	24	24	23	23	23	23	23	22	22
2024	Building Shell	Ceiling Insulation R5-R49 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	10	12	14	17	19	20	22	23	24	25	25	25	25	25	25	24	24	24	23	23
2025	Building Shell	Ceiling Insulation R11-R49 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	5	6	8	9	10	11	12	12	13	13	14	14	13	13	13	13	13	13	13	13
2026	Building Shell	Ceiling Insulation R5-R60 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	10	12	15	17	19	21	23	24	25	25	26	26	26	26	25	25	25	25	24	24
2027	Building Shell	Radiant Barrier	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2028	Building Shell	Cool Roof	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2029	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	4	5	7	9	11	15	19	24	29	34	39	44	48	52	54	56	58	58	59	
2030	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	6	8	11	15	20	26	33	42	51	60	69	77	85	90	95	98	101	102	103	
2031	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	2	3	4	6	8	10	13	16	20	24	27	31	33	36	38	39	40	40	41	
2032	Building Shell	Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2033	Building Shell	Storm Windows	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	20	26	34	42	51	60	69	77	85	
2034	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2035	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2036	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2037	Building Shell	Duct Insulation	N/A	SF	Retrofit	10	13	16	20	25	29	34	38	42	45	47	49	50	50	51	51	50	50	49	
2038	Building Shell	Duct Sealing	SF Income Eligible	SF	Retrofit	17	19	21	22	24	24	25	26	26	26	26	25	25	25	24	24	24	24	23	
2039	Building Shell	Floor Insulation	N/A	SF	Retrofit	1	1	1	2	2	3	3	4	4	4	4	5	5	5	5	5	5	5	4	
2040	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2042	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2043	Building Shell	Ceiling Insulation R5-R30 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	3	5	6	8	10	13	16	19	21	24	26	28	30	31	31	32	32	32	32	
2044	Building Shell	Ceiling Insulation R5-R38 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	4	5	7	9	11	14	17	20	23	26	28	30	32	33	34	34	34	34	34	
2045	Building Shell	Ceiling Insulation R5-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	4	5	7	9	12	15	18	21	24	27	30	32	34	35	36	36	36	37	36	
2046	Building Shell	Ceiling Insulation R11-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	2	3	4	5	6	8	10	11	13	15	16	17	18	19	19	20	20	20	20	
2047	Building Shell	Ceiling Insulation R5-R60 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	4	6	7	10	12	15	19	22	25	28	31	33	35	36	37	38	38	38	38	
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2058	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	12	16	22	28	36	45	55	65	75	84	92	98	103	107	109	111	111	112	111	
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	39	68	91	122	146	165	188	220	251	278	285	278	256	250	239	214	375	372	369	
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	18	32	43	58	69	78	89	104	119	132	135	132	121	119	113	101	178	176	175	
2066	Building Shell	Ceiling Insulation R5-R30 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	112	141	172	205	237	266	292	313	329	341	349	354	356	357	353	349	345	341	337	
2067	Building Shell	Ceiling Insulation R5-R38 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	121	151	185	220	254	286	313	336	353	366	375	380	383	384	379	375	370	366	362	
2068	Building Shell	Ceiling Insulation R5-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	128	161	196	233	270	303	333	357	375	389	398	404	407	407	403	398	393	389	385	
2069	Building Shell	Ceiling Insulation R11-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	69	87	106	126	146	164	180	193	202	210	215	218	219	220	217	215	212	210	208	
2070	Building Shell	Ceiling Insulation R5-R60 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	133	167	204	242	280	315	346	370	390	404	413	419	422	423	418	413	408	404	400	
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2073	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	136	170	208	248	286	322	353	378	398	412	422	428	431	432	427	422	417	413	408	
2074	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	251	314	384	457	528	594	652	699	735	761	780	791	796	797	789	779	770	762	754	
2075	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	174	218	267	317	367	413	453	485	510	528	541	549	553	554	548	541	535	529	523	
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	543	647	749	844	927	995	1,049	1,088	1,114	1,130	1,140	1,142	1,129	1,115	1,103	1,090	1,077	1,065	1,054	
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	0	0	0	0	0	1,023	1,180	1,325	1,450	1,553	1,634	1,691	1,730	1,754	1,767	1,770	1,750	1,730	1,712	
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Ameren MO		Scenario 1 Measure Savings				Incremental Annual Energy (MWh) Savings - NET																			
Measure #	End-Use	Measure Name	Program	Home	Replacement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
				Type	Type																				
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	401	503	615	731	845	951	1,043	1,118	1,175	1,217	1,247	1,265	1,274	1,276	1,262	1,247	1,232	1,218	1,206	
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	48	51	54	55	57	57	58	58	57	
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	7	9	10	11	13	13	14	15	15	15	15	15	15	15	15	15	15	15	14	14
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	2	2	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	89	106	123	139	152	164	172	179	183	186	187	188	186	183	181	179	177	175	173	
2087	Building Shell	Ceiling Insulation R5-R30 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	7	8	10	12	14	16	17	19	19	20	21	21	21	21	21	21	21	20	20	20
2088	Building Shell	Ceiling Insulation R5-R38 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	7	9	11	13	15	17	19	20	21	22	22	23	23	23	23	22	22	22	22	21
2089	Building Shell	Ceiling Insulation R5-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	8	10	12	14	16	18	20	21	22	23	24	24	24	24	24	24	24	23	23	23
2090	Building Shell	Ceiling Insulation R11-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	4	5	6	7	9	10	11	11	12	12	13	13	13	13	13	13	13	12	12	
2091	Building Shell	Ceiling Insulation R5-R60 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	8	10	12	14	17	19	20	22	23	24	24	25	25	25	25	24	24	24	24	24
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2094	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	11	14	17	20	23	26	29	31	32	33	34	35	35	35	35	35	34	34	33	33
2095	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	20	25	31	37	43	48	53	56	59	62	63	64	64	64	64	63	62	62	61	61
2096	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	14	18	22	26	30	33	37	39	41	43	44	45	45	44	44	43	43	43	42	42
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	0	0	0	0	0	26	29	31	33	34	35	35	35	36	35	35	34	34	34	34
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	21	25	29	33	36	39	41	43	44	44	45	45	44	44	43	43	42	42	41	41
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	4	5	5	5	5	5	5	5	5	5
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2108	Building Shell	Ceiling Insulation R5-R30 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	5	6	8	9	11	12	13	14	15	15	16	16	16	16	16	16	16	15	15	15
2109	Building Shell	Ceiling Insulation R5-R38 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	5	7	8	10	11	13	14	15	16	16	17	17	17	17	17	17	17	17	16	16
2110	Building Shell	Ceiling Insulation R5-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	6	7	9	10	12	14	15	16	17	17	18	18	18	18	18	18	18	18	17	17
2111	Building Shell	Ceiling Insulation R11-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	3	4	5	6	7	7	8	9	9	9	10	10	10	10	10	10	10	9	9	9
2112	Building Shell	Ceiling Insulation R5-R60 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	6	7	9	11	13	14	15	17	17	18	19	19	19	19	19	19	19	18	18	18
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	20	25	29
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	75	121	145	176	189	193	201	217	232	243	239	225	201	191	179	158	277	275	273	
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	10,504	10,642	10,718	10,637	10,547	10,444	10,337	10,218	10,094	9,976	9,867	9,751	9,640	9,530	9,429	9,322	9,221	9,123	9,026	
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	37	50	68	91	120	156	198	247	299	354	408	457	500	535	562	582	596	605	610	
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	0	0	0	0	0	1,454	1,592	1,703	1,788	1,851	1,895	1,921	1,935	1,939	1,919	1,897	1,876	1,857	1,837	
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	0	0	0	0	0	25	34	46	61	80	104	132	164	199	236	271	304	333	357	
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	21	50	81	112	142	170	197	224	252	280	307	331	352	372	390	405	435	465	494	

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Home Replacement																				
				Type	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	0	1	1	1	2	3	5	6	8	9	14	17	18	20	21	26	32	32	33
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	0	0	0	0	0	2	3	4	6	9	14	19	25	33	41	50	61	72	82
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	0	0	0	0	0	1	1	1	2	2	4	5	6	7	9	12	16	18	19
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	96	97	98	97	96	95	95	93	92	91	90	89	88	87	86	85	84	83	83
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	0	0	1	1	1	1	2	2	3	3	4	4	5	5	5	5	5	6	6
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	0	0	0	0	0	880	963	1,031	1,082	1,120	1,147	1,163	1,171	1,174	1,161	1,148	1,136	1,124	1,112
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	0	0	0	0	0	15	21	28	37	48	63	80	99	121	143	164	184	202	216
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	0	0	1	1	1	2	2	2	2	3	3	3	3	3	4	4	4	4	5
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	0	0	0	0	0	1	2	3	4	6	8	11	15	20	25	30	37	43	50
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	0	0	0	0	0	0	0	1	1	1	2	3	4	5	5	7	10	11	12
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4001	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	Retrofit	189	232	278	323	367	405	439	467	489	506	519	529	536	536	536	536	536	536	
4002	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	41	52	66	81	97	112	128	141	153	162	170	176	180	184	186	186	186	186	
4003	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	Retrofit	4	6	8	11	14	18	24	30	37	44	51	58	64	69	74	77	80	82	84
4004	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4005	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	Retrofit	9	13	18	24	31	41	53	67	82	98	114	130	143	155	165	173	179	183	187
4006	Electronics	ENERGY STAR Display	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4007	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4008	Electronics	ENERGY STAR PC	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4009	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4010	Electronics	ENERGY STAR TV	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4011	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	NC	2	3	3	4	5	5	6	6	7	8	13	15	14	15	14	13	18	18	
4012	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	1	2	2	3	3	4	4	5	5	6	10	11	11	12	11	11	14	15	
4013	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	NC	0	0	0	0	0	1	1	1	1	2	3	4	4	4	5	4	6	7	
4014	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4015	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	NC	0	0	1	1	1	1	2	2	3	4	7	8	9	10	10	10	13	15	
4016	Electronics	ENERGY STAR Display	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4017	Electronics	ENERGY STAR Laptop	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4018	Electronics	ENERGY STAR PC	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4019	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4020	Electronics	ENERGY STAR TV	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4021	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	Retrofit	67	82	98	114	130	143	155	165	173	179	183	187	189	189	189	189	189	189	
4022	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	18	24	30	38	47	56	66	74	82	89	95	99	103	105	107	109	109	109	
4023	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	Retrofit	11	14	17	20	24	27	30	32	34	36	37	38	39	39	39	39	39	39	
4024	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4025	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	Retrofit	20	25	30	36	42	48	53	57	61	64	66	68	69	70	70	70	70	70	
4026	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4027	Electronics	ENERGY STAR Display	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4028	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4029	Electronics	ENERGY STAR PC	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4030	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4031	Electronics	ENERGY STAR TV	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4032	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	NC	1	2	2	3	3	3	4	4	5	5	8	9	9	10	9	9	11	12	
4033	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	NC	0	1	1	1	2	2	2	2	3	3	6	6	6	7	7	6	8	9	
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	NC	0	1	1	1	1	1	1	1	2	2	3	3	3	3	3	4	4	4	
4035	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	NC	1	1	1	2	2	2	2	3	3	3	5	6	5	6	5	5	7	7	

Ameren MO		Scenario 1 Measure Savings			Incremental Annual Energy (MWh) Savings - NET																			
Measure #	End-Use	Measure Name	Program	Home	Replacement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
				Type	Type																			
4037	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4038	Electronics	ENERGY STAR Display	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4039	Electronics	ENERGY STAR Laptop	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4040	Electronics	ENERGY STAR PC	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4041	Electronics	ENERGY STAR Sound Bar	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4042	Electronics	ENERGY STAR TV	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5001	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	SF	Recycle	10	12	15	18	21	23	26	28	29	31	32	32	33	33	33	33	33	33	33
5002	HVAC Equipment	Dirty Filter Alarm_SF:Kits	SF Income Eligible	SF	Retrofit	924	924	924	924	924	923	923	923	923	923	922	922	922	921	921	920	920	920	919
5003	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5004	HVAC Equipment	Smart Ceiling Fan	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5005	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5006	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	52	70	94	123	158	199	244	292	340	386	427	462	490	513	531	545	555	562	562
5007	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5008	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5009	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	303	414	562	757	1,007	1,320	1,698	2,139	2,627	3,143	3,659	4,146	4,585	4,961	5,271	5,517	5,709	5,854	5,962
5010	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5011	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5012	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	Retrofit	75	101	134	175	226	284	349	418	486	551	609	659	700	733	759	778	792	803	803
5013	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5014	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	318	417	535	672	824	983	1,141	1,288	1,419	1,530	1,620	1,690	1,742	1,780	1,809	1,827	1,822	1,817	1,813
5015	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	355	465	597	750	919	1,096	1,272	1,437	1,583	1,706	1,807	1,885	1,944	1,986	2,018	2,039	2,033	2,027	2,023
5016	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	370	483	621	780	956	1,141	1,324	1,495	1,647	1,775	1,880	1,961	2,022	2,066	2,099	2,121	2,115	2,109	2,104
5017	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	SF Income Eligible	SF	ROB	98	134	181	243	323	421	541	678	830	989	1,148	1,296	1,428	1,540	1,632	1,703	1,758	1,799	1,828
5018	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5019	HVAC Equipment	AC Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	177	177	177	177	177	177	177	177	177	176	176	176	176	176	176	176	176	176	176
5020	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5021	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5022	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5023	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	19	24	30	37	44	51	58	64	69	73	76	78	80	81	82	82	82	81	81
5024	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	27	35	43	53	63	74	83	92	99	105	109	113	115	117	118	118	117	117	117
5025	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	29	38	47	58	69	80	91	100	108	114	119	123	126	128	129	128	128	128	127
5026	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible	SF	ROB	49	63	79	97	115	134	151	167	180	190	198	205	209	212	214	214	213	213	212
5027	HVAC Equipment	General HP tune-up (no charge or coil clean)	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5028	HVAC Equipment	HP Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
5029	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5030	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5031	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	SF Income Eligible	SF	ROB	18	18	18	18	18	18	18	18	18	17	17	17	17	17	17	17	17	17	17
5032	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	SF Income Eligible	SF	ROB	45	45	45	45	45	45	45	45	44	44	44	44	44	44	43	43	43	43	43
5033	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	SF Income Eligible	SF	ROB	53	53	52	52	52	52	52	52	51	51	51	51	51	50	50	50	50	50	50
5034	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	SF Income Eligible	SF	ROB	4	5	7	9	11	14	17	19	22	24	26	27	28	29	30	31	31	31	31
5035	HVAC Equipment	DFHP - SEER 19	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5036	HVAC Equipment	DFHP - SEER 20	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5037	HVAC Equipment	DFHP - SEER 21	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5038	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	ROB	197	197	196	196	195	195	194	193	193	192	191	190	190	189	188	188	187	187	186
5039	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5040	HVAC Equipment	Smart Ceiling Fan	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5041	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5042	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	NC	9	16	23	32	40	49	59	73	89	104	187	222	229	245	244	232	312	323	330
5043	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5044	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5045	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	NC	1	2	3	5	6	7	9	11	13	16	28	33	34	37	37	35	47	48	49
5046	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5047	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5048	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	2	3	4	5	6	6	7	8	9	10	10	10	9	8	8	13	13	20	20
5049	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	2	4	5	7	8	9	10	12	13	14	14	14	13	13	12	11	19	19	29
5050	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	5	9	12	15	18	20	22	25	28	31	32	31	28	28	26	24	42	42	64
5051	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible</																					

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Home	Replacement																			
				Type	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5055	HVAC Equipment	Ductless ASHP - replace on fail SF NC	SF Income Eligible	SF	NC	7	12	16	22	27	31	37	44	52	60	63	62	59	58	57	51	92	92	142
5056	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5057	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5058	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5059	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	NC	0	0	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	4
5060	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	4	5	7	9	11	14	17	19	22	24	26	27	29	29	30	31	31	31	31
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	MF Income Eligible	MF	Retrofit	210	251	292	331	366	396	421	441	456	468	477	483	483	483	482	482	482	482	482
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5064	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5065	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	67	78	88	98	106	112	117	122	125	127	129	129	129	129	129	129	128	128	128
5066	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5067	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5068	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	1,098	1,278	1,449	1,602	1,734	1,843	1,930	1,998	2,049	2,087	2,115	2,114	2,113	2,113	2,112	2,111	2,110	2,109	2,108
5069	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5070	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5071	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	0	0	0	0	0	23	27	30	34	36	39	41	42	43	44	44	44	44	44
5072	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	Retrofit	142	170	198	225	249	135	143	150	155	159	162	164	164	164	164	164	164	164	164
5073	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	54	74	101	135	179	234	301	377	462	550	638	721	794	856	907	947	977	1,000	1,017
5074	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	58	79	107	144	191	250	321	403	493	587	681	769	848	914	969	1,011	1,043	1,068	1,085
5075	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	60	82	112	150	199	260	334	419	513	611	709	800	882	951	1,007	1,052	1,085	1,111	1,129
5076	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	MF Income Eligible	MF	ROB	54	74	100	134	178	233	299	375	459	547	634	716	789	851	901	941	971	994	1,010
5077	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5078	HVAC Equipment	AC Tune-up / refrigerant charge	MF Income Eligible	MF	Retrofit	15	18	21	24	27	29	31	32	34	34	35	35	35	35	35	35	35	35	35
5079	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5080	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5081	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5082	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	9	11	13	14	16	17	18	19	19	20	20	20	20	20	20	20	20	20	20
5083	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	12	14	17	19	21	22	24	25	26	26	26	27	27	27	26	26	26	26	26
5084	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	15	18	21	24	26	28	30	31	32	33	33	34	33	33	33	33	33	33	33
5085	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	ROB	23	28	32	36	40	43	46	48	49	50	51	52	51	51	51	51	51	51	51
5086	HVAC Equipment	General HP tune-up (no charge or coil clean)	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5087	HVAC Equipment	HP Tune-up / refrigerant charge MF	MF Income Eligible	MF	Retrofit	10	12	13	15	17	18	19	20	21	22	22	22	22	22	22	22	22	22	22
5088	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5089	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5090	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	ROB	3	3	4	4	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6
5091	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	ROB	7	8	9	11	12	13	13	14	14	15	15	15	15	15	15	15	15	15	15
5092	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	ROB	8	9	11	12	14	15	16	16	17	17	17	17	17	17	17	17	17	17	17
5093	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	MF Income Eligible	MF	ROB	10	12	14	15	17	18	19	20	21	21	22	22	22	22	22	22	22	22	21
5094	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5095	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5096	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5097	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	ROB	1,005	1,003	1,001	998	996	993	989	986	982	977	974	970	966	962	960	956	954	951	949
5098	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5099	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5100	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5101	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	16	25	30	35	37	38	39	42	45	47	78	86	83	85	82	76	100	102	104
5102	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5103	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5104	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	0	0	0	0	0	1	1	1	1	1	2	2	2	2	2	2	3	3	3
5105	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	NC	3	4	5	6	7	3	4	4	4	4	7	8	8	8	8	7	10	10	10
5106	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5107	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	1	2	2	2	2	2	3	3	3	3	3	3	3	2	2	4	4	6	6
5108	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	1	2	2	3	3	3	3	4	4	4	4	4	3	3	3	5	5	8	8
5109	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	3	5	6	7	8	8	9	9	10	11	11	10	9	9	8	7	13	13	20
5110	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	NC	2	3	4	4	5	5	5	6	6	6	6	5	5	5	4	7	7	11	11
5111	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	NC	3	5	6	8	8	8	9	9	10	11	11	10	9	8	7	13	13	20	20
5112	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	NC	8	12	15	18	20	20	21	23	25	26	26	24	22	21	20	18	31	31	48
5113	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	NC	9	14	17	21	23	23	24	27	29	30	30	28	25	24	23	21	36	36	56
5114	HVAC Equipment	Ductless ASHP - replace on fail MF NC	MF Income Eligible	MF	NC	11	18	22	26	29	29	31	33	36	38	37	36	32	31	29	26	46	46	70
5115	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Home Replacement																				
				Type	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5116	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5117	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5118	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	NC	2	4	4	5	6	6	6	7	7	13	14	14	14	14	13	12	16	17	22
6001	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	Retrofit	26	29	32	35	37	39	40	41	42	17	13	10	8	5	4	2	1	1	26
6002	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	Retrofit	192	217	240	260	277	290	300	308	313	126	100	77	58	41	28	18	10	4	192
6003	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6004	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	Retrofit	208	236	261	283	301	315	326	334	341	137	109	84	63	45	31	19	11	5	208
6005	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	Retrofit	51	57	63	69	73	76	79	81	83	33	26	20	15	11	7	5	3	1	51
6006	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	Retrofit	252	286	316	342	364	381	395	405	412	166	132	102	76	54	37	24	13	6	252
6007	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	Retrofit	49	56	62	67	71	75	77	79	81	32	26	20	15	11	7	5	3	1	49
6008	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6009	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	Retrofit	58	66	73	79	84	88	91	94	95	38	31	24	17	13	9	5	3	1	58
6010	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	Retrofit	339	384	425	460	489	512	530	544	554	223	178	137	102	73	50	32	18	8	339
6011	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	Retrofit	28	32	36	39	41	43	44	46	46	19	15	11	9	6	4	3	2	1	28
6012	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	226	257	284	307	327	342	354	363	370	149	119	91	68	49	33	21	12	5	226
6013	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	19	21	24	26	27	29	30	30	31	12	10	8	6	4	3	2	1	0	19
6014	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	132	150	166	180	191	200	207	212	216	87	69	53	40	28	19	12	7	3	132
6015	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	54	61	67	73	77	81	84	86	88	35	28	22	16	12	8	5	3	1	54
6016	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	SF Income Eligible	SF	Retrofit	423	479	530	574	610	639	661	678	691	278	221	171	127	91	62	39	22	10	423
6017	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	Retrofit	28	31	35	38	40	42	43	44	45	18	15	11	8	6	4	3	1	1	28
6018	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	SF Income Eligible	SF	Retrofit	72	82	91	98	105	109	113	116	118	48	38	29	22	16	11	7	4	2	72
6019	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	Retrofit	10	12	13	14	15	15	16	16	17	7	5	4	3	2	1	1	1	0	10
6020	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	SF Income Eligible	SF	Retrofit	87	99	110	119	126	132	137	140	143	57	46	35	26	19	13	8	5	2	87
6021	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6022	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	Retrofit	11	12	13	14	15	16	17	17	17	7	6	4	3	2	2	1	1	0	11
6023	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	SF Income Eligible	SF	Retrofit	113	128	142	153	163	171	177	181	185	74	59	46	34	24	17	11	6	3	113
6024	Lighting	LED Nightlights	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6025	Lighting	T8 Linear Fluorescent	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6026	Lighting	Occupancy Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6027	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6028	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	NC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
6029	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6030	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	NC	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	2
6031	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6032	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	NC	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	2	2	2
6033	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6034	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6035	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
6036	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	NC	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
6037	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6038	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	NC	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	2	2	2
6039	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6040	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	NC	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6041	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6042	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	SF Income Eligible	SF	NC	1	2	2	2	3	3	3	3	3	3	3	3	2	2	2	4	4	4	4
6043	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6044	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1
6045	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6046	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	SF Income Eligible	SF	NC	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1
6047	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6048	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6049	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	SF Income Eligible	SF	NC	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6050	Lighting	LED Nightlights	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6051	Lighting	T8 Linear Fluorescent	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6052	Lighting	Occupancy Sensor	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6053	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	Retrofit	7	8	9	10	10	11	11	11	11	5	4	3	2	2	1	1	0	0	7
6054	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	Retrofit	53	60	66	71	76	79	82	84	86	35	28	21	16	11	8	5	3	1	53

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Home	Replacement																			
				Type	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6055	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6056	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	Retrofit	57	65	72	78	82	86	89	92	93	38	30	23	17	12	8	5	3	1	57
6057	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	Retrofit	14	16	17	19	20	21	22	22	23	9	7	6	4	3	2	1	1	0	14
6058	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	Retrofit	69	78	87	94	100	105	108	111	113	46	36	28	21	15	10	6	4	2	69
6059	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	Retrofit	14	15	17	18	20	20	21	22	22	9	7	5	4	3	2	1	1	0	14
6060	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6061	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	Retrofit	16	18	20	22	23	24	25	26	26	11	8	6	5	3	2	1	1	0	16
6062	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	Retrofit	93	105	117	126	134	141	146	149	152	61	49	38	28	20	14	9	5	2	93
6063	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	Retrofit	4	5	5	6	6	6	6	7	7	3	2	2	1	1	1	0	0	0	4
6064	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	32	37	41	44	47	49	51	52	53	21	17	13	10	7	5	3	2	1	32
6065	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	3	3	3	4	4	4	4	4	4	2	1	1	1	1	0	0	0	0	3
6066	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	19	22	24	26	27	29	30	30	31	12	10	8	6	4	3	2	1	0	19
6067	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	8	9	10	10	11	12	12	12	13	5	4	3	2	2	1	1	0	0	8
6068	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li DI	MF Income Eligible	MF	Retrofit	61	69	76	82	88	92	95	97	99	40	32	24	18	13	9	6	3	1	61
6069	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	Retrofit	2	2	2	2	2	3	3	3	3	1	1	1	1	0	0	0	0	0	2
6070	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	Retrofit	4	5	6	6	6	7	7	7	7	3	2	2	1	1	1	0	0	0	4
6071	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1
6072	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	5	6	7	7	8	8	8	9	9	4	3	2	2	1	1	1	0	0	5
6073	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	Retrofit	5	6	7	7	8	8	8	9	9	4	3	2	2	1	1	1	0	0	5
6074	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1
6075	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	7	8	9	9	10	10	11	11	11	5	4	3	2	1	1	1	0	0	7
6076	Lighting	LED Nightlights	Multifamily Market Rate	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6077	Lighting	T8 Linear Fluorescent	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6078	Lighting	Occupancy Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6079	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6080	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
6081	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6082	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
6083	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6084	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	1	1
6085	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6086	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6087	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6088	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	NC	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6089	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6090	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6091	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6092	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6093	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6094	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li DI	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1
6095	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6096	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6097	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6098	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6099	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6100	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6101	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6102	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6103	Lighting	T8 Linear Fluorescent	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6104	Lighting	Occupancy Sensor	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	144	195	262	349	459	593	754	937	1,135	1,339	1,552	1,751	1,930	2,083	2,209	2,307	2,383	2,439	2,480
8002	Water Heating	Water Heater Wrap	SF Income Eligible	SF	Retrofit	4	5	7	10	13	17	22	28	35	42	48	55	61	66	70	73	76	78	79
8003	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
8004	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	Retrofit	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
8005	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	Retrofit	1,777	1,923	2,044	2,141	2,216	2,274	2,317	2,349	2,349	2,349	2,349	2,349	2,349	2,349	2,349	2,349	2,349	2,349	2,349
8006	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	Retrofit	20	27	37	50	66	86	111	140	172	206	240	272	301	326	346	363	376	385	393
8007	Water Heating	Pipe Insulation	SF Income Eligible	SF	Retrofit	145	161	174	185	194	200	206	210	212	212	212	212	212	212	212	212	212	212	212
8008	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8009	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	3	6	8	12	16	19	24	31	39	48	54	57	57	107	128	130	184	187	187
8010	Water Heating	Water Heater Wrap	SF Income Eligible	SF	NC	0	0	0	0	0	1	1	1	1	1	2	2	3	4	4	4	6	6	6
8011	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	7	9	10	10	10	10	10	10	10	10	11	17	19	19	18	17	22	23	23
8012	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	NC	25	34	35	37	37	35	34	36	37	39	63	69	67	68	66	61	81	82	84
8013	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	NC	81	117	129	145	147	144	144	153	159	165	267	294	285	291	281	260	344	350	358
8014	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	NC	0	1	1	1	2	2	3	4	5	6	12	14	16	17	18	17	23	24	25
8015	Water Heating	Pipe Insulation	SF Income Eligible	SF	NC	4	6	7	8	8	8	8	8	9	9	9	8	13	15	15	19	19	19	19
8016	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8017	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	72	97	130	173	227	294	374	464	563	664	770	868	957	1,033	1,096	1,144	1,181	1,209	1,230
8018	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	29	35	42	49	56	62	67	71	75
8019	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
8020	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8021	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	Retrofit	9	11	13	16	18	20	21	22	24	24	25	25	26	26	26	26	26	26	26
8022	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8023	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	Retrofit	62	76	91	106	121	133	144	153	161	166	171	174	176	176	176	176	176	176	176
8024	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8025	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	Retrofit	15	20	26	33	40	48	56	63	70	76	81	84	87	90	91	93	93	93	93
8026	Water Heating	Pipe Insulation	MF Income Eligible	MF	Retrofit	9	11	13	15	17	19	21	22	23	24	25	25	26	26	26	26	26	26	26
8027	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8028	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	2	3	4	6	8	9	12	15	19	24	27	28	28	53	63	64	91	93	93
8029	Water Heating	Water Heater Wrap	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	1	1	2	3	3	3	5	5	5
8030	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	4	5	6	6	6	6	5	6	6	6	10	11	11	11	11	10	13	13	13
8031	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8032	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	NC	1	1	2	2	2	3	3	3	3	4	6	7	6	7	6	6	8	8	8
8033	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8034	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	NC	4	7	9	11	12	13	14	15	17	18	30	33	33	34	32	30	40	40	41
8035	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8036	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	NC	0	1	1	1	1	1	1	2	2	2	4	4	5	5	5	4	6	6	6
8037	Water Heating	Pipe Insulation	MF Income Eligible	MF	NC	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3
8038	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9001	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER1	193	264	358	482	641	840	1,082	1,363	1,674	2,004	2,333	2,645	2,926	3,167	3,366	3,525	3,649	3,744	3,815
9002	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER2	0	0	0	0	0	0	47	64	86	116	155	203	261	329	404	484	563	638	706
9003	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	64
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	0	0	0	0	0	364	413	456	494	525	550	569	584	595	603	603	603	603	603
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	0	0	0	0	0	0	0	0	0	0	0	36	41	46	49	52	55	57	58
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9007	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER1	789	873	945	1,005	1,052	1,089	1,117	1,139	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	
9008	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER2	0	0	0	0	0	0	191	211	228	243	254	263	270	275	279	279	279	279	279
9009	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	191	211
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	0	0	0	0	0	45	51	57	61	65	68	71	72	74	75	75	75	75	75
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	0	0	0	0	0	0	0	0	0	0	5	5	6	6	7	7	7	7	
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER1	86	113	145	182	223	265	308	348	383	413	438	456	471	481	489	494	492	491	490
10002	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	74	97	124	156	191	227	264	298	329	354	376	392	405
10003	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																				
Measure #	End-Use	Measure Name	Program	Replacement																				
				Home Type	Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	92	120	154	194	238	283	329	371	409	441	467	487	502	513	521	527	525	524	523
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	83	108	139	174	213	254	294	332	367	395	419	438	452
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	94	123	157	198	242	289	336	379	418	450	477	497	513	524	532	538	536	535	533
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	86	113	144	181	221	264	306	346	381	411	436	455	470
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER1	27	37	50	68	90	117	150	189	231	275	319	360	397	428	454	474	489	500	508
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10013	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER1	80	103	129	158	189	219	247	273	294	311	324	335	342	347	351	350	348	348	347
10014	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	10	13	16	20	24	27	31	34	37	39	41	42	43
10015	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
10016	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER1	87	112	141	173	206	239	271	298	321	340	355	366	374	380	384	382	381	380	379
10017	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	17	22	28	34	41	47	54	59	64	67	70	73	74
10018	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
10019	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER1	95	122	154	188	225	261	295	325	350	370	387	399	407	413	418	416	415	414	413
10020	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	25	32	40	49	59	68	77	85	92	97	101	105	107
10021	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
10022	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER1	101	129	162	199	237	276	311	343	370	391	408	421	430	437	441	440	439	438	437
10023	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	27	35	44	54	64	74	84	93	100	106	111	114	117
10024	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
10025	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER1	158	203	256	313	374	434	490	540	583	616	643	663	678	688	695	693	691	689	687
10026	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	46	58	73	90	107	124	140	154	166	176	184	190	194
10027	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
10028	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	122	122	122	121	121	121	120	120	119	119	118	118	118	117	117	116	116	116	115
10029	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	21	21	21	21	21	20	20	20	20	20	20	20	20
10030	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
10031	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	156	155	155	155	154	154	153	153	152	151	151	150	150	149	149	148	148	147	147
10032	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	53	53	53	52	52	52	52	52	51	51	51	51	51
10033	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51
10034	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	164	164	163	163	163	162	162	161	160	160	159	158	158	157	157	156	156	155	155
10035	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	61	61	61	61	60	60	60	60	60	59	59	59	59
10036	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
10037	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER1	14	18	24	30	38	47	56	65	73	80	87	92	96	99	101	103	104	103	103
10038	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	5	6	8	10	13	16	19	22	25	28	30	32	33
10039	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
10040	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	14	19	26	35	47	61	78	98	120	143	166	188	207	223	236	246	254	260	265
10041	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	13	17	23	31	42	54	70	87	107	127	148	167	185
10042	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
10043	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	15	20	28	37	49	65	83	104	127	152	176	199	219	236	250	261	270	276	280

Ameren MO		Scenario 1 Measure Savings		Incremental Annual Energy (MWh) Savings - NET																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19																			
						10044	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	14	18	25	33	44	58	74	93
10045	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
10046	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	15	21	28	38	50	66	85	106	130	155	180	203	224	241	255	267	275	282	286	
10047	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	14	19	26	35	46	60	77	97	119	142	164	186	205	
10048	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
10049	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER1	15	21	28	37	50	65	83	104	128	152	176	199	219	236	251	262	270	276	281	
10050	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
10051	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10052	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER1	39	47	55	62	68	74	78	82	84	86	87	88	88	87	87	87	87	87	86	86
10053	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	6	7	8	9	10	11	12	12	13	13	13	13	13	
10054	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
10055	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER1	42	50	59	66	73	79	84	87	90	92	93	94	94	93	93	93	93	92	92	
10056	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	8	10	12	13	14	16	17	17	18	18	18	19	19	
10057	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
10058	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER1	45	54	63	71	79	85	90	94	97	99	100	101	101	100	100	100	99	99	99	
10059	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	11	13	15	17	19	21	22	23	24	24	25	25	25	
10060	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
10061	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER1	48	58	67	76	84	90	95	100	103	105	107	108	107	107	106	106	106	105	105	
10062	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	14	17	19	22	24	26	28	29	30	30	31	31	31	
10063	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
10064	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER1	75	90	104	118	130	140	149	155	160	163	166	167	167	166	166	165	165	164	164	
10065	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	22	26	30	34	37	40	42	44	46	47	47	48	48	
10066	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	
10067	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER1	19	23	27	30	34	36	38	40	41	42	43	43	43	43	43	43	42	42	42	
10068	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	3	4	5	5	6	6	6	7	7	7	7	7	7	
10069	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
10070	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	23	28	32	36	40	43	46	48	49	50	51	52	51	51	51	51	51	51	51	
10071	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	8	9	11	12	14	15	16	16	17	17	17	18	17	
10072	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
10073	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	24	29	34	38	42	46	48	50	52	53	54	54	54	54	54	54	54	53	53	
10074	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	9	11	13	14	16	17	18	19	19	20	20	20	20	
10075	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
10076	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER1	33	40	46	52	57	62	66	68	70	72	73	74	74	73	73	73	73	72	72	
10077	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	11	14	16	18	20	21	23	24	24	25	25	25	25	
10078	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	

Ameren MO Scenario 1 Measure Costs			Incentives and Admin																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	19																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	\$44,985	\$47,342	\$49,245	\$50,767	\$51,984	\$52,961	\$53,225	\$53,492	\$53,761	\$54,033	\$54,308	\$54,586	\$54,866	\$55,149	\$55,435	\$55,724	\$56,016	\$56,310	\$56,608
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	\$65,902	\$69,468	\$72,379	\$74,739	\$76,655	\$78,224	\$78,742	\$79,266	\$79,795	\$80,329	\$80,868	\$81,413	\$81,964	\$82,519	\$83,081	\$83,648	\$84,221	\$84,799	\$85,383
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	\$32,186	\$36,716	\$40,865	\$44,611	\$47,608	\$50,173	\$52,263	\$53,955	\$55,325	\$56,444	\$56,805	\$57,170	\$57,538	\$57,910	\$58,285	\$58,665	\$59,048	\$59,435	\$59,826
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	\$3,416	\$4,514	\$5,896	\$7,435	\$9,210	\$11,109	\$13,039	\$14,901	\$16,616	\$18,132	\$19,429	\$20,513	\$21,407	\$22,139	\$22,743	\$23,244	\$23,743	\$24,235	\$24,721
1005	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	\$2,274	\$3,113	\$4,224	\$5,665	\$7,485	\$9,713	\$12,334	\$15,281	\$18,435	\$21,641	\$24,736	\$27,866	\$30,108	\$32,267	\$34,072	\$35,562	\$36,785	\$37,792	\$38,631
1006	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$99,435	\$113,003	\$128,304	\$135,973	\$144,887	\$152,118	\$157,860	\$162,355	\$165,850	\$168,566	\$169,003	\$169,444	\$169,890	\$170,340
1007	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1008	Appliance	Heat Pump Dryer	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1009	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$102,889	\$129,782	\$159,727	\$190,964
1010	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1011	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1012	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	\$30,114	\$38,972	\$49,357	\$60,993	\$73,391	\$85,927	\$97,963	\$108,972	\$118,626	\$126,806	\$133,561	\$139,046	\$143,464	\$147,023	\$149,911	\$150,784	\$151,666	\$152,557	\$153,456
1013	Appliance	Water Cooler	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1014	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	\$96	\$176	\$248	\$357	\$461	\$571	\$713	\$921	\$1,160	\$1,406	\$1,567	\$1,647	\$2,885	\$3,494	\$3,674	\$3,802	\$5,133	\$5,175	\$5,262
1015	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$3,203	\$3,677	\$4,355	\$5,045	\$5,651	\$5,869	\$5,810	\$5,433	\$5,390	\$9,675	\$10,821	\$14,762	\$15,292	\$15,217
1016	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1017	Appliance	Heat Pump Dryer	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1018	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,831	\$18,544	\$23,619	\$26,593
1019	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1020	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1021	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	\$550	\$955	\$1,258	\$1,668	\$1,966	\$2,195	\$2,461	\$2,853	\$3,244	\$5,896	\$6,948	\$7,152	\$7,278	\$7,253	\$7,032	\$6,669	\$9,104	\$9,352	\$12,361
1022	Appliance	Water Cooler	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1023	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	\$16,283	\$16,362	\$16,442	\$16,523	\$16,604	\$16,687	\$16,770	\$16,854	\$16,939	\$17,025	\$17,111	\$17,199	\$17,287	\$17,376	\$17,466	\$17,557	\$17,649	\$17,742	\$17,836
1024	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	\$23,817	\$23,972	\$24,129	\$24,287	\$24,447	\$24,608	\$24,771	\$24,936	\$25,103	\$25,271	\$25,440	\$25,612	\$25,785	\$25,960	\$26,136	\$26,315	\$26,495	\$26,677	\$26,861
1025	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	\$3,897	\$4,167	\$4,392	\$4,574	\$4,722	\$4,842	\$4,939	\$4,970	\$5,002	\$5,034	\$5,066	\$5,099	\$5,131	\$5,165	\$5,198	\$5,232	\$5,266	\$5,301	\$5,336
1026	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	\$1,593	\$2,067	\$2,624	\$3,250	\$3,922	\$4,601	\$5,258	\$5,863	\$6,398	\$6,856	\$7,238	\$7,553	\$7,812	\$8,025	\$8,201	\$8,268	\$8,336	\$8,405	\$8,474
1027	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	\$1,141	\$1,548	\$2,076	\$2,743	\$3,559	\$4,520	\$5,600	\$6,766	\$7,930	\$9,064	\$10,109	\$11,033	\$11,823	\$12,485	\$13,030	\$13,478	\$13,847	\$14,155	\$14,273
1028	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$40,483	\$44,890	\$48,711	\$51,903	\$54,492	\$56,548	\$58,157	\$59,408	\$60,380	\$60,535	\$60,692	\$60,851	\$61,011	\$61,172
1029	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1030	Appliance	Heat Pump Dryer	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1031	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$46,864	\$57,677	\$69,119	\$80,405
1032	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1033	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1034	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	\$14,288	\$18,095	\$22,360	\$26,905	\$31,900	\$35,911	\$39,946	\$43,484	\$46,482	\$48,956	\$50,966	\$52,584	\$53,887	\$54,944	\$55,263	\$55,585	\$55,910	\$56,238	\$56,570
1035	Appliance	Water Cooler	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1036	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	\$48	\$87	\$122	\$173	\$219	\$266	\$324	\$407	\$499	\$589	\$640	\$659	\$1,133	\$1,352	\$1,405	\$1,441	\$1,932	\$1,938	\$1,944
1037	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$961	\$1,134	\$1,379	\$1,638	\$1,875	\$1,983	\$1,992	\$1,885	\$1,887	\$3,410	\$3,833	\$5,301	\$5,492	\$5,465
1038	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1039	Appliance	Heat Pump Dryer	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1040	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,762	\$5,760	\$7,534	\$8,694
1041	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1042	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
1043	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	\$261	\$443	\$570	\$736	\$844	\$917	\$1,004	\$1,138	\$1,271	\$2,276	\$2,651	\$2,705	\$2,734	\$2,711	\$2,592	\$2,458	\$3,356	\$3,447	\$4,557
1044	Appliance	Water Cooler	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2001	Building Shell	Ceiling Insulation R5-R30 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	\$66,033	\$86,629	\$111,585	\$140,632	\$172,908	\$206,968	\$241,036	\$272,272	\$302,244	\$327,123	\$347,678	\$364,021	\$376,704	\$386,322	\$393,562	\$398,847	\$398,737	\$398,614	\$398,613
2002	Building Shell	Ceiling Insulation R5-R38 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	\$80,061	\$105,022	\$135,266	\$170,465	\$209,577	\$250,853	\$292,136	\$331,205	\$366,324	\$396,484	\$421,401	\$441,224	\$456,612	\$468,288	\$477,073	\$483,499	\$483,380	\$483,277	\$483,247
2003	Building Shell	Ceiling Insulation R5-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	\$116,919	\$153,340	\$197,461	\$248,809	\$305,862	\$366,075	\$426,295	\$483,303	\$534,566	\$578,598	\$614,973	\$643,944	\$666,449	\$683,545	\$696,399	\$705,835	\$705,710	\$705,600	\$705,568
2004	Building Shell	Ceiling Insulation R11-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	\$112,021	\$146,880	\$189,102	\$238,236	\$292,827	\$350,444	\$408,064	\$462,631	\$511,719	\$553,893	\$588,728	\$616,510	\$638,108	\$654,539	\$666,881	\$675,981	\$675,914	\$675,854	\$675,830
2005	Building Shell	Ceiling Insulation R5-R60 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	\$152,225	\$199,622	\$257,034	\$323,848	\$398,084	\$476,433	\$554,789	\$629,978	\$703,024	\$773,024	\$800,372	\$838,108	\$867,431	\$889,722	\$906,474	\$918,797	\$918,667	\$918,553	\$918,520
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2008	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	\$44,863	\$60,996	\$82,177	\$109,407	\$143,494	\$184,762	\$232,789	\$286,094	\$342,295	\$398,464	\$451,696	\$499,469	\$540,465	\$574,227	\$601,249	\$622,112	\$637,984	\$649,856	\$658,744
2009	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	\$47,427	\$64,529	\$86,992	\$115,876	\$152,036	\$195,809	\$246,757	\$303,267	\$362,805	\$422,287	\$478,670	\$529,174	\$572,472	\$608,065	\$636,585	\$658,491	\$675,135	\$687,560	\$696,924
2010	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	\$13,627	\$18,553	\$25,026	\$33,350	\$43,772	\$56,387	\$71,072	\$87,350	\$104,489	\$121,806	\$137,835	\$152,346	\$164,776	\$174,978	\$183,160	\$189,416	\$194,164	\$197,701	\$200,384
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	\$206,444	\$270,779	\$348,721	\$439,431	\$540,222	\$646,592	\$752,978	\$853,676	\$944,211	\$1,021,969	\$1,086,207	\$1,137,343	\$1,177,054	\$1,2					

Ameren MO		Scenario 1 Measure Costs				Incentives and Admin																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2045	Building Shell	Ceiling Insulation R5-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	\$66,493	\$89,503	\$119,078	\$156,094	\$200,917	\$253,073	\$311,018	\$372,174	\$433,325	\$491,257	\$543,403	\$588,206	\$625,200	\$654,751	\$677,748	\$695,263	\$708,401	\$718,139	\$718,135
2046	Building Shell	Ceiling Insulation R11-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	\$66,527	\$89,547	\$119,132	\$156,161	\$201,000	\$253,173	\$311,138	\$372,318	\$433,494	\$491,452	\$543,620	\$588,448	\$625,465	\$655,038	\$678,050	\$695,582	\$708,735	\$718,484	\$718,483
2047	Building Shell	Ceiling Insulation R5-R60 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	\$88,348	\$118,920	\$158,212	\$207,391	\$266,942	\$336,235	\$413,219	\$494,471	\$575,717	\$652,688	\$721,971	\$781,501	\$830,657	\$869,924	\$900,482	\$923,760	\$941,221	\$954,163	\$954,160
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2058	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	\$61,701	\$83,068	\$110,534	\$144,912	\$186,542	\$234,980	\$288,798	\$345,587	\$402,359	\$456,137	\$504,546	\$546,114	\$580,426	\$607,818	\$629,143	\$645,357	\$657,514	\$666,519	\$666,506
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	\$14,871	\$26,184	\$35,103	\$47,482	\$57,182	\$65,284	\$74,797	\$88,365	\$102,092	\$114,052	\$118,153	\$116,610	\$108,722	\$107,545	\$103,797	\$94,033	\$166,508	\$166,975	\$167,485
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	\$15,018	\$26,427	\$35,407	\$47,872	\$57,631	\$65,781	\$75,353	\$89,019	\$102,858	\$114,921	\$119,061	\$117,531	\$109,605	\$108,446	\$104,681	\$94,859	\$168,006	\$168,809	\$169,033
2066	Building Shell	Ceiling Insulation R5-R30 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	\$113,294	\$142,884	\$175,796	\$210,553	\$245,320	\$278,247	\$307,896	\$333,304	\$354,211	\$370,880	\$383,867	\$393,635	\$400,911	\$406,227	\$406,119	\$405,915	\$405,747	\$405,600	\$405,557
2067	Building Shell	Ceiling Insulation R5-R38 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	\$153,418	\$193,435	\$237,935	\$284,924	\$331,925	\$376,440	\$416,522	\$450,890	\$479,191	\$501,765	\$519,347	\$532,609	\$542,501	\$549,752	\$549,636	\$549,417	\$549,236	\$549,078	\$549,032
2068	Building Shell	Ceiling Insulation R5-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	\$220,482	\$277,919	\$341,774	\$409,193	\$476,625	\$540,496	\$598,001	\$647,337	\$687,995	\$720,439	\$745,703	\$764,810	\$779,086	\$789,580	\$789,457	\$789,224	\$789,032	\$788,864	\$788,816
2069	Building Shell	Ceiling Insulation R11-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	\$207,273	\$261,184	\$321,102	\$384,357	\$447,619	\$507,547	\$561,494	\$607,813	\$646,018	\$676,821	\$700,265	\$718,283	\$731,769	\$741,718	\$741,652	\$741,527	\$741,423	\$741,332	\$741,306
2070	Building Shell	Ceiling Insulation R5-R60 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	\$284,559	\$358,634	\$440,977	\$527,911	\$614,858	\$697,217	\$771,363	\$834,999	\$887,461	\$929,336	\$961,939	\$986,634	\$1,005,099	\$1,018,696	\$1,018,568	\$1,018,327	\$1,018,128	\$1,017,953	\$1,017,903
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2073	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	\$231,631	\$291,974	\$359,061	\$429,892	\$500,737	\$567,841	\$628,256	\$680,089	\$722,802	\$756,887	\$783,429	\$803,501	\$818,496	\$829,519	\$829,388	\$829,142	\$828,938	\$828,760	\$828,708
2074	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	\$244,915	\$308,894	\$380,060	\$455,214	\$530,394	\$601,591	\$665,703	\$720,639	\$765,837	\$801,872	\$829,947	\$851,054	\$866,773	\$878,252	\$878,010	\$877,555	\$877,179	\$876,850	\$876,755
2075	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	\$119,327	\$150,583	\$185,369	\$222,112	\$258,872	\$293,680	\$325,029	\$351,858	\$373,896	\$391,450	\$405,134	\$415,362	\$422,954	\$428,462	\$428,293	\$427,978	\$427,716	\$427,488	\$427,422
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	\$321,596	\$385,142	\$448,748	\$509,037	\$563,318	\$609,950	\$648,476	\$679,165	\$702,951	\$721,037	\$734,625	\$744,545	\$744,346	\$744,112	\$743,987	\$743,754	\$743,561	\$743,392	\$743,343
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$795,901	\$926,849	\$1,050,798	\$1,162,241	\$1,257,957	\$1,337,031	\$1,399,981	\$1,448,869	\$1,485,990	\$1,513,909	\$1,534,374	\$1,534,062	\$1,533,788	\$1,533,709
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	\$130,943	\$165,170	\$203,247	\$243,461	\$283,688	\$321,784	\$356,090	\$385,477	\$409,646	\$428,911	\$443,923	\$455,194	\$463,581	\$469,697	\$469,554	\$469,287	\$469,067	\$468,873	\$468,818
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,237	\$60,867	\$64,687	\$67,735	\$70,109	\$71,910	\$73,261	\$74,260	\$74,258
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	\$3,867	\$4,632	\$5,397	\$6,122	\$6,776	\$7,337	\$7,800	\$8,170	\$8,456	\$8,673	\$8,836	\$8,955	\$8,953	\$8,950	\$8,948	\$8,945	\$8,942	\$8,940	\$8,939
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	\$542	\$667	\$799	\$931	\$1,057	\$1,169	\$1,266	\$1,346	\$1,409	\$1,459	\$1,496	\$1,524	\$1,544	\$1,543	\$1,542	\$1,542	\$1,541	\$1,540	\$1,540
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	\$48,873	\$58,533	\$68,204	\$77,371	\$85,624	\$92,715	\$98,573	\$103,238	\$106,852	\$109,800	\$111,665	\$113,171	\$113,138	\$113,099	\$113,079	\$113,040	\$113,009	\$112,981	\$112,973
2087	Building Shell	Ceiling Insulation R5-R30 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	\$9,704	\$12,233	\$15,046	\$18,016	\$20,986	\$23,800	\$26,333	\$28,505	\$30,295	\$31,723	\$32,835	\$33,675	\$34,302	\$34,762	\$34,756	\$34,744	\$34,734	\$34,725	\$34,722
2088	Building Shell	Ceiling Insulation R5-R38 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	\$13,413	\$16,906	\$20,790	\$24,889	\$28,990	\$32,874	\$36,371	\$39,372	\$41,845	\$43,819	\$45,356	\$46,519	\$47,388	\$48,027	\$48,021	\$48,008	\$47,997	\$47,988	\$47,985
2089	Building Shell	Ceiling Insulation R5-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	\$19,670	\$24,787	\$30,476	\$36,481	\$42,487	\$48,176	\$53,298	\$57,695	\$61,321	\$64,215	\$66,469	\$68,178	\$69,456	\$70,399	\$70,391	\$70,377	\$70,366	\$70,356	\$70,353
2090	Building Shell	Ceiling Insulation R11-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	\$18,936	\$23,858	\$29,327	\$35,101	\$40,875	\$46,345	\$51,268	\$55,497	\$58,987	\$61,774	\$63,943	\$65,591	\$66,826	\$67,739	\$67,735	\$67,728	\$67,721	\$67,716	\$67,715
2091	Building Shell	Ceiling Insulation R5-R60 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	\$25,666	\$32,341	\$39,759	\$47,890	\$55,422	\$62,842	\$69,520	\$75,255	\$79,986	\$83,763	\$86,703	\$88,935	\$90,606	\$91,839	\$91,832	\$91,817	\$91,805	\$91,795	\$91,792
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2094	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	\$21,380	\$26,947	\$33,136	\$39,670	\$46,205	\$52,395	\$57,968	\$62,751	\$66,693	\$69,839	\$72,289	\$74,143	\$75,529	\$76,549	\$76,539	\$76,519	\$76,502	\$76,488	\$76,484
2095	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	\$22,249	\$28,057	\$34,517	\$41,338	\$48,161	\$54,624	\$60,442	\$65,430	\$69,535	\$72,809	\$75,359	\$77,279	\$78,710	\$79,757	\$79,738	\$79,701	\$79,671	\$79,644	\$79,636
2096	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	\$10,667	\$13,459	\$16,565	\$19,846	\$23,129	\$26,237	\$29,036	\$31,432	\$33,402	\$34,971	\$36,195	\$37,110	\$37,791	\$38,286	\$38,272	\$38,247	\$38,226	\$38,207	\$38,202
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$28,217	\$31,216	\$33,791	\$35,915	\$37,610	\$38,930	\$39,932	\$40,681	\$41,234	\$41,230</				

Ameren MO			Scenario 1 Measure Costs				Incentives and Admin																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	19																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
5006	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	\$32,392	\$43,772	\$58,465	\$76,943	\$99,433	\$125,748	\$155,164	\$186,428	\$217,945	\$248,094	\$275,550	\$299,494	\$319,642	\$336,135	\$349,383	\$359,907	\$368,244	\$374,879	\$376,463	
5007	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5008	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5009	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	\$145,897	\$200,521	\$273,731	\$370,332	\$495,214	\$652,480	\$844,166	\$1,068,788	\$1,320,297	\$1,598,117	\$1,858,682	\$2,118,140	\$2,355,169	\$2,562,703	\$2,738,201	\$2,882,740	\$2,999,753	\$3,093,663	\$3,169,003	
5010	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5011	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5012	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	Retrofit	\$133,490	\$179,921	\$239,688	\$314,619	\$405,518	\$511,494	\$629,491	\$754,345	\$879,561	\$998,605	\$1,106,212	\$1,199,187	\$1,276,502	\$1,338,842	\$1,387,941	\$1,425,972	\$1,455,136	\$1,477,406	\$1,479,669	
5013	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5014	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	\$102,459	\$135,128	\$174,977	\$221,671	\$273,945	\$329,577	\$385,728	\$439,419	\$488,293	\$530,868	\$567,065	\$596,662	\$620,563	\$639,659	\$655,302	\$667,834	\$671,537	\$675,415	\$679,498	
5015	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	\$139,740	\$184,091	\$238,119	\$301,350	\$372,042	\$447,167	\$522,871	\$595,144	\$660,806	\$717,876	\$766,163	\$805,498	\$837,076	\$862,126	\$882,388	\$898,453	\$902,584	\$906,911	\$911,466	
5016	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	\$182,271	\$239,877	\$309,968	\$391,905	\$483,397	\$580,497	\$678,199	\$771,336	\$855,801	\$929,057	\$990,757	\$1,040,840	\$1,080,820	\$1,112,313	\$1,137,468	\$1,157,202	\$1,161,499	\$1,166,000	\$1,170,739	
5017	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	SF Income Eligible	SF	ROB	\$42,359	\$58,186	\$79,380	\$107,305	\$143,350	\$188,657	\$243,768	\$308,152	\$380,003	\$456,212	\$533,156	\$606,573	\$673,369	\$731,535	\$780,757	\$820,956	\$853,376	\$879,296	\$900,052	
5018	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5019	HVAC Equipment	AC Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	\$103,825	\$104,262	\$104,702	\$105,145	\$105,592	\$106,042	\$106,495	\$106,951	\$107,409	\$107,870	\$108,334	\$108,799	\$109,267	\$109,739	\$110,215	\$110,695	\$111,179	\$111,669	\$112,165	
5020	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5021	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5022	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5023	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	\$14,632	\$18,880	\$23,840	\$29,369	\$35,225	\$41,105	\$46,703	\$51,765	\$56,142	\$59,785	\$62,743	\$65,077	\$66,895	\$68,300	\$69,401	\$69,558	\$69,724	\$69,897	\$70,080	
5024	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	\$117,754	\$151,631	\$191,072	\$234,917	\$281,226	\$327,569	\$371,514	\$411,103	\$445,164	\$473,332	\$495,908	\$513,519	\$527,000	\$537,171	\$544,798	\$548,025	\$548,263	\$548,513	\$548,776	
5025	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	\$118,367	\$152,425	\$192,080	\$236,166	\$282,731	\$329,334	\$373,528	\$413,344	\$447,605	\$475,941	\$498,657	\$516,382	\$529,955	\$540,200	\$547,890	\$548,138	\$548,398	\$548,670	\$548,957	
5026	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible	SF	ROB	\$155,134	\$199,798	\$251,810	\$309,644	\$370,742	\$431,903	\$489,916	\$542,197	\$587,197	\$624,431	\$654,307	\$677,636	\$695,521	\$709,044	\$719,226	\$719,637	\$720,070	\$720,523	\$721,001	
5027	HVAC Equipment	General HP tune-up (no charge or coil clean)	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5028	HVAC Equipment	HP Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	\$9,017	\$9,088	\$9,160	\$9,233	\$9,306	\$9,380	\$9,454	\$9,528	\$9,603	\$9,679	\$9,755	\$9,831	\$9,907	\$9,985	\$10,062	\$10,141	\$10,220	\$10,300	\$10,381	
5029	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5030	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5031	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	SF Income Eligible	SF	ROB	\$24,385	\$24,420	\$24,455	\$24,489	\$24,522	\$24,554	\$24,585	\$24,614	\$24,641	\$24,668	\$24,698	\$24,726	\$24,755	\$24,784	\$24,811	\$24,831	\$24,851	\$24,885	\$24,921	
5032	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	SF Income Eligible	SF	ROB	\$55,112	\$55,203	\$55,292	\$55,378	\$55,461	\$55,542	\$55,620	\$55,693	\$55,763	\$55,830	\$55,906	\$55,978	\$56,051	\$56,126	\$56,211	\$56,294	\$56,382	\$56,473	\$56,570	
5033	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	SF Income Eligible	SF	ROB	\$89,991	\$90,095	\$90,199	\$90,298	\$90,395	\$90,488	\$90,579	\$90,664	\$90,745	\$90,822	\$90,910	\$90,993	\$91,079	\$91,165	\$91,263	\$91,360	\$91,461	\$91,567	\$91,679	
5034	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	SF Income Eligible	SF	ROB	\$3,519	\$4,692	\$6,165	\$7,952	\$10,037	\$12,359	\$14,819	\$17,285	\$19,630	\$21,750	\$23,589	\$25,118	\$26,354	\$27,330	\$28,096	\$28,686	\$29,144	\$29,210	\$29,279	
5035	HVAC Equipment	DFHP - SEER 19	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5036	HVAC Equipment	DFHP - SEER 20	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5037	HVAC Equipment	DFHP - SEER 21	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5038	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	ROB	\$128,368	\$128,759	\$129,146	\$129,518	\$129,880	\$130,230	\$130,570	\$130,887	\$131,190	\$131,478	\$131,808	\$132,121	\$132,440	\$132,763	\$133,131	\$133,491	\$133,872	\$134,270	\$134,689	
5039	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5040	HVAC Equipment	Smart Ceiling Fan	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5041	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5042	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	NC	\$5,650	\$10,244	\$14,235	\$20,101	\$25,439	\$30,681	\$37,240	\$46,623	\$56,939	\$66,906	\$76,499	\$84,310	\$91,205	\$97,227	\$102,497	\$107,069	\$112,020	\$117,350	\$123,060	
5043	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5044	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5045	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	NC	\$2,436	\$4,405	\$6,106	\$8,599	\$10,854	\$13,056	\$15,806	\$19,737	\$24,040	\$28,174	\$30,609	\$32,451	\$33,838	\$34,767	\$35,286	\$35,623	\$35,749	\$35,820	\$35,891	
5046	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5047	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5048	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	\$1,286	\$2,226	\$2,924	\$3,865	\$4,539	\$5,052	\$5,646	\$6,221	\$6,788	\$7,346	\$7,895	\$8,434	\$8,964	\$9,484	\$10,004	\$10,524	\$11,044	\$11,564	\$12,084	
5049	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	\$10,346	\$17,874	\$23,434	\$30,914	\$36,241	\$40,258	\$44,914	\$51,788	\$58,583	\$64,299	\$68,665	\$72,104	\$74,929	\$77,211	\$79,026	\$80,891	\$82,806	\$84,771	\$86,786	
5050	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	\$20,800	\$35,936	\$47,116	\$62,157	\$72,871	\$80,950	\$90,314	\$104,140	\$117,808	\$129,306	\$132,057	\$128,922	\$119,223	\$117,237	\$112,660	\$100,771	\$178,596	\$179,249	\$276,376	
5051	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible	SF	NC	\$10,174	\$17,579	\$23,051	\$30,413	\$35,660	\$39,618	\$44,206	\$50,979	\$57,676	\$63,311	\$64,665	\$63,136	\$58,393	\$57,426	\$55,191	\$48,373	\$87,514	\$87,846	\$135,465	
5052	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	SF Income Eligible	SF	ROB	\$39,271	\$52,764	\$54,975	\$59,070	\$67,923	\$55,311	\$54,477	\$56,833	\$59,437	\$61,419	\$59,941	\$56,574	\$51,038	\$49,294	\$46,768	\$41,869	\$74,272	\$74,615		

Ameren MO		Scenario 1 Measure Costs			Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	19																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5090	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	ROB	\$3,665	\$4,392	\$5,121	\$5,814	\$6,441	\$6,981	\$7,430	\$7,791	\$8,074	\$8,292	\$8,460	\$8,587	\$8,597	\$8,608	\$8,620	\$8,632	\$8,644	\$8,657	\$8,671
5091	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	ROB	\$8,207	\$9,837	\$11,472	\$13,026	\$14,431	\$15,643	\$16,651	\$17,462	\$18,098	\$18,588	\$18,966	\$19,252	\$19,277	\$19,303	\$19,332	\$19,361	\$19,391	\$19,422	\$19,456
5092	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	ROB	\$13,401	\$16,055	\$18,714	\$21,240	\$23,520	\$25,486	\$27,117	\$28,426	\$29,451	\$30,239	\$30,841	\$31,294	\$31,324	\$31,353	\$31,387	\$31,420	\$31,455	\$31,492	\$31,530
5093	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	MF Income Eligible	MF	ROB	\$9,910	\$11,882	\$13,861	\$15,744	\$17,447	\$18,919	\$20,144	\$21,130	\$21,905	\$22,504	\$22,968	\$23,320	\$23,357	\$23,394	\$23,436	\$23,478	\$23,522	\$23,568	\$23,616
5094	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5095	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5096	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5097	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	ROB	\$271,687	\$273,658	\$275,628	\$277,528	\$279,371	\$281,185	\$282,886	\$284,505	\$286,045	\$287,517	\$289,197	\$290,791	\$292,418	\$294,061	\$295,939	\$297,776	\$299,713	\$301,743	\$303,880
5098	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5099	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5100	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5101	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	\$4,485	\$7,038	\$8,340	\$9,945	\$10,592	\$10,787	\$11,165	\$12,100	\$13,028	\$13,768	\$22,740	\$25,174	\$24,503	\$25,140	\$24,374	\$22,708	\$30,136	\$30,878	\$31,687
5102	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5103	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5104	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	\$0	\$0	\$0	\$0	\$0	\$363	\$416	\$493	\$571	\$639	\$1,104	\$1,276	\$1,283	\$1,347	\$1,327	\$1,250	\$1,655	\$1,691	\$1,731
5105	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	NC	\$972	\$1,570	\$1,915	\$2,345	\$2,557	\$1,328	\$1,398	\$1,536	\$1,672	\$1,782	\$2,964	\$3,332	\$3,249	\$3,340	\$3,244	\$3,028	\$4,026	\$4,132	\$4,248
5106	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5107	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	\$746	\$1,200	\$1,458	\$1,777	\$1,930	\$1,997	\$2,092	\$2,288	\$2,479	\$2,630	\$2,617	\$2,506	\$2,263	\$2,188	\$2,077	\$1,862	\$3,306	\$3,324	\$5,136
5108	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	\$8,866	\$14,238	\$17,253	\$20,993	\$22,746	\$23,487	\$24,564	\$26,813	\$29,001	\$30,717	\$30,515	\$29,171	\$26,291	\$25,369	\$24,043	\$21,501	\$38,099	\$38,231	\$58,933
5109	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	\$17,893	\$28,736	\$34,822	\$42,373	\$45,915	\$47,414	\$49,590	\$54,133	\$58,553	\$62,022	\$61,618	\$58,907	\$53,095	\$51,235	\$48,560	\$43,430	\$76,960	\$77,231	\$119,061
5110	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	NC	\$5,687	\$9,088	\$11,016	\$13,409	\$14,533	\$15,012	\$15,705	\$17,147	\$18,552	\$19,655	\$19,531	\$18,676	\$16,838	\$16,252	\$15,407	\$13,783	\$24,431	\$24,524	\$37,818
5111	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	NC	\$4,185	\$6,729	\$8,163	\$9,944	\$10,787	\$11,151	\$11,674	\$12,756	\$13,810	\$14,640	\$14,559	\$13,931	\$12,568	\$12,139	\$11,518	\$10,312	\$18,294	\$18,379	\$28,368
5112	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	NC	\$9,372	\$15,071	\$18,286	\$22,279	\$24,169	\$24,987	\$26,162	\$28,589	\$30,953	\$32,818	\$32,639	\$31,234	\$28,182	\$27,223	\$25,832	\$23,129	\$41,036	\$41,233	\$63,651
5113	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	NC	\$18,303	\$24,597	\$29,830	\$36,327	\$39,393	\$40,708	\$42,606	\$46,540	\$50,371	\$53,387	\$53,075	\$50,772	\$45,793	\$44,217	\$41,940	\$37,537	\$66,568	\$66,856	\$103,155
5114	HVAC Equipment	Ductless ASHP - replace on fail MF NC	MF Income Eligible	MF	NC	\$11,317	\$18,204	\$22,095	\$26,927	\$29,221	\$30,219	\$31,650	\$34,594	\$37,465	\$39,731	\$39,525	\$37,834	\$34,145	\$32,992	\$31,316	\$28,048	\$49,779	\$50,034	\$77,263
5115	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5116	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5117	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5118	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	NC	\$614	\$992	\$1,211	\$1,483	\$1,617	\$1,680	\$1,768	\$1,940	\$2,109	\$3,697	\$4,239	\$4,273	\$4,238	\$4,145	\$3,966	\$3,763	\$5,139	\$5,284	\$6,993
6001	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	Retrofit	\$57,405	\$65,153	\$72,149	\$78,188	\$83,202	\$87,237	\$90,407	\$92,854	\$94,722	\$38,141	\$30,422	\$23,462	\$17,470	\$12,513	\$8,546	\$5,454	\$3,093	\$1,319	\$58,650
6002	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	Retrofit	\$98,600	\$112,322	\$124,848	\$135,803	\$145,055	\$152,663	\$158,810	\$163,728	\$167,680	\$67,768	\$54,282	\$42,009	\$31,401	\$22,579	\$15,481	\$9,919	\$5,648	\$2,417	\$107,925
6003	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6004	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	Retrofit	\$102,731	\$117,053	\$130,133	\$141,581	\$151,258	\$159,225	\$168,669	\$170,836	\$174,975	\$70,739	\$56,652	\$43,869	\$32,798	\$23,588	\$16,177	\$10,367	\$5,904	\$2,527	\$112,866
6005	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	Retrofit	\$63,602	\$72,248	\$80,077	\$86,855	\$92,506	\$97,079	\$100,696	\$103,515	\$105,694	\$42,597	\$34,008	\$26,252	\$19,565	\$14,027	\$9,589	\$6,126	\$3,478	\$1,484	\$66,062
6006	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	Retrofit	\$130,640	\$148,817	\$165,407	\$179,916	\$192,166	\$202,239	\$210,374	\$216,883	\$222,084	\$89,763	\$71,871	\$55,639	\$41,588	\$29,903	\$20,502	\$13,136	\$7,479	\$3,201	\$142,911
6007	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	Retrofit	\$80,327	\$91,206	\$101,044	\$109,547	\$116,622	\$122,330	\$126,830	\$130,320	\$133,001	\$53,578	\$42,754	\$32,987	\$24,574	\$17,609	\$12,032	\$7,683	\$4,359	\$1,859	\$62,729
6008	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6009	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	Retrofit	\$82,540	\$93,741	\$103,875	\$112,642	\$119,945	\$125,845	\$130,505	\$134,128	\$136,920	\$55,169	\$44,035	\$33,984	\$25,322	\$18,150	\$12,405	\$7,923	\$4,497	\$1,918	\$85,377
6010	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	Retrofit	\$152,182	\$173,483	\$192,965	\$210,044	\$224,511	\$236,452	\$246,144	\$253,945	\$260,224	\$105,256	\$84,337	\$65,338	\$48,673	\$35,167	\$24,129	\$15,470	\$8,815	\$3,775	\$168,678
6011	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	Retrofit	\$70,163	\$79,624	\$88,166	\$95,535	\$101,651	\$106,569	\$110,430	\$113,407	\$115,676	\$46,573	\$37,144	\$28,642	\$21,325	\$15,273	\$10,430	\$6,656	\$3,774	\$1,609	\$71,543
6012	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	\$119,274	\$135,858	\$150,992	\$164,222	\$175,390	\$184,569	\$191,977	\$197,901	\$202,630	\$81,894	\$65,565	\$50,753	\$37,933	\$27,273	\$18,697	\$11,978	\$6,820	\$2,918	\$130,287
6013	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	\$67,818	\$76,939	\$85,166	\$92,255	\$98,129	\$102,844	\$106,536	\$108,372	\$111,524	\$44,886	\$35,787	\$27,887	\$20,532	\$14,700	\$10,035	\$6,402	\$3,629	\$1,546	\$68,738
6014	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	\$95,962	\$109,165	\$121,169	\$131,617	\$140,387	\$147,543	\$153,268	\$157,793	\$161,354	\$65,127	\$52,074	\$40,258	\$30,049	\$21,577	\$14,773	\$9,452	\$5,374	\$2,297	\$102,402
6015	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	\$67,399	\$76,562	\$84,857	\$92,040	\$98,029	\$102,875	\$106,708	\$109,695	\$112,004	\$45,141	\$36,039	\$27,819	\$20,733	\$14,865	\$10,162	\$6,492	\$3,685	\$1,573	\$70,006
6016	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li Di	SF Income Eligible	SF	Retrofit	\$158,897	\$181,331	\$201,908	\$220,012	\$235,413	\$248,195	\$258,640	\$267,117	\$274,008	\$110,947	\$88,989	\$69,014	\$51,676	\$37,222	\$25,565	\$16,408	\$9,389	\$4,012	\$179,452
6017	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	Retrofit	\$25,161	\$28,603	\$31,727	\$34,439	\$36,708	\$38,552	\$40,020	\$41,172	\$42,072	\$16,969	\$13,558	\$10,474	\$7,813	\$5,606	\$3,835	\$2,45			

Ameren MO		Scenario 1 Measure Costs				Incentives and Admin																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6054	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	Retrofit	\$30,229	\$34,419	\$38,238	\$41,872	\$44,382	\$46,686	\$48,541	\$50,019	\$51,194	\$20,682	\$16,552	\$12,808	\$9,869	\$6,877	\$4,713	\$3,018	\$1,718	\$735	\$32,788
6055	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6056	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	Retrofit	\$31,363	\$35,717	\$39,688	\$43,158	\$46,084	\$48,486	\$50,423	\$51,969	\$53,201	\$21,498	\$17,208	\$13,318	\$9,952	\$7,154	\$4,904	\$3,141	\$1,788	\$765	\$34,143
6057	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	Retrofit	\$20,627	\$23,423	\$25,954	\$28,142	\$29,964	\$31,435	\$32,596	\$33,498	\$34,192	\$13,776	\$10,995	\$8,484	\$6,321	\$4,531	\$3,096	\$1,977	\$1,122	\$479	\$21,902
6058	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	Retrofit	\$31,805	\$36,252	\$40,318	\$43,881	\$46,897	\$49,385	\$51,403	\$53,025	\$54,330	\$21,973	\$17,603	\$13,636	\$10,199	\$7,338	\$5,034	\$3,227	\$1,838	\$787	\$35,172
6059	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	Retrofit	\$18,000	\$20,445	\$22,658	\$24,574	\$26,170	\$27,460	\$28,481	\$29,275	\$29,888	\$12,044	\$9,615	\$7,421	\$5,830	\$3,964	\$2,710	\$1,731	\$983	\$419	\$18,660
6060	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6061	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	Retrofit	\$21,153	\$24,026	\$26,627	\$28,878	\$30,754	\$32,271	\$33,470	\$34,404	\$35,124	\$14,155	\$11,299	\$8,721	\$6,499	\$4,659	\$3,185	\$2,034	\$1,155	\$493	\$21,931
6062	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	Retrofit	\$40,261	\$45,906	\$51,071	\$55,603	\$59,444	\$62,619	\$65,199	\$67,279	\$68,956	\$27,897	\$22,357	\$17,324	\$12,961	\$9,328	\$6,402	\$4,105	\$2,340	\$1,002	\$44,787
6063	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	Retrofit	\$9,476	\$10,755	\$11,909	\$12,906	\$13,733	\$14,398	\$14,921	\$15,324	\$15,631	\$6,294	\$5,020	\$3,871	\$2,882	\$2,065	\$1,410	\$900	\$510	\$218	\$9,674
6064	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	\$16,526	\$18,827	\$20,928	\$22,766	\$24,318	\$25,595	\$26,627	\$27,453	\$28,114	\$11,364	\$9,100	\$7,045	\$5,267	\$3,787	\$2,597	\$1,664	\$947	\$406	\$18,107
6065	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	\$9,140	\$10,369	\$11,479	\$12,435	\$13,227	\$13,863	\$14,362	\$14,745	\$15,035	\$6,052	\$4,825	\$3,720	\$2,769	\$1,982	\$1,353	\$863	\$489	\$209	\$9,272
6066	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	\$13,180	\$14,995	\$16,647	\$18,085	\$19,293	\$20,280	\$21,070	\$21,695	\$22,188	\$8,957	\$7,163	\$5,539	\$4,135	\$2,969	\$2,033	\$1,301	\$740	\$316	\$14,104
6067	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	\$11,047	\$12,546	\$13,902	\$15,075	\$16,052	\$16,841	\$17,464	\$17,949	\$18,322	\$7,382	\$5,892	\$4,547	\$3,388	\$2,428	\$1,660	\$1,060	\$602	\$257	\$11,422
6068	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	MF Income Eligible	MF	Retrofit	\$24,182	\$27,586	\$30,704	\$33,445	\$35,773	\$37,702	\$39,274	\$40,546	\$41,577	\$16,829	\$13,493	\$10,461	\$7,830	\$5,638	\$3,871	\$2,483	\$1,416	\$607	\$27,132
6069	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	Retrofit	\$1,656	\$1,882	\$2,087	\$2,265	\$2,414	\$2,534	\$2,630	\$2,706	\$2,764	\$1,115	\$890	\$688	\$513	\$368	\$252	\$161	\$91	\$39	\$1,738
6070	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	Retrofit	\$2,336	\$2,661	\$2,958	\$3,217	\$3,436	\$3,616	\$3,761	\$3,877	\$3,970	\$1,604	\$1,284	\$994	\$743	\$534	\$366	\$235	\$134	\$57	\$2,553
6071	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	\$1,996	\$2,264	\$2,507	\$2,715	\$2,889	\$3,028	\$3,137	\$3,220	\$3,284	\$1,322	\$1,054	\$813	\$605	\$433	\$296	\$189	\$107	\$46	\$2,026
6072	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	\$3,169	\$3,608	\$4,008	\$4,357	\$4,651	\$4,892	\$5,085	\$5,240	\$5,362	\$2,166	\$1,733	\$1,341	\$1,002	\$720	\$493	\$316	\$180	\$77	\$3,430
6073	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	Retrofit	\$3,169	\$3,608	\$4,008	\$4,357	\$4,651	\$4,892	\$5,085	\$5,240	\$5,362	\$2,166	\$1,733	\$1,341	\$1,002	\$720	\$493	\$316	\$180	\$77	\$3,430
6074	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	\$2,967	\$3,365	\$3,725	\$4,034	\$4,291	\$4,496	\$4,657	\$4,780	\$4,873	\$1,961	\$1,563	\$1,205	\$897	\$642	\$438	\$279	\$158	\$67	\$2,999
6075	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	\$4,523	\$5,147	\$5,716	\$6,211	\$6,627	\$6,968	\$7,241	\$7,457	\$7,628	\$3,080	\$2,464	\$1,905	\$1,423	\$1,022	\$700	\$448	\$255	\$109	\$4,860
6076	Lighting	LED Nightlights	Multifamily Market Rate	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6077	Lighting	T8 Linear Fluorescent	N/A	MF	ROB	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6078	Lighting	Occupancy Sensor	N/A	MF	Retrofit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6079	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	NC	\$63	\$96	\$110	\$128	\$133	\$136	\$136	\$145	\$155	\$162	\$158	\$149	\$135	\$130	\$123	\$111	\$196	\$197	\$198
6080	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	NC	\$100	\$153	\$177	\$207	\$216	\$217	\$222	\$238	\$254	\$267	\$262	\$248	\$225	\$218	\$207	\$186	\$331	\$334	\$336
6081	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6082	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	NC	\$104	\$159	\$184	\$215	\$224	\$225	\$230	\$247	\$264	\$278	\$272	\$258	\$234	\$226	\$216	\$194	\$345	\$347	\$350
6083	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	NC	\$68	\$104	\$120	\$140	\$146	\$146	\$149	\$159	\$170	\$178	\$174	\$164	\$148	\$143	\$136	\$122	\$216	\$217	\$219
6084	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	NC	\$106	\$161	\$187	\$218	\$228	\$229	\$235	\$252	\$270	\$284	\$279	\$264	\$239	\$232	\$221	\$199	\$354	\$358	\$361
6085	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	NC	\$60	\$91	\$105	\$122	\$127	\$127	\$130	\$139	\$149	\$156	\$152	\$144	\$130	\$125	\$119	\$107	\$189	\$190	\$191
6086	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6087	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	NC	\$70	\$107	\$123	\$144	\$150	\$150	\$153	\$164	\$175	\$183	\$179	\$169	\$153	\$147	\$140	\$125	\$223	\$224	\$225
6088	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	NC	\$134	\$204	\$237	\$276	\$289	\$291	\$298	\$320	\$343	\$361	\$354	\$336	\$304	\$295	\$281	\$253	\$451	\$455	\$459
6089	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	NC	\$31	\$48	\$55	\$64	\$67	\$67	\$68	\$73	\$78	\$81	\$79	\$75	\$68	\$65	\$62	\$55	\$98	\$99	\$99
6090	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	\$55	\$84	\$97	\$113	\$118	\$119	\$122	\$131	\$140	\$147	\$144	\$136	\$124	\$120	\$114	\$103	\$183	\$184	\$186
6091	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	NC	\$30	\$46	\$53	\$62	\$64	\$64	\$66	\$70	\$75	\$78	\$76	\$72	\$65	\$63	\$59	\$53	\$94	\$95	\$95
6092	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	\$44	\$67	\$77	\$90	\$94	\$94	\$96	\$103	\$110	\$116	\$113	\$107	\$97	\$94	\$89	\$80	\$143	\$144	\$145
6093	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	NC	\$37	\$56	\$64	\$75	\$78	\$78	\$80	\$85	\$91	\$95	\$93	\$88	\$80	\$77	\$73	\$65	\$116	\$117	\$117
6094	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	MF Income Eligible	MF	NC	\$80	\$123	\$142	\$166	\$174	\$175	\$179	\$193	\$207	\$218	\$214	\$203	\$184	\$178	\$170	\$153	\$273	\$276	\$278
6095	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	NC	\$5	\$8	\$10	\$11	\$12	\$12	\$12	\$13	\$14	\$14	\$14	\$13	\$12	\$12	\$11	\$10	\$18	\$18	\$18
6096	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	NC	\$8	\$12	\$14	\$16	\$17	\$17	\$17	\$18	\$20	\$21	\$20	\$19	\$17	\$16	\$14	\$26	\$26	\$26	\$26
6097	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	\$7	\$10	\$12	\$13	\$14	\$14	\$14	\$15	\$16	\$17	\$17	\$16	\$14	\$13	\$12	\$21	\$21	\$21	\$21
6098	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	\$11	\$16	\$19	\$22	\$23	\$23	\$23	\$25	\$27	\$28	\$27	\$26	\$24	\$23	\$22	\$19	\$35	\$35	\$35
6099	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	NC	\$11	\$16	\$19	\$22	\$23	\$23	\$23	\$25	\$27	\$28	\$27	\$26	\$24	\$23	\$22	\$19	\$35	\$35	\$35
6100	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	\$10	\$15	\$17	\$22	\$21	\$21	\$21	\$23	\$24	\$25	\$25	\$23	\$21	\$20	\$19	\$17	\$31	\$31	\$31
6101	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	\$15	\$23	\$26	\$31	\$32	\$32	\$33	\$35	\$38	\$40	\$39	\$37	\$33	\$32	\$31	\$28	\$49	\$49	\$50
6102	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6103	Lighting	T8 Linear Fluorescent	N/A	MF	NC	\$0																		

Table with columns: Measure #, End-Use, Measure Name, Program, Home Type, Replacement Type, and 19 numerical columns representing costs. The table lists various energy efficiency measures such as Water Heating, ER Appliances, and ER HVAC Equipment, detailing their programs, types, and associated costs across 19 different scenarios.

Ameren MO		Scenario 1 Measure Costs				Incentives and Admin																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
10036	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$108,568
10037	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER1	\$10,024	\$13,371	\$17,873	\$22,676	\$28,632	\$35,271	\$42,304	\$49,362	\$56,076	\$62,150	\$67,426	\$71,819	\$75,377	\$78,194	\$80,415	\$82,134	\$83,475	\$83,696	\$83,929	\$83,929
10038	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$1,243	\$1,664	\$2,194	\$2,840	\$3,600	\$4,451	\$5,358	\$6,277	\$7,165	\$7,979	\$8,698	\$9,313	\$9,828	\$9,828
10039	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,412
10040	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	\$5,828	\$8,007	\$10,926	\$14,773	\$19,739	\$25,983	\$33,580	\$42,457	\$52,365	\$62,877	\$73,496	\$83,631	\$92,856	\$100,895	\$107,706	\$113,273	\$117,771	\$121,373	\$124,266	\$124,266
10041	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$3,341	\$4,597	\$6,280	\$8,500	\$11,379	\$15,004	\$19,429	\$24,621	\$30,467	\$36,702	\$43,034	\$49,145	\$54,778	\$54,778
10042	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,520
10043	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	\$7,743	\$10,628	\$14,489	\$19,872	\$26,129	\$34,366	\$44,378	\$56,067	\$69,103	\$82,919	\$96,848	\$110,124	\$122,183	\$132,664	\$141,501	\$148,695	\$154,469	\$159,054	\$162,695	\$162,695
10044	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$3,567	\$4,908	\$6,704	\$9,074	\$12,148	\$16,019	\$20,743	\$26,286	\$32,527	\$39,184	\$46,944	\$52,468	\$58,482	\$58,482
10045	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,855
10046	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	\$10,179	\$13,961	\$19,016	\$25,867	\$34,239	\$44,999	\$58,067	\$73,312	\$90,300	\$108,289	\$126,393	\$143,626	\$159,249	\$172,795	\$184,168	\$193,390	\$200,745	\$206,540	\$211,093	\$211,093
10047	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$3,710	\$5,105	\$6,974	\$9,439	\$12,637	\$16,663	\$21,577	\$27,343	\$33,835	\$40,760	\$47,792	\$54,579	\$60,834	\$60,834
10048	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,495
10049	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER1	\$8,891	\$12,198	\$16,620	\$22,442	\$29,947	\$39,370	\$50,818	\$64,179	\$79,072	\$94,849	\$110,739	\$125,873	\$139,604	\$151,522	\$161,546	\$169,689	\$176,201	\$181,349	\$185,413	\$185,413
10050	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,587
10051	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10052	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER1	\$61,024	\$73,117	\$85,240	\$96,755	\$107,152	\$116,122	\$123,566	\$129,544	\$134,228	\$137,831	\$140,589	\$142,669	\$142,817	\$142,966	\$143,137	\$143,304	\$143,479	\$143,664	\$143,858	\$143,858
10053	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$1,595	\$1,920	\$2,249	\$2,564	\$2,854	\$3,108	\$3,323	\$3,502	\$3,650	\$3,769	\$3,868	\$3,949	\$3,980	\$3,980
10054	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,723
10055	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER1	\$61,700	\$73,932	\$86,195	\$97,847	\$108,369	\$117,448	\$124,985	\$131,039	\$135,785	\$139,437	\$142,236	\$144,349	\$144,507	\$144,666	\$144,848	\$145,027	\$145,215	\$145,412	\$145,619	\$145,619
10056	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$2,217	\$2,670	\$3,127	\$3,565	\$3,968	\$4,321	\$4,621	\$4,869	\$5,075	\$5,241	\$5,378	\$5,492	\$5,534	\$5,534
10057	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,975
10058	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER1	\$88,090	\$105,519	\$122,982	\$139,561	\$154,521	\$167,418	\$178,109	\$186,687	\$193,399	\$198,551	\$202,481	\$205,435	\$205,605	\$205,776	\$205,972	\$206,163	\$206,365	\$206,576	\$206,799	\$206,799
10059	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$2,946	\$3,547	\$4,154	\$4,736	\$5,272	\$5,741	\$6,139	\$6,468	\$6,742	\$6,963	\$7,145	\$7,296	\$7,352	\$7,352
10060	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$80,026
10061	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER1	\$62,950	\$75,443	\$87,971	\$99,878	\$110,635	\$119,921	\$127,634	\$133,835	\$138,699	\$142,445	\$145,324	\$147,502	\$147,683	\$147,865	\$148,073	\$148,277	\$148,491	\$148,716	\$148,953	\$148,953
10062	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$3,697	\$4,451	\$5,213	\$5,943	\$6,616	\$7,204	\$7,704	\$8,117	\$8,461	\$8,738	\$8,966	\$9,156	\$9,226	\$9,226
10063	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$80,837
10064	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER1	\$109,110	\$130,743	\$152,431	\$173,037	\$191,646	\$207,705	\$221,034	\$231,743	\$240,137	\$246,597	\$251,549	\$255,287	\$255,568	\$255,852	\$256,176	\$256,493	\$256,827	\$257,178	\$257,547	\$257,547
10065	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$5,687	\$6,848	\$8,020	\$9,143	\$10,177	\$11,083	\$11,851	\$12,487	\$13,016	\$13,442	\$13,793	\$14,085	\$14,193	\$14,193
10066	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$68,804
10067	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER1	\$13,968	\$16,760	\$19,567	\$22,241	\$24,664	\$26,763	\$28,514	\$29,928	\$31,045	\$31,911	\$32,589	\$33,108	\$33,181	\$33,254	\$33,338	\$33,419	\$33,505	\$33,596	\$33,691	\$33,691
10068	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$861	\$1,036	\$1,214	\$1,384	\$1,540	\$1,677	\$1,794	\$1,890	\$1,970	\$2,035	\$2,088	\$2,132	\$2,148	\$2,148
10069	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,446
10070	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	\$21,497	\$25,779	\$30,078	\$34,169	\$37,871	\$41,072	\$43,736	\$45,884	\$47,573	\$48,880	\$49,893	\$50,665	\$50,752	\$50,839	\$50,939	\$51,037	\$51,140	\$51,248	\$51,362	\$51,362
10071	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$2,079	\$2,503	\$2,931	\$3,342	\$3,720	\$4,051	\$4,332	\$4,564	\$4,757	\$4,913	\$5,042	\$5,148	\$5,188	\$5,188
10072	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,976
10073	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	\$30,931	\$37,070	\$43,229	\$49,082	\$54,370	\$58,937	\$62,730	\$65,779	\$68,173	\$70,016	\$71,434	\$72,507	\$72,599	\$72,691	\$72,797	\$72,900	\$73,009	\$73,123	\$73,243	\$73,243
10074	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$2,408	\$2,899	\$3,395	\$3,871	\$4,309	\$4,692	\$5,017	\$5,287	\$5,510	\$5,691	\$5,839	\$5,963	\$6,009	\$6,009
10075	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,168
10076	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER1	\$26,274	\$31,519	\$36,788	\$41,806	\$46,350	\$50,284	\$53,563	\$56,208	\$58,294	\$59,911	\$61,170	\$62,134	\$62,258	\$62,383	\$62,526	\$62,665	\$62,813	\$62,967	\$63,130	\$63,130
10077	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER2	\$0	\$0	\$0	\$0	\$0	\$0	\$3,023	\$3,640	\$4,263	\$4,860	\$5,410	\$5,891	\$6,300	\$6,638	\$6,919	\$7,145	\$7,332	\$7,487	\$7,544	\$7,544
10078	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,109

Ameren MO			Scenario 1 Participants By Measure		Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	462	484	501	514	524	531	531	531	531	531	531	531	531	531	531	531	531	531	531
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	459	481	498	511	520	528	528	528	528	528	528	528	528	528	528	528	528	528	528
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	246	278	308	333	354	371	384	394	401	407	407	407	407	407	407	407	407	407	407
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	35	46	59	74	91	109	127	144	159	172	183	192	198	204	207	210	210	210	210
1005	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	87	119	160	213	279	359	452	555	664	773	877	970	1,050	1,116	1,169	1,210	1,241	1,265	1,282
1006	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	0	0	0	0	0	1,069	1,211	1,340	1,451	1,542	1,615	1,672	1,715	1,747	1,771	1,771	1,771	1,771	1,771
1007	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1008	Appliance	Heat Pump Dryer	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1009	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,111	1,399	1,720	2,058
1010	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1011	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1012	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	272	350	441	542	649	755	856	947	1,026	1,090	1,142	1,182	1,212	1,235	1,252	1,252	1,252	1,252	1,252
1013	Appliance	Water Cooler	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1014	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	4	7	9	13	17	21	26	33	42	50	56	58	101	121	126	129	173	173	175
1015	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	0	0	0	0	0	34	39	47	54	60	62	62	57	57	102	113	154	159	158
1016	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1017	Appliance	Heat Pump Dryer	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1018	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	200	254	287	
1019	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1020	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1021	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	5	9	11	15	17	19	22	25	28	51	59	61	61	61	59	55	75	77	101
1022	Appliance	Water Cooler	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1023	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167
1024	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
1025	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	30	32	33	34	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36
1026	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	16	21	26	32	39	45	51	57	61	65	68	71	72	74	75	75	75	75	75
1027	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	44	59	79	103	132	167	205	245	286	324	358	388	412	432	447	459	467	474	474
1028	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	0	0	0	0	0	435	481	521	554	580	600	616	627	636	636	636	636	636	636
1029	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030	Appliance	Heat Pump Dryer	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1031	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	506	622	744	867
1032	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1033	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1034	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	129	163	200	239	278	316	349	378	402	421	436	447	455	462	462	462	462	462	462
1035	Appliance	Water Cooler	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1036	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	2	3	5	6	8	10	12	15	18	21	23	23	40	47	48	49	65	65	65
1037	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	0	0	0	0	0	10	12	15	17	20	21	21	20	20	36	40	55	57	57
1038	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1039	Appliance	Heat Pump Dryer	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1040	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	62	81	94	
1041	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1042	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1043	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	2	4	5	7	7	8	9	10	11	20	23	23	23	23	22	20	28	28	37
1044	Appliance	Water Cooler	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	Building Shell	Ceiling Insulation R5-R30 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	37	48	62	78	96	115	134	152	168	182	193	202	210	215	219	222	222	222	222
2002	Building Shell	Ceiling Insulation R5-R38 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	37	48	62	78	96	115	134	152	168	182	193	202	210	215	219	222	222	222	222
2003	Building Shell	Ceiling Insulation R5-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	37	48	62	78	96	115	134	152	168	182	193	202	210	215	219	222	222	222	222
2004	Building Shell	Ceiling Insulation R11-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	37	48	62	78	96	115	134	152	168	182	193	202	210	215	219	222	222	222	222
2005	Building Shell	Ceiling Insulation R5-R60 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	37	48	62	78	96	115	134	152	168	182	193	202	210	215	219	222	222	222	222
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	89	121	162	216	283	364	459	564	674	785	890	985	1,066	1,133	1,186	1,228	1,260	1,284	1,301
2009	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	78	105	142	189	247	318	401	493	590	687	778	861	932	991	1,038	1,074	1,102	1,123	1,138
2010	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	18	25	33	44	58	74	94	115	138	160	182	201	218	231	242	251	257	262	266
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	241	316	406	512	629	753	877	994	1,099	1,190	1,265	1,325	1,371	1,407	1,433	1,453	1,453	1,453	1,453
2013	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	570	664	753	833	902	958	1,004	1,039	1,066	1,086	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101	1,101
2017	Building Shell	Duct Sealing	N/A	SF	Retrofit	0	0	0	0	0	110	144	185	233	286	343	399	452	500	541	576	603	624	640
2018	Building Shell	Floor Insulation	SF Income Eligible	SF	Retrofit	81	94	107	118	128	136	142	147	151	154	156	156	156	156	156	156	156	156	156
2019	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Scenario 1 Participants By Measure			Incremental Annual Participants																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
2021	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	129	169	218	274	337	403	469	532	588	637	677	709	734	753	767	778	778	778	778	
2022	Building Shell	Ceiling Insulation R5-R30 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	12	14	17	20	22	25	27	29	30	31	32	32	33	33	33	33	33	33	33	33
2023	Building Shell	Ceiling Insulation R5-R38 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	12	14	17	20	22	25	27	29	30	31	32	32	33	33	33	33	33	33	33	33
2024	Building Shell	Ceiling Insulation R5-R49 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	12	14	17	20	22	25	27	29	30	31	32	32	33	33	33	33	33	33	33	33
2025	Building Shell	Ceiling Insulation R11-R49 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	12	14	17	20	22	25	27	29	30	31	32	32	33	33	33	33	33	33	33	33
2026	Building Shell	Ceiling Insulation R5-R60 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	12	14	17	20	22	25	27	29	30	31	32	32	33	33	33	33	33	33	33	33
2027	Building Shell	Radiant Barrier	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2028	Building Shell	Cool Roof	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2029	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	10	13	18	24	32	42	54	69	84	101	117	133	147	159	169	177	184	188	192	192
2030	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	8	12	16	21	28	37	48	60	74	88	103	116	129	139	148	155	161	165	168	168
2031	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	2	3	4	5	7	9	11	14	17	21	24	28	30	33	35	37	38	39	40	40
2032	Building Shell	Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2033	Building Shell	Storm Windows	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	36	47	61	76	94	112	131	148	164	164
2034	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2035	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2036	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2037	Building Shell	Duct Insulation	N/A	SF	Retrofit	16	21	28	35	43	51	59	67	74	81	86	90	93	95	97	98	98	98	98	98
2038	Building Shell	Duct Sealing	SF Income Eligible	SF	Retrofit	99	112	124	134	142	149	154	158	161	164	164	164	164	164	164	164	164	164	164	164
2039	Building Shell	Floor Insulation	N/A	SF	Retrofit	1	2	2	2	3	4	4	5	5	6	6	6	7	7	7	7	7	7	7	7
2040	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	1	2	2	2	3	4	4	5	5	6	6	6	7	7	7	7	7	7	7	7
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2042	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2043	Building Shell	Ceiling Insulation R5-R30 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	23	31	41	54	70	88	108	129	150	170	188	204	217	227	235	241	246	249	249	249
2044	Building Shell	Ceiling Insulation R5-R38 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	23	31	41	54	70	88	108	129	150	170	188	204	217	227	235	241	246	249	249	249
2045	Building Shell	Ceiling Insulation R5-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	23	31	41	54	70	88	108	129	150	170	188	204	217	227	235	241	246	249	249	249
2046	Building Shell	Ceiling Insulation R11-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	23	31	41	54	70	88	108	129	150	170	188	204	217	227	235	241	246	249	249	249
2047	Building Shell	Ceiling Insulation R5-R60 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	23	31	41	54	70	88	108	129	150	170	188	204	217	227	235	241	246	249	249	249
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2058	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	115	155	206	271	348	439	539	645	751	852	942	1,020	1,084	1,135	1,175	1,205	1,228	1,245	1,245	1,245
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	10	18	24	33	40	45	52	61	71	79	82	81	75	74	72	65	115	116	116	116
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	10	18	24	33	40	45	52	61	71	79	82	81	75	74	72	65	115	116	116	116
2066	Building Shell	Ceiling Insulation R5-R30 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	102	129	158	189	220	250	276	299	318	333	345	354	360	365	365	365	365	365	365	365
2067	Building Shell	Ceiling Insulation R5-R38 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	102	129	158	189	220	250	276	299	318	333	345	354	360	365	365	365	365	365	365	365
2068	Building Shell	Ceiling Insulation R5-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	102	129	158	189	220	250	276	299	318	333	345	354	360	365	365	365	365	365	365	365
2069	Building Shell	Ceiling Insulation R11-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	102	129	158	189	220	250	276	299	318	333	345	354	360	365	365	365	365	365	365	365
2070	Building Shell	Ceiling Insulation R5-R60 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	102	129	158	189	220	250	276	299	318	333	345	354	360	365	365	365	365	365	365	365
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2073	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	495	623	766	917	1,067	1,210	1,338	1,449	1,540	1,613	1,669	1,713	1,745	1,769	1,769	1,769	1,769	1,769	1,769	1,769
2074	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	457	575	707	846	985	1,117	1,235	1,337	1,421	1,489	1,541	1,581	1,611	1,633	1,633	1,633	1,633	1,633	1,633	1,633
2075	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	190	240	295	353	410	465	515	557	592	620	642	659	671	680	680	680	680	680	680	680
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	844	1,009	1,175	1,332	1,474	1,595	1,696	1,776	1,838	1,886	1,922	1,948	1,948	1,948	1,948	1,948	1,948	1,948	1,948	1,948
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	0	0	0	0	0	978	1,139	1,291	1,428	1,546	1,643	1,721	1,781	1,827	1,862	1,887	1,887	1,887	1,887	1,887
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Scenario 1 Participants By Measure				Incremental Annual Participants																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	511	644	791	946	1,102	1,249	1,382	1,496	1,590	1,665	1,724	1,768	1,802	1,827	1,827	1,827	1,827	1,827	1,827
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	516	559	594	622	644	660	673	682	682
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	7	9	10	11	13	14	15	15	16	16	17	17	17	17	17	17	17	17	17
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	7	9	10	12	14	15	16	17	18	19	19	20	20	20	20	20	20	20	20
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	371	445	518	587	649	703	747	782	810	831	846	858	858	858	858	858	858	858	858
2087	Building Shell	Ceiling Insulation R5-R30 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	10	12	15	18	21	24	26	28	30	31	32	33	34	34	34	34	34	34	34
2088	Building Shell	Ceiling Insulation R5-R38 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	10	12	15	18	21	24	26	28	30	31	32	33	34	34	34	34	34	34	34
2089	Building Shell	Ceiling Insulation R5-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	10	12	15	18	21	24	26	28	30	31	32	33	34	34	34	34	34	34	34
2090	Building Shell	Ceiling Insulation R11-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	10	12	15	18	21	24	26	28	30	31	32	33	34	34	34	34	34	34	34
2091	Building Shell	Ceiling Insulation R5-R60 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	10	12	15	18	21	24	26	28	30	31	32	33	34	34	34	34	34	34	34
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2094	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	47	59	72	86	101	114	126	137	145	152	157	161	164	167	167	167	167	167	
2095	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	43	54	67	80	93	105	116	126	134	140	145	149	152	154	154	154	154	154	
2096	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	18	23	28	33	39	44	49	53	56	58	61	62	63	64	64	64	64	64	
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	0	0	0	0	0	80	88	95	101	106	110	113	115	116	116	116	116	116	
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	54	65	76	86	95	103	109	115	119	122	124	126	126	126	126	126	126	126	
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	49	53	56	59	61	62	63	64	
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	31	31	32	32	32	32	32	32	32	32	32	32	32	
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2108	Building Shell	Ceiling Insulation R5-R30 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	36	45	55	66	77	88	97	105	111	117	121	124	126	128	128	128	128	128	
2109	Building Shell	Ceiling Insulation R5-R38 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	36	45	55	66	77	88	97	105	111	117	121	124	126	128	128	128	128	128	
2110	Building Shell	Ceiling Insulation R5-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	36	45	55	66	77	88	97	105	111	117	121	124	126	128	128	128	128	128	
2111	Building Shell	Ceiling Insulation R11-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	36	45	55	66	77	88	97	105	111	117	121	124	126	128	128	128	128	128	
2112	Building Shell	Ceiling Insulation R5-R60 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	36	45	55	66	77	88	97	105	111	117	121	124	126	128	128	128	128	128	
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179	226	277	332	
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	0	0	0	0	0	166	166	166	166	166	166	166	166	166	166	166	166	166	
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	34	55	67	81	88	91	95	104	112	119	118	113	102	98	93	83	147	148	
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	82,017	83,569	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	84,720	
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	64	88	119	160	213	279	359	452	556	665	775	878	971	1,051	1,118	1,171	1,212	1,243	
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	0	0	0	0	0	21,454	23,732	25,689	27,306	28,597	29,602	30,368	30,943	31,369	31,369	31,369	31,369	31,369	31,369
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	0	0	0	0	0	82	112	152	205	273	358	460	580	713	853	993	1,126	1,245	
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	165	394	637	892	1,142	1,381	1,615	1,860	2,115	2,378	2,635	2,877	3,095	3,306	3,505	3,684	4,000		

Ameren MO		Scenario 1 Participants By Measure			Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	1	1	1	2	3	6	9	11	15	18	27	32	35	39	41	51	64	66	68
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	0	0	0	0	0	25	41	64	98	146	212	298	404	530	673	823	1,013	1,209	1,405
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	0	0	0	0	0	2	3	4	5	7	12	17	21	27	32	44	60	66	73
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	750	764	775	775	775	775	775	775	775	775	775	775	775	775	775	775	775	775	775
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	1	1	1	1	2	3	3	4	5	6	7	8	9	10	10	11	11	11	12
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	0	0	0	0	0	12,984	14,362	15,547	16,525	17,306	17,914	18,378	18,726	18,984	18,984	18,984	18,984	18,984	18,984
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	0	0	0	0	0	50	68	92	124	165	216	279	351	431	516	601	681	753	816
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	2	4	6	8	10	13	15	17	19	22	24	26	28	30	32	34	37	39	42
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	0	0	0	0	0	15	25	39	59	88	128	180	244	321	407	498	613	732	850
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	0	0	0	0	0	1	2	2	3	4	7	10	13	16	19	26	36	40	44
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4001	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	Retrofit	1,166	1,433	1,714	1,996	2,263	2,503	2,709	2,880	3,016	3,122	3,203	3,264	3,309	3,309	3,309	3,309	3,309	3,309	3,309
4002	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	338	435	548	673	806	938	1,064	1,177	1,274	1,354	1,418	1,468	1,505	1,534	1,555	1,555	1,555	1,555	1,555
4003	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	Retrofit	100	137	186	251	334	437	563	709	872	1,043	1,214	1,377	1,523	1,648	1,752	1,835	1,899	1,949	1,985
4004	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4005	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	Retrofit	126	172	234	314	418	548	706	889	1,092	1,307	1,522	1,726	1,909	2,066	2,196	2,300	2,381	2,442	2,489
4006	Electronics	ENERGY STAR Display	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4007	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4008	Electronics	ENERGY STAR PC	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4009	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010	Electronics	ENERGY STAR TV	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4011	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	NC	13	22	28	36	41	45	49	55	61	66	111	125	123	128	123	114	151	154	157
4012	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	8	14	18	23	28	31	34	39	44	49	83	94	94	98	96	89	117	119	122
4013	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	NC	2	4	6	9	11	14	18	24	30	37	71	88	95	105	107	104	142	149	155
4014	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4015	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	NC	3	5	8	11	14	18	23	30	38	47	89	111	119	131	134	131	178	187	194
4016	Electronics	ENERGY STAR Display	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4017	Electronics	ENERGY STAR Laptop	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4018	Electronics	ENERGY STAR PC	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4019	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4020	Electronics	ENERGY STAR TV	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4021	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	Retrofit	412	506	606	705	800	885	958	1,018	1,066	1,103	1,132	1,153	1,169	1,169	1,169	1,169	1,169	1,169	1,169
4022	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	151	197	254	320	393	471	548	621	687	744	791	828	857	880	896	909	909	909	909
4023	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	Retrofit	261	329	404	483	563	638	706	764	812	850	880	903	920	933	933	933	933	933	933
4024	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4025	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	Retrofit	261	329	404	483	563	638	706	764	812	850	880	903	920	933	933	933	933	933	933
4026	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4027	Electronics	ENERGY STAR Display	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4028	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4029	Electronics	ENERGY STAR PC	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4030	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4031	Electronics	ENERGY STAR TV	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4032	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	NC	6	10	13	17	19	21	23	25	28	30	51	58	57	59	57	53	70	71	73
4033	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	NC	4	6	8	11	13	15	18	21	24	27	46	53	53	56	55	52	68	70	71
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	NC	10	16	20	25	27	29	31	34	37	40	66	74	73	74	72	66	88	89	91
4035	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	NC	10	16	20	25	27	29	31	34	37	40	66	74	73	74	72	66	88	89	91

Ameren MO			Scenario 1 Participants By Measure		Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5055	HVAC Equipment	Ductless ASHP - replace on fail SF NC	SF Income Eligible	SF	NC	5	8	11	15	19	22	26	32	37	43	45	45	43	43	41	38	68	68	105
5056	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5057	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5058	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5059	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	NC	6	10	13	16	17	18	20	22	24	42	48	48	48	47	45	42	57	58	77
5060	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	18	23	31	39	50	61	73	85	96	106	115	122	128	133	136	139	141	141	141
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	MF Income Eligible	MF	Retrofit	1,286	1,539	1,792	2,032	2,248	2,433	2,586	2,708	2,804	2,876	2,930	2,971	2,971	2,971	2,971	2,971	2,971	2,971	2,971
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5064	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5065	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	199	232	263	291	314	334	350	362	372	379	384	384	384	384	384	384	384	384	384
5066	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5067	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5068	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	2,255	2,626	2,977	3,293	3,565	3,789	3,968	4,108	4,214	4,294	4,353	4,353	4,353	4,353	4,353	4,353	4,353	4,353	4,353
5069	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5070	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5071	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	0	0	0	0	0	223	260	295	326	353	375	393	407	417	425	431	431	431	431
5072	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	Retrofit	453	542	631	715	791	428	455	477	493	506	516	523	523	523	523	523	523	523	523
5073	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	14	19	25	34	46	60	77	97	119	142	166	188	208	225	239	251	259	266	271
5074	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	14	19	25	34	46	60	77	97	119	142	166	188	208	225	239	251	259	266	271
5075	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	14	19	25	34	46	60	77	97	119	142	166	188	208	225	239	251	259	266	271
5076	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	MF Income Eligible	MF	ROB	14	19	25	34	46	60	77	97	119	142	166	188	208	225	239	251	259	266	271
5077	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5078	HVAC Equipment	AC Tune-up / refrigerant charge	MF Income Eligible	MF	Retrofit	71	85	99	112	124	134	142	149	154	158	161	164	164	164	164	164	164	164	164
5079	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5080	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5081	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5082	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	68	81	94	107	118	128	136	142	147	151	154	156	156	156	156	156	156	156	156
5083	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	68	81	94	107	118	128	136	142	147	151	154	156	156	156	156	156	156	156	156
5084	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	68	81	94	107	118	128	136	142	147	151	154	156	156	156	156	156	156	156	156
5085	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	ROB	68	81	94	107	118	128	136	142	147	151	154	156	156	156	156	156	156	156	156
5086	HVAC Equipment	General HP tune-up (no charge or coil clean)	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5087	HVAC Equipment	HP Tune-up / refrigerant charge MF	MF Income Eligible	MF	Retrofit	11	13	15	18	19	21	22	23	24	25	25	26	26	26	26	26	26	26	26
5088	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5089	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5090	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	ROB	11	13	15	17	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24
5091	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	ROB	11	13	15	17	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24
5092	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	ROB	11	13	15	17	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24
5093	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	MF Income Eligible	MF	ROB	11	13	15	17	19	20	21	22	23	24	24	24	24	24	24	24	24	24	24
5094	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5095	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5096	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5097	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	ROB	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120
5098	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5099	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5100	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5101	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	48	75	88	105	111	113	116	125	134	141	232	255	247	253	244	226	298	304	311
5102	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5103	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5104	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	0	0	0	0	0	6	7	8	9	10	17	20	20	21	20	19	25	26	26
5105	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	NC	8	13	16	19	21	11	11	12	13	14	24	26	25	26	25	23	31	31	32
5106	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5107	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	7	11	14	17	18	19	20	22	23	25	24	23	21	20	19	17	31	31	47
5108	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	7	11	14	17	18	19	20	22	23	25	24	23	21	20	19	17	31	31	47
5109	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	14	23	28	34	37	38	39	43	47	49	49	47	42	41	39	34	61	61	94
5110	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	NC	5	9	10	13	14	14	15	16	17	18	17	16	15	14	13	23	23	35	35
5111	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	NC	12	19	24	29	31	32	33	37	39	42	42	40	36	34	33	29	52	52	80
5112	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	NC	12	19	24	29	31	32	33	37	39	42	42	40	36	34	33	29	52	52	80
5113	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	NC	12	19	24	29	31	32	33	37	39	42	42	40	36	34	33	29	52	52	80
5114	HVAC Equipment	Ductless ASHP - replace on fail MF NC	MF Income Eligible	MF	NC	12	19	24	29	31	32	33	37	39	42	42	40	36	34	33	29	52	52	80
5115	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO			Scenario 1 Participants By Measure			Incremental Annual Participants																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5116	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5117	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5118	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	NC	3	4	5	6	6	7	7	8	8	14	16	16	16	16	15	14	19	20	26
6001	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	Retrofit	8,510	9,648	10,672	11,552	12,279	12,860	13,312	13,656	13,915	5,596	4,458	3,434	2,554	1,827	1,246	794	450	192	8,510
6002	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	Retrofit	8,510	9,648	10,672	11,552	12,279	12,860	13,312	13,656	13,915	5,596	4,458	3,434	2,554	1,827	1,246	794	450	192	8,510
6003	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6004	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	Retrofit	8,510	9,648	10,672	11,552	12,279	12,860	13,312	13,656	13,915	5,596	4,458	3,434	2,554	1,827	1,246	794	450	192	8,510
6005	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	Retrofit	8,510	9,648	10,672	11,552	12,279	12,860	13,312	13,656	13,915	5,596	4,458	3,434	2,554	1,827	1,246	794	450	192	8,510
6006	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	Retrofit	8,510	9,648	10,672	11,552	12,279	12,860	13,312	13,656	13,915	5,596	4,458	3,434	2,554	1,827	1,246	794	450	192	8,510
6007	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	Retrofit	8,510	9,648	10,672	11,552	12,279	12,860	13,312	13,656	13,915	5,596	4,458	3,434	2,554	1,827	1,246	794	450	192	8,510
6008	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6009	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	Retrofit	8,510	9,648	10,672	11,552	12,279	12,860	13,312	13,656	13,915	5,596	4,458	3,434	2,554	1,827	1,246	794	450	192	8,510
6010	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	Retrofit	8,510	9,648	10,672	11,552	12,279	12,860	13,312	13,656	13,915	5,596	4,458	3,434	2,554	1,827	1,246	794	450	192	8,510
6011	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	Retrofit	9,018	10,224	11,309	12,242	13,012	13,628	14,107	14,472	14,746	5,930	4,725	3,639	2,706	1,936	1,321	842	477	203	9,018
6012	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	9,018	10,224	11,309	12,242	13,012	13,628	14,107	14,472	14,746	5,930	4,725	3,639	2,706	1,936	1,321	842	477	203	9,018
6013	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	9,018	10,224	11,309	12,242	13,012	13,628	14,107	14,472	14,746	5,930	4,725	3,639	2,706	1,936	1,321	842	477	203	9,018
6014	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	9,018	10,224	11,309	12,242	13,012	13,628	14,107	14,472	14,746	5,930	4,725	3,639	2,706	1,936	1,321	842	477	203	9,018
6015	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	9,018	10,224	11,309	12,242	13,012	13,628	14,107	14,472	14,746	5,930	4,725	3,639	2,706	1,936	1,321	842	477	203	9,018
6016	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	SF Income Eligible	SF	Retrofit	9,018	10,224	11,309	12,242	13,012	13,628	14,107	14,472	14,746	5,930	4,725	3,639	2,706	1,936	1,321	842	477	203	9,018
6017	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	Retrofit	3,048	3,456	3,823	4,138	4,399	4,607	4,768	4,892	4,984	2,005	1,597	1,230	915	654	446	285	161	69	3,048
6018	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	SF Income Eligible	SF	Retrofit	3,048	3,456	3,823	4,138	4,399	4,607	4,768	4,892	4,984	2,005	1,597	1,230	915	654	446	285	161	69	3,048
6019	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	Retrofit	3,048	3,456	3,823	4,138	4,399	4,607	4,768	4,892	4,984	2,005	1,597	1,230	915	654	446	285	161	69	3,048
6020	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	SF Income Eligible	SF	Retrofit	3,048	3,456	3,823	4,138	4,399	4,607	4,768	4,892	4,984	2,005	1,597	1,230	915	654	446	285	161	69	3,048
6021	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	SF Income Eligible	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6022	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	Retrofit	3,048	3,456	3,823	4,138	4,399	4,607	4,768	4,892	4,984	2,005	1,597	1,230	915	654	446	285	161	69	3,048
6023	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	SF Income Eligible	SF	Retrofit	3,048	3,456	3,823	4,138	4,399	4,607	4,768	4,892	4,984	2,005	1,597	1,230	915	654	446	285	161	69	3,048
6024	Lighting	LED Nightlights	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6025	Lighting	T8 Linear Fluorescent	N/A	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6026	Lighting	Occupancy Sensor	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6027	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	NC	24	36	42	49	51	51	51	55	59	61	60	56	51	49	46	41	73	74	74
6028	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	NC	24	36	42	49	51	51	51	55	59	61	60	56	51	49	46	41	73	74	74
6029	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6030	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	NC	24	36	42	49	51	51	51	55	59	61	60	56	51	49	46	41	73	74	74
6031	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	NC	24	36	42	49	51	51	51	55	59	61	60	56	51	49	46	41	73	74	74
6032	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	NC	24	36	42	49	51	51	51	55	59	61	60	56	51	49	46	41	73	74	74
6033	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	NC	24	36	42	49	51	51	51	55	59	61	60	56	51	49	46	41	73	74	74
6034	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6035	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	NC	24	36	42	49	51	51	51	55	59	61	60	56	51	49	46	41	73	74	74
6036	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	NC	24	36	42	49	51	51	51	55	59	61	60	56	51	49	46	41	73	74	74
6037	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	NC	25	39	44	52	54	54	55	58	62	65	63	60	54	52	49	44	78	78	78
6038	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	NC	25	39	44	52	54	54	55	58	62	65	63	60	54	52	49	44	78	78	78
6039	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	NC	25	39	44	52	54	54	55	58	62	65	63	60	54	52	49	44	78	78	78
6040	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	NC	25	39	44	52	54	54	55	58	62	65	63	60	54	52	49	44	78	78	78
6041	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	NC	25	39	44	52	54	54	55	58	62	65	63	60	54	52	49	44	78	78	78
6042	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	SF Income Eligible	SF	NC	25	39	44	52	54	54	55	58	62	65	63	60	54	52	49	44	78	78	78
6043	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	NC	9	13	15	17	18	18	18	20	21	22	21	20	18	18	17	15	26	26	26
6044	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	SF Income Eligible	SF	NC	9	13	15	17	18	18	18	20	21	22	21	20	18	18	17	15	26	26	26
6045	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	NC	9	13	15	17	18	18	18	20	21	22	21	20	18	18	17	15	26	26	26
6046	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	SF Income Eligible	SF	NC	9	13	15	17	18	18	18	20	21	22	21	20	18	18	17	15	26	26	26
6047	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	SF Income Eligible	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6048	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	NC	9	13	15	17	18	18	18	20	21	22	21	20	18	18	17	15	26	26	26
6049	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	SF Income Eligible	SF	NC	9	13	15	17	18	18	18	20	21	22	21	20	18	18	17	15	26	26	26
6050	Lighting	LED Nightlights	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6051	Lighting	T8 Linear Fluorescent	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6052	Lighting	Occupancy Sensor	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6053	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	Retrofit	2,335	2,647	2,928	3,170	3,369	3,529	3,652	3,747	3,818	1,535	1,223	942	701	501	342	218	123	53	2,335
6054	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	Retrofit	2,335	2,647	2,928	3,170	3,369	3,529	3,652	3,747	3,818	1,535	1,223	942	701	501	342	218	123	53	2,335

Ameren MO		Scenario 1 Participants By Measure		Incremental Annual Participants																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6055	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6056	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	Retrofit	2,335	2,647	2,928	3,170	3,369	3,529	3,652	3,747	3,818	1,535	1,223	942	701	501	342	218	123	53	2,335
6057	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	Retrofit	2,335	2,647	2,928	3,170	3,369	3,529	3,652	3,747	3,818	1,535	1,223	942	701	501	342	218	123	53	2,335
6058	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	Retrofit	2,335	2,647	2,928	3,170	3,369	3,529	3,652	3,747	3,818	1,535	1,223	942	701	501	342	218	123	53	2,335
6059	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	Retrofit	2,335	2,647	2,928	3,170	3,369	3,529	3,652	3,747	3,818	1,535	1,223	942	701	501	342	218	123	53	2,335
6060	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6061	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	Retrofit	2,335	2,647	2,928	3,170	3,369	3,529	3,652	3,747	3,818	1,535	1,223	942	701	501	342	218	123	53	2,335
6062	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	Retrofit	2,335	2,647	2,928	3,170	3,369	3,529	3,652	3,747	3,818	1,535	1,223	942	701	501	342	218	123	53	2,335
6063	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	Retrofit	1,295	1,468	1,623	1,757	1,868	1,956	2,025	2,077	2,117	851	678	522	389	278	190	121	68	29	1,295
6064	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	1,295	1,468	1,623	1,757	1,868	1,956	2,025	2,077	2,117	851	678	522	389	278	190	121	68	29	1,295
6065	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	1,295	1,468	1,623	1,757	1,868	1,956	2,025	2,077	2,117	851	678	522	389	278	190	121	68	29	1,295
6066	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	1,295	1,468	1,623	1,757	1,868	1,956	2,025	2,077	2,117	851	678	522	389	278	190	121	68	29	1,295
6067	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	1,295	1,468	1,623	1,757	1,868	1,956	2,025	2,077	2,117	851	678	522	389	278	190	121	68	29	1,295
6068	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li DI	MF Income Eligible	MF	Retrofit	1,295	1,468	1,623	1,757	1,868	1,956	2,025	2,077	2,117	851	678	522	389	278	190	121	68	29	1,295
6069	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	Retrofit	187	212	234	254	270	283	292	300	306	123	98	75	56	40	27	17	10	4	187
6070	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	Retrofit	187	212	234	254	270	283	292	300	306	123	98	75	56	40	27	17	10	4	187
6071	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	187	212	234	254	270	283	292	300	306	123	98	75	56	40	27	17	10	4	187
6072	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	187	212	234	254	270	283	292	300	306	123	98	75	56	40	27	17	10	4	187
6073	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	Retrofit	187	212	234	254	270	283	292	300	306	123	98	75	56	40	27	17	10	4	187
6074	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	187	212	234	254	270	283	292	300	306	123	98	75	56	40	27	17	10	4	187
6075	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	187	212	234	254	270	283	292	300	306	123	98	75	56	40	27	17	10	4	187
6076	Lighting	LED Nightlights	Multifamily Market Rate	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6077	Lighting	T8 Linear Fluorescent	N/A	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6078	Lighting	Occupancy Sensor	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6079	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	NC	8	12	14	16	16	16	17	18	19	20	19	18	16	16	15	13	24	24	24
6080	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	NC	8	12	14	16	16	16	17	18	19	20	19	18	16	16	15	13	24	24	24
6081	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6082	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	NC	8	12	14	16	16	16	17	18	19	20	19	18	16	16	15	13	24	24	24
6083	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	NC	8	12	14	16	16	16	17	18	19	20	19	18	16	16	15	13	24	24	24
6084	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	NC	8	12	14	16	16	16	17	18	19	20	19	18	16	16	15	13	24	24	24
6085	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	NC	8	12	14	16	16	16	17	18	19	20	19	18	16	16	15	13	24	24	24
6086	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6087	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	NC	8	12	14	16	16	16	17	18	19	20	19	18	16	16	15	13	24	24	24
6088	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	NC	8	12	14	16	16	16	17	18	19	20	19	18	16	16	15	13	24	24	24
6089	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	9	8	7	13	13	13
6090	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	9	8	7	13	13	13
6091	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	9	8	7	13	13	13
6092	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	9	8	7	13	13	13
6093	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	9	8	7	13	13	13
6094	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li DI	MF Income Eligible	MF	NC	4	7	8	9	9	9	9	10	11	11	11	10	9	9	8	7	13	13	13
6095	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	NC	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	2	2
6096	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	NC	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	2	2
6097	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	2	2
6098	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	2	2
6099	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	NC	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	2	2
6100	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	2	2
6101	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	2	2	2
6102	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6103	Lighting	T8 Linear Fluorescent	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6104	Lighting	Occupancy Sensor	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ameren MO		Scenario 1 Participants By Measure			Incremental Annual Participants																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	80	110	149	201	267	350	451	568	698	835	973	1,103	1,220	1,320	1,403	1,470	1,521	1,561	1,590
8002	Water Heating	Water Heater Wrap	SF Income Eligible	SF	Retrofit	40	54	74	99	132	173	223	281	345	413	481	545	603	652	694	726	752	771	786
8003	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343	5,343
8004	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	Retrofit	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016	9,016
8005	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	Retrofit	4,987	5,398	5,738	6,009	6,220	6,381	6,502	6,591	6,591	6,591	6,591	6,591	6,591	6,591	6,591	6,591	6,591	6,591	6,591
8006	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	Retrofit	313	427	580	781	1,039	1,362	1,753	2,208	2,714	3,248	3,781	4,287	4,742	5,133	5,456	5,714	5,915	6,068	6,183
8007	Water Heating	Pipe Insulation	SF Income Eligible	SF	Retrofit	5,401	5,974	6,467	6,874	7,199	7,482	7,645	7,790	7,897	7,897	7,897	7,897	7,897	7,897	7,897	7,897	7,897	7,897	7,897
8008	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8009	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	2	3	5	7	9	11	14	19	24	30	34	36	36	68	81	83	118	120	120
8010	Water Heating	Water Heater Wrap	SF Income Eligible	SF	NC	1	2	2	3	4	5	7	9	11	14	16	17	30	37	39	41	55	55	56
8011	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	230	308	321	344	337	321	316	329	344	355	576	634	614	627	605	561	741	756	772
8012	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	NC	402	539	561	602	590	562	553	577	602	622	1,008	1,111	1,076	1,099	1,060	983	1,298	1,324	1,352
8013	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	NC	226	328	363	408	413	404	405	428	447	462	749	825	799	816	788	730	965	984	1,004
8014	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	NC	6	11	16	23	29	37	46	61	78	97	183	228	244	270	277	269	368	385	400
8015	Water Heating	Pipe Insulation	SF Income Eligible	SF	NC	148	220	247	282	289	286	288	306	324	335	326	308	494	558	555	551	719	705	701
8016	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8017	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	55	75	102	138	183	240	309	390	479	573	667	756	837	906	963	1,008	1,043	1,070	1,091
8018	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	287	352	422	491	557	616	667	709	742
8019	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685
8020	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8021	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	Retrofit	146	180	215	250	284	314	340	361	378	392	402	409	415	415	415	415	415	415	415
8022	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8023	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	Retrofit	185	228	272	317	359	398	430	457	479	496	509	518	526	526	526	526	526	526	526
8024	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8025	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	Retrofit	267	350	450	567	697	834	971	1,101	1,218	1,319	1,402	1,468	1,519	1,559	1,588	1,610	1,610	1,610	1,610
8026	Water Heating	Pipe Insulation	MF Income Eligible	MF	Retrofit	335	412	492	573	650	719	778	827	867	897	920	938	950	950	950	950	950	950	950
8027	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8028	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	1	2	3	5	6	8	10	13	17	20	23	25	47	56	57	81	82	82	82
8029	Water Heating	Water Heater Wrap	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	9	11	20	27	30	33	47	49	51
8030	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	43	57	60	64	63	60	59	61	64	66	107	118	114	117	112	104	138	140	143
8031	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8032	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	NC	14	22	28	35	39	41	44	48	53	57	94	106	104	106	102	95	125	128	130
8033	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8034	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	NC	13	21	27	33	37	39	41	46	50	53	89	100	98	100	97	90	118	121	123
8035	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8036	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	NC	5	9	12	16	20	22	26	30	35	39	68	78	78	82	81	76	100	102	104
8037	Water Heating	Pipe Insulation	MF Income Eligible	MF	NC	12	20	25	31	35	37	39	43	47	50	50	48	79	89	89	88	115	113	112
8038	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9001	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER1	341	467	634	854	1,136	1,488	1,916	2,413	2,965	3,548	4,132	4,684	5,181	5,609	5,961	6,243	6,463	6,630	6,755
9002	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER2	0	0	0	0	0	0	341	467	634	854	1,136	1,488	1,916	2,413	2,965	3,548	4,132	4,684	5,181
9003	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	341	467
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	0	0	0	0	0	1,048	1,188	1,315	1,423	1,513	1,584	1,640	1,682	1,714	1,738	1,738	1,738	1,738	1,738
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	0	0	0	0	0	0	0	0	0	0	0	1,048	1,188	1,315	1,423	1,513	1,584	1,640	1,682
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9007	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER1	1,398	1,547	1,674	1,779	1,864	1,929	1,979	2,016	2,044	2,044	2,044	2,044	2,044	2,044	2,044	2,044	2,044	2,044	2,044
9008	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER2	0	0	0	0	0	0	1,398	1,547	1,674	1,779	1,864	1,929	1,979	2,016	2,044	2,044	2,044	2,044	2,044
9009	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,398	1,547
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	0	0	0	0	0	130	148	163	177	188	197	204	209	213	216	216	216	216	216
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	0	0	0	0	0	0	0	0	0	0	0	130	148	163	177	188	197	204	209
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER1	13	17	21	27	33	40	46	52	58	63	67	70	72	74	76	77	77	77	77
10002	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	13	17	21	27	33	40	46	52	58	63	67	70	72
10003	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13

Ameren MO		Scenario 1 Participants By Measure		Incremental Annual Participants																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	13	17	21	27	33	40	46	52	58	63	67	70	72	74	76	77	77	77	77
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	13	17	21	27	33	40	46	52	58	63	67	70	72
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	13	17	21	27	33	40	46	52	58	63	67	70	72	74	76	77	77	77	77
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	13	17	21	27	33	40	46	52	58	63	67	70	72
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER1	4	5	7	10	13	17	21	27	33	40	46	52	58	63	67	70	72	74	76
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10013	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER1	88	113	142	175	209	243	276	305	330	351	368	381	391	398	404	404	404	404	404
10014	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	88	113	142	175	209	243	276	305	330	351	368	381	391
10015	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
10016	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER1	88	113	142	175	209	243	276	305	330	351	368	381	391	398	404	404	404	404	404
10017	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	88	113	142	175	209	243	276	305	330	351	368	381	391
10018	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
10019	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER1	88	113	142	175	209	243	276	305	330	351	368	381	391	398	404	404	404	404	404
10020	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	88	113	142	175	209	243	276	305	330	351	368	381	391
10021	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
10022	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER1	88	113	142	175	209	243	276	305	330	351	368	381	391	398	404	404	404	404	404
10023	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	88	113	142	175	209	243	276	305	330	351	368	381	391
10024	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
10025	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER1	88	113	142	175	209	243	276	305	330	351	368	381	391	398	404	404	404	404	404
10026	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	88	113	142	175	209	243	276	305	330	351	368	381	391
10027	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
10028	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
10029	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	54	54	54	54	54	54	54	54	54	54	54	54	54
10030	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
10031	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
10032	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	54	54	54	54	54	54	54	54	54	54	54	54	54
10033	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
10034	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
10035	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	0	0	0	0	0	0	54	54	54	54	54	54	54	54	54	54	54	54	54
10036	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
10037	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER1	3	4	6	8	9	12	14	16	18	20	22	23	25	25	26	27	27	27	27
10038	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER2	0	0	0	0	0	0	3	4	6	8	9	12	14	16	18	20	22	23	25
10039	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10040	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	3	4	6	8	11	14	18	23	28	34	39	45	49	53	57	59	61	63	64
10041	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	3	4	6	8	11	14	18	23	28	34	39	45	49
10042	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10043	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	3	4	6	8	11	14	18	23	28	34	39	45	49	53	57	59	61	63	64

Ameren MO		Scenario 1 Participants By Measure		Incremental Annual Participants																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Incremental Annual Participants																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10044	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	3	4	6	8	11	14	18	23	28	34	39	45	49
10045	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10046	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	3	4	6	8	11	14	18	23	28	34	39	45	49	53	57	59	61	63	64
10047	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	3	4	6	8	11	14	18	23	28	34	39	45	49
10048	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10049	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER1	3	4	6	8	11	14	18	23	28	34	39	45	49	53	57	59	61	63	64
10050	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10051	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10052	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER1	64	77	89	101	112	121	129	135	140	143	146	148	148	148	148	148	148	148	148
10053	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	64	77	89	101	112	121	129	135	140	143	146	148	148
10054	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
10055	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER1	64	77	89	101	112	121	129	135	140	143	146	148	148	148	148	148	148	148	148
10056	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	64	77	89	101	112	121	129	135	140	143	146	148	148
10057	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
10058	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER1	64	77	89	101	112	121	129	135	140	143	146	148	148	148	148	148	148	148	148
10059	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	64	77	89	101	112	121	129	135	140	143	146	148	148
10060	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
10061	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER1	64	77	89	101	112	121	129	135	140	143	146	148	148	148	148	148	148	148	148
10062	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	64	77	89	101	112	121	129	135	140	143	146	148	148
10063	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
10064	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER1	64	77	89	101	112	121	129	135	140	143	146	148	148	148	148	148	148	148	148
10065	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	64	77	89	101	112	121	129	135	140	143	146	148	148
10066	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
10067	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER1	13	15	17	20	22	24	25	26	27	28	29	29	29	29	29	29	29	29	29
10068	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	13	15	17	20	22	24	25	26	27	28	29	29	29
10069	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
10070	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	13	15	17	20	22	24	25	26	27	28	29	29	29	29	29	29	29	29	29
10071	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	13	15	17	20	22	24	25	26	27	28	29	29	29
10072	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
10073	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	13	15	17	20	22	24	25	26	27	28	29	29	29	29	29	29	29	29	29
10074	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	0	0	0	0	0	0	13	15	17	20	22	24	25	26	27	28	29	29	29
10075	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
10076	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER1	13	15	17	20	22	24	25	26	27	28	29	29	29	29	29	29	29	29	29
10077	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER2	0	0	0	0	0	0	13	15	17	20	22	24	25	26	27	28	29	29	29
10078	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13

Ameren MO			Scenario 1 Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Scenario 1 Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	25%	26%	27%	28%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	25%	26%	27%	28%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	17%	20%	22%	24%	25%	26%	27%	28%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	5%	7%	9%	11%	14%	17%	20%	22%	25%	27%	28%	30%	31%	31%	32%	32%	32%	32%	32%
1005	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%
1006	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1007	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1008	Appliance	Heat Pump Dryer	N/A	SF	ROB	9%	12%	15%	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%
1009	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	9%	12%	15%	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%
1010	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1011	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1012	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	9%	11%	14%	17%	21%	24%	27%	30%	33%	35%	37%	38%	39%	40%	40%	40%	40%	40%	40%
1013	Appliance	Water Cooler	N/A	SF	ROB	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
1014	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	
1015	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1016	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1017	Appliance	Heat Pump Dryer	N/A	SF	NC	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1018	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1019	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1020	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1021	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	9%	11%	14%	17%	21%	24%	27%	30%	33%	35%	37%	38%	39%	40%	40%	40%	40%	40%	40%
1022	Appliance	Water Cooler	N/A	SF	NC	17%	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%
1023	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	
1024	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
1025	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	17%	18%	19%	20%	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
1026	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	5%	7%	9%	11%	13%	15%	17%	19%	20%	22%	23%	24%	24%	25%	25%	25%	25%	25%	25%
1027	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	4%	5%	7%	9%	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%
1028	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
1029	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
1030	Appliance	Heat Pump Dryer	N/A	MF	ROB	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%
1031	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%
1032	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1033	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1034	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	9%	11%	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	32%	32%	32%	32%	32%	32%	32%
1035	Appliance	Water Cooler	N/A	MF	ROB	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
1036	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	4%	5%	7%	9%	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%
1037	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%
1038	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%
1039	Appliance	Heat Pump Dryer	N/A	MF	NC	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%
1040	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%
1041	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%
1042	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%
1043	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	9%	11%	14%	17%	19%	22%	24%	26%	28%	29%	30%	31%	31%	32%	32%	32%	32%	32%	32%
1044	Appliance	Water Cooler	N/A	MF	NC	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%
2001	Building Shell	Ceiling Insulation R5-R30 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%
2002	Building Shell	Ceiling Insulation R5-R38 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%
2003	Building Shell	Ceiling Insulation R5-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%
2004	Building Shell	Ceiling Insulation R11-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%
2005	Building Shell	Ceiling Insulation R5-R60 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2008	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	3%	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%
2009	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	3%	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%
2010	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	3%	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2013	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2016	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
2017	Building Shell	Duct Sealing	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2018	Building Shell	Floor Insulation	SF Income Eligible	SF	Retrofit	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
2019	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%

Ameren MO			Scenario 1 Adoption Rates by Measure			Scenario 1 Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2021	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2022	Building Shell	Ceiling Insulation R5-R30 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%
2023	Building Shell	Ceiling Insulation R5-R38 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%
2024	Building Shell	Ceiling Insulation R5-R49 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%
2025	Building Shell	Ceiling Insulation R11-R49 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%
2026	Building Shell	Ceiling Insulation R5-R60 SF LI DI heat pump base	SF Income Eligible	SF	Retrofit	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%
2027	Building Shell	Radiant Barrier	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2028	Building Shell	Cool Roof	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2029	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	2%	3%	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%
2030	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	2%	3%	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%
2031	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	2%	3%	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%
2032	Building Shell	Wall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2033	Building Shell	Storm Windows	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2034	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2035	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2036	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2037	Building Shell	Duct Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2038	Building Shell	Duct Sealing	SF Income Eligible	SF	Retrofit	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
2039	Building Shell	Floor Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2040	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2041	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2042	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2043	Building Shell	Ceiling Insulation R5-R30 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%
2044	Building Shell	Ceiling Insulation R5-R38 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%
2045	Building Shell	Ceiling Insulation R5-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%
2046	Building Shell	Ceiling Insulation R11-R49 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%
2047	Building Shell	Ceiling Insulation R5-R60 SF LI DI gas heat electric cool base	SF Income Eligible	SF	Retrofit	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%
2048	Building Shell	Radiant Barrier	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2049	Building Shell	Cool Roof	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2050	Building Shell	Air Sealing - Tier 1	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2051	Building Shell	Air Sealing - Tier 2	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2052	Building Shell	Air Sealing - Tier 3	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2053	Building Shell	Wall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2054	Building Shell	Storm Windows	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2055	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2056	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2057	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2058	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	4%	6%	7%	10%	12%	16%	19%	23%	27%	30%	34%	36%	39%	40%	42%	43%	44%	44%	44%
2059	Building Shell	Duct Sealing	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2060	Building Shell	Floor Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2061	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2062	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2063	Building Shell	Basement Wall Insulation	N/A	SF	Retrofit	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2064	Building Shell	ENERGY STAR New Home - electric heat	N/A	SF	NC	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2065	Building Shell	ENERGY STAR New Home - gas heat	N/A	SF	NC	4%	6%	7%	9%	11%	14%	16%	18%	20%	21%	23%	24%	25%	25%	26%	26%	26%	26%	26%
2066	Building Shell	Ceiling Insulation R5-R30 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2067	Building Shell	Ceiling Insulation R5-R38 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2068	Building Shell	Ceiling Insulation R5-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2069	Building Shell	Ceiling Insulation R11-R49 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2070	Building Shell	Ceiling Insulation R5-R60 MF LI DI electric furnace base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2071	Building Shell	Radiant Barrier	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
2072	Building Shell	Cool Roof	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2073	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2074	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2075	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2076	Building Shell	Wall Insulation	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
2077	Building Shell	Storm Windows	N/A	MF	Retrofit	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%
2078	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	21%	24%	28%	31%	33%	35%	37%	38%	39%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%
2079	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
2080	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%

Ameren MO			Scenario 1 Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Scenario 1 Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	23%	25%	26%	28%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	23%	27%	32%	36%	40%	43%	46%	48%	49%	51%	52%	52%	52%	52%	52%	52%	52%	52%	52%
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	23%	28%	32%	37%	40%	44%	47%	49%	50%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	22%	27%	31%	35%	39%	42%	45%	47%	49%	50%	51%	52%	52%	52%	52%	52%	52%	52%	52%
2087	Building Shell	Ceiling Insulation R5-R30 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2088	Building Shell	Ceiling Insulation R5-R38 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2089	Building Shell	Ceiling Insulation R5-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2090	Building Shell	Ceiling Insulation R11-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2091	Building Shell	Ceiling Insulation R5-R60 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2094	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2095	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2096	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	21%	24%	26%	27%	29%	30%	30%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	22%	23%	23%	24%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	26%	31%	36%	40%	45%	48%	52%	54%	56%	57%	58%	59%	59%	59%	59%	59%	59%	59%	
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	23%	25%	26%	28%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	22%	25%	27%	28%	30%	31%	31%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	23%	26%	28%	30%	31%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2108	Building Shell	Ceiling Insulation R5-R30 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2109	Building Shell	Ceiling Insulation R5-R38 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2110	Building Shell	Ceiling Insulation R5-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2111	Building Shell	Ceiling Insulation R11-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2112	Building Shell	Ceiling Insulation R5-R60 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	21%	24%	28%	31%	33%	35%	37%	38%	39%	40%	40%	40%	40%	40%	40%	40%	40%	40%	
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%	54%	54%	54%	54%	
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	22%	25%	27%	29%	30%	31%	32%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	21%	22%	23%	24%	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	23%	25%	27%	29%	30%	31%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	21%	25%	30%	33%	37%	40%	43%	45%	46%	47%	48%	49%	49%	49%	49%	49%	49%	49%	
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	21%	23%	25%	26%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	22%	24%	25%	27%	27%	28%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	21%	26%	30%	34%	37%	41%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	22%	24%	26%	27%	29%	30%	31%	31%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	

Ameren MO			Scenario 1 Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Scenario 1 Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	87%	89%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
4001	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	Retrofit	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%
4002	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	7%	9%	11%	13%	16%	18%	21%	23%	25%	27%	28%	29%	30%	30%	31%	31%	31%	31%	31%
4003	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	Retrofit	2%	3%	4%	5%	7%	9%	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%
4004	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%
4005	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	Retrofit	2%	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%
4006	Electronics	ENERGY STAR Display	N/A	SF	ROB	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
4007	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
4008	Electronics	ENERGY STAR PC	N/A	SF	ROB	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	
4009	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	18%	21%	23%	25%	26%	28%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
4010	Electronics	ENERGY STAR TV	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
4011	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	NC	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	
4012	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	7%	9%	11%	13%	16%	18%	21%	23%	25%	27%	28%	29%	30%	30%	31%	31%	31%	31%	
4013	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	NC	2%	3%	4%	5%	7%	9%	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%
4014	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	NC	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%
4015	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	NC	2%	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%
4016	Electronics	ENERGY STAR Display	N/A	SF	NC	18%	21%	23%	25%	26%	28%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
4017	Electronics	ENERGY STAR Laptop	N/A	SF	NC	18%	21%	23%	25%	26%	28%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
4018	Electronics	ENERGY STAR PC	N/A	SF	NC	18%	21%	23%	25%	26%	28%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
4019	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	18%	21%	23%	25%	26%	28%	29%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
4020	Electronics	ENERGY STAR TV	N/A	SF	NC	10%	12%	14%	15%	17%	18%	20%	20%	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
4021	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	Retrofit	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%
4022	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	6%	8%	11%	14%	17%	20%	23%	26%	29%	32%	34%	35%	36%	37%	38%	39%	39%	39%	39%
4023	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	Retrofit	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%
4024	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%
4025	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	Retrofit	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%
4026	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%
4027	Electronics	ENERGY STAR Display	N/A	MF	ROB	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
4028	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
4029	Electronics	ENERGY STAR PC	N/A	MF	ROB	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	
4030	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	17%	18%	20%	20%	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
4031	Electronics	ENERGY STAR TV	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
4032	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	NC	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%
4033	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	NC	6%	8%	11%	14%	17%	20%	23%	26%	29%	32%	34%	35%	36%	37%	38%	39%	39%	39%	39%
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	NC	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%
4035	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	NC	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	NC	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%

Ameren MO			Scenario 1 Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Scenario 1 Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4037	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	NC	11%	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%
4038	Electronics	ENERGY STAR Display	N/A	MF	NC	10%	12%	14%	15%	17%	18%	20%	20%	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
4039	Electronics	ENERGY STAR Laptop	N/A	MF	NC	10%	12%	14%	15%	17%	18%	20%	20%	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
4040	Electronics	ENERGY STAR PC	N/A	MF	NC	10%	12%	14%	15%	17%	18%	20%	20%	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
4041	Electronics	ENERGY STAR Sound Bar	N/A	MF	NC	10%	12%	14%	15%	17%	18%	20%	20%	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
4042	Electronics	ENERGY STAR TV	N/A	MF	NC	10%	12%	14%	15%	17%	18%	20%	20%	21%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
5001	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	SF	Recycle	7%	9%	11%	14%	16%	18%	20%	22%	23%	24%	25%	26%	26%	27%	27%	27%	27%	27%	27%
5002	HVAC Equipment	Dirty Filter Alarm_SF:Kits	SF Income Eligible	SF	Retrofit	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%
5003	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	Retrofit	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5004	HVAC Equipment	Smart Ceiling Fan	N/A	SF	Retrofit	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5005	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5006	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%
5007	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	18%	21%	24%	27%	29%	31%	32%	33%	34%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
5008	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5009	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	2%	3%	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%
5010	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	18%	21%	24%	27%	29%	31%	32%	33%	34%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
5011	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5012	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	Retrofit	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%
5013	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	Retrofit	18%	21%	24%	27%	29%	31%	32%	33%	34%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
5014	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%
5015	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%
5016	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%
5017	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	SF Income Eligible	SF	ROB	2%	3%	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%
5018	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	SF Income Eligible	SF	Retrofit	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%
5019	HVAC Equipment	AC Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
5020	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%
5021	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%
5022	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5023	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
5024	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
5025	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
5026	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible	SF	ROB	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
5027	HVAC Equipment	General HP tune-up (no charge or coil clean)	SF Income Eligible	SF	Retrofit	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%
5028	HVAC Equipment	HP Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5029	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%
5030	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%
5031	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	SF Income Eligible	SF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5032	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	SF Income Eligible	SF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5033	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	SF Income Eligible	SF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5034	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	SF Income Eligible	SF	ROB	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%
5035	HVAC Equipment	DFHP - SEER 19	N/A	SF	ROB	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5036	HVAC Equipment	DFHP - SEER 20	N/A	SF	ROB	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5037	HVAC Equipment	DFHP - SEER 21	N/A	SF	ROB	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5038	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	ROB	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
5039	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	NC	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5040	HVAC Equipment	Smart Ceiling Fan	N/A	SF	NC	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5041	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5042	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	NC	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%
5043	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	NC	18%	21%	24%	27%	29%	31%	32%	33%	34%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
5044	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5045	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	NC	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%
5046	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	NC	18%	21%	24%	27%	29%	31%	32%	33%	34%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
5047	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5048	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
5049	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
5050	HVAC Equipment																							

Ameren MO			Scenario 1 Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Scenario 1 Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5055	HVAC Equipment	Ductless ASHP - replace on fail SF NC	SF Income Eligible	SF	NC	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%
5056	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5057	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5058	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	19%	21%	23%	24%	25%	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
5059	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	NC	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%
5060	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	7%	9%	12%	15%	19%	23%	28%	33%	37%	41%	44%	47%	49%	51%	52%	53%	54%	54%	54%
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	25%	27%	28%	29%	30%	30%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5064	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5065	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
5066	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	Retrofit	25%	29%	34%	39%	43%	47%	49%	52%	54%	55%	56%	57%	57%	57%	57%	57%	57%	57%	57%
5067	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5068	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	27%	32%	36%	40%	43%	46%	48%	50%	51%	52%	53%	53%	53%	53%	53%	53%	53%	53%	53%
5069	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC MF	MF Income Eligible	MF	Retrofit	25%	30%	34%	39%	43%	47%	50%	52%	54%	55%	56%	57%	57%	57%	57%	57%	57%	57%	57%
5070	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5071	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	25%	29%	33%	37%	40%	42%	44%	46%	47%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
5072	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	Retrofit	25%	30%	35%	40%	44%	48%	51%	54%	55%	57%	58%	59%	59%	59%	59%	59%	59%	59%	59%
5073	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
5074	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
5075	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
5076	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	MF Income Eligible	MF	ROB	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
5077	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5078	HVAC Equipment	AC Tune-up / refrigerant charge	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5079	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5080	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5081	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5082	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5083	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5084	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5085	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5086	HVAC Equipment	General HP tune-up (no charge or coil clean)	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5087	HVAC Equipment	HP Tune-up / refrigerant charge MF	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5088	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5089	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5090	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5091	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5092	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5093	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5094	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5095	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5096	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	ROB	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5097	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	ROB	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%	68%
5098	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	25%	27%	28%	29%	30%	30%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%
5099	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5100	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5101	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
5102	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	NC	25%	29%	34%	39%	43%	47%	49%	52%	54%	55%	56%	57%	57%	57%	57%	57%	57%	57%	57%
5103	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
5104	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	25%	29%	33%	37%	40%	42%	44%	46%	47%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
5105	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	NC	25%	30%	35%	40%	44%	48%	51%	54%	55%	57%	58%	59%	59%	59%	59%	59%	59%	59%	59%
5106	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5107	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5108	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5109	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5110	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5111	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5112	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5113	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5114	HVAC Equipment	Ductless ASHP - replace on fail MF NC	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5115	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%

Ameren MO			Scenario 1 Adoption Rates by Measure			Scenario 1 Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5116	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5117	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
5118	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	NC	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
6001	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6002	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6003	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6004	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6005	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6006	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6007	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6008	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	ROB	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6009	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6010	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6011	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6012	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6013	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6014	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6015	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6016	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6017	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6018	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6019	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6020	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6021	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6022	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6023	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	SF Income Eligible	SF	Retrofit	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6024	Lighting	LED Nightlights	N/A	SF	ROB	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6025	Lighting	T8 Linear Fluorescent	N/A	SF	ROB	50%	54%	57%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
6026	Lighting	Occupancy Sensor	N/A	SF	Retrofit	50%	54%	57%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
6027	Lighting	LED - 10W (CFL baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6028	Lighting	LED - 10W (Halogen baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6029	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6030	Lighting	LED - 12W (Halogen baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6031	Lighting	LED - 12W (Replacing CFL)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6032	Lighting	LED - 15W (Halogen baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6033	Lighting	LED - 15W (CFL baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6034	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6035	Lighting	LED - 20W (CFL baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6036	Lighting	LED - 20W (Halogen baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6037	Lighting	LED - 4W Candelabra (CFL baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6038	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6039	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6040	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6041	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6042	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) LI DI	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6043	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6044	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6045	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6046	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6047	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6048	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6049	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	SF Income Eligible	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6050	Lighting	LED Nightlights	N/A	SF	NC	50%	57%	63%	68%	72%	76%	78%	80%	82%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
6051	Lighting	T8 Linear Fluorescent	N/A	SF	NC	50%	54%	57%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
6052	Lighting	Occupancy Sensor	N/A	SF	NC	50%	54%	57%	60%	62%	64%	65%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
6053	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6054	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%

Ameren MO		Scenario 1 Adoption Rates by Measure		Scenario 1 Adoption Rates																				
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6055	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6056	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6057	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6058	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6059	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6060	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6061	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6062	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6063	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6064	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6065	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6066	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6067	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6068	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li DI	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6069	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6070	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6071	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6072	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6073	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6074	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6075	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6076	Lighting	LED Nightlights	Multifamily Market Rate	MF	ROB	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6077	Lighting	T8 Linear Fluorescent	N/A	MF	ROB	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
6078	Lighting	Occupancy Sensor	N/A	MF	Retrofit	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
6079	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6080	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6081	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6082	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6083	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6084	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6085	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6086	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6087	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6088	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6089	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6090	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6091	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6092	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6093	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6094	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li DI	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6095	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6096	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6097	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6098	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6099	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6100	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6101	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6102	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6103	Lighting	T8 Linear Fluorescent	N/A	MF	NC	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
6104	Lighting	Occupancy Sensor	N/A	MF	NC	48%	52%	55%	58%	60%	61%	62%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%

Ameren MO		Scenario 1 Adoption Rates by Measure				Scenario 1 Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	1%	2%	2%	3%	4%	5%	7%	9%	10%	13%	15%	17%	18%	20%	21%	22%	23%	23%	24%
8002	Water Heating	Water Heater Wrap	SF Income Eligible	SF	Retrofit	2%	3%	4%	6%	8%	10%	13%	16%	20%	24%	28%	31%	34%	37%	40%	42%	43%	44%	45%
8003	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
8004	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	Retrofit	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
8005	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	Retrofit	34%	37%	40%	42%	43%	44%	45%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
8006	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	Retrofit	2%	3%	4%	6%	8%	10%	13%	16%	20%	24%	28%	31%	34%	37%	40%	42%	43%	44%	45%
8007	Water Heating	Pipe Insulation	SF Income Eligible	SF	Retrofit	31%	34%	37%	40%	42%	43%	44%	45%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
8008	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	5%	6%	7%	8%	9%	10%	11%	11%	12%	12%	13%	13%	13%	13%	13%	13%	13%	13%	
8009	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	1%	2%	2%	3%	4%	5%	7%	9%	10%	13%	15%	17%	18%	20%	21%	22%	23%	23%	24%
8010	Water Heating	Water Heater Wrap	SF Income Eligible	SF	NC	2%	3%	4%	6%	8%	10%	13%	16%	20%	24%	28%	31%	34%	37%	40%	42%	43%	44%	45%
8011	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
8012	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	NC	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%	51%
8013	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	NC	34%	37%	40%	42%	43%	44%	45%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
8014	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	NC	2%	3%	4%	6%	8%	10%	13%	16%	20%	24%	28%	31%	34%	37%	40%	42%	43%	44%	45%
8015	Water Heating	Pipe Insulation	SF Income Eligible	SF	NC	31%	34%	37%	40%	42%	43%	44%	45%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%	46%
8016	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	5%	6%	7%	8%	9%	10%	11%	11%	12%	12%	13%	13%	13%	13%	13%	13%	13%	13%	
8017	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	3%	4%	5%	7%	10%	13%	16%	20%	25%	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%
8018	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8019	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
8020	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	13%	16%	19%	22%	25%	28%	30%	32%	33%	35%	35%	36%	37%	37%	37%	37%	37%	37%	37%
8021	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	Retrofit	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8022	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	Retrofit	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8023	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	Retrofit	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8024	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	Retrofit	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8025	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	Retrofit	5%	7%	9%	12%	14%	17%	20%	23%	25%	27%	29%	30%	31%	32%	33%	33%	33%	33%	33%
8026	Water Heating	Pipe Insulation	MF Income Eligible	MF	Retrofit	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8027	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	
8028	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	3%	4%	5%	7%	10%	13%	16%	20%	25%	30%	35%	40%	44%	47%	50%	53%	55%	56%	57%
8029	Water Heating	Water Heater Wrap	N/A	MF	NC	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8030	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
8031	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	13%	16%	19%	22%	25%	28%	30%	32%	33%	35%	35%	36%	37%	37%	37%	37%	37%	37%	37%
8032	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	NC	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8033	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	NC	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8034	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	NC	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8035	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	NC	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8036	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	NC	5%	7%	9%	12%	14%	17%	20%	23%	25%	27%	29%	30%	31%	32%	33%	33%	33%	33%	33%
8037	Water Heating	Pipe Insulation	MF Income Eligible	MF	NC	14%	17%	20%	24%	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%
8038	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	
9001	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER1	2%	3%	5%	6%	8%	11%	14%	17%	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%
9002	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER2	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
9003	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER3	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%
9007	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER1	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%	39%	39%	39%	
9008	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER2	25%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
9009	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER3	27%	30%	32%	34%	36%	37%	38%	39%	39%	39%	39%	39%	39%	39%	39%	39%	39%	39%	39%
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	20%	23%	25%	27%	29%	31%	32%	32%	33%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	21%	26%	30%	34%	37%	40%	43%	45%	47%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER1	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%		

Ameren MO		Scenario 1 Adoption Rates by Measure				Scenario 1 Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	1%	2%	3%	3%	5%	6%	8%	10%	12%	14%	17%	19%	21%	23%	24%	25%	26%	27%	27%
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	2%	3%	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	1%	2%	3%	3%	5%	6%	8%	10%	12%	14%	17%	19%	21%	23%	24%	25%	26%	27%	27%
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	2%	3%	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER1	2%	3%	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER2	1%	2%	3%	3%	5%	6%	8%	10%	12%	14%	17%	19%	21%	23%	24%	25%	26%	27%	27%
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER3	2%	3%	5%	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%
10013	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER1	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
10014	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER2	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10015	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER3	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10016	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER1	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
10017	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER2	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10018	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER3	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10019	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER1	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
10020	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER2	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10021	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER3	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10022	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER1	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
10023	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER2	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10024	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER3	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10025	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER1	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%
10026	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER2	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10027	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER3	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10028	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
10029	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10030	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10031	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
10032	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10033	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10034	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
10035	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10036	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10037	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER1	6%	8%	11%	14%	18%	22%	26%	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%
10038	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER2	26%	27%	27%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
10039	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER3	30%	34%	38%	41%	43%	46%	47%	48%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
10040	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10041	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10042	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10043	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%

Ameren MO		Scenario 1 Adoption Rates by Measure				Scenario 1 Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10044	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10045	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10046	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10047	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10048	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10049	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER1	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10050	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER2	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10051	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER3	3%	4%	6%	7%	10%	13%	17%	21%	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%
10052	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10053	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10054	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10055	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10056	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10057	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10058	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10059	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10060	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10061	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10062	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10063	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10064	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10065	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10066	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10067	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10068	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10069	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10070	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10071	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10072	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10073	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10074	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10075	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10076	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER1	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10077	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER2	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%
10078	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER3	26%	31%	36%	41%	45%	49%	52%	54%	56%	58%	59%	60%	60%	60%	60%	60%	60%	60%	60%

Ameren MO			Scenario 2 Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Scenario 2 Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1001	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	SF	Recycle	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1002	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	SF	Recycle	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1003	Appliance	Freezer recycling	Appliance Recycling	SF	Recycle	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%
1004	Appliance	Dehumidifier recycling	Appliance Recycling	SF	Recycle	7%	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%
1005	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	ROB	4%	5%	7%	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%
1006	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	ROB	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%
1007	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	ROB	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%
1008	Appliance	Heat Pump Dryer	N/A	SF	ROB	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%
1009	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	ROB	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%
1010	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1011	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1012	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	ROB	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%
1013	Appliance	Water Cooler	N/A	SF	ROB	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%
1014	Appliance	ENERGY STAR Dehumidifier	Efficient Products	SF	NC	4%	5%	7%	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%
1015	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1016	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1017	Appliance	Heat Pump Dryer	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1018	Appliance	ENERGY STAR Clothes Dryer	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1019	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1020	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1021	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	SF	NC	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%
1022	Appliance	Water Cooler	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
1023	Appliance	Refrigerator recycling (post-1990)	Appliance Recycling	MF	Recycle	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%
1024	Appliance	Refrigerator recycling (pre-1990)	Appliance Recycling	MF	Recycle	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%
1025	Appliance	Freezer recycling	Appliance Recycling	MF	Recycle	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1026	Appliance	Dehumidifier recycling	Appliance Recycling	MF	Recycle	6%	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%
1027	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	ROB	3%	5%	6%	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%
1028	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	ROB	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1029	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	ROB	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1030	Appliance	Heat Pump Dryer	N/A	MF	ROB	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%
1031	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	ROB	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%
1032	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1033	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
1034	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	ROB	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%
1035	Appliance	Water Cooler	N/A	MF	ROB	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%
1036	Appliance	ENERGY STAR Dehumidifier	Efficient Products	MF	NC	3%	5%	6%	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%
1037	Appliance	ENERGY STAR Clothes Washer - electric WH/dryer	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1038	Appliance	ENERGY STAR Clothes Washer - gas WH/ elec dryer	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1039	Appliance	Heat Pump Dryer	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1040	Appliance	ENERGY STAR Clothes Dryer	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1041	Appliance	ENERGY STAR Dishwasher - elec water heater	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1042	Appliance	ENERGY STAR Dishwasher - gas water heater	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
1043	Appliance	ENERGY STAR Air Purifier/Cleaner	Efficient Products	MF	NC	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%
1044	Appliance	Water Cooler	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
2001	Building Shell	Ceiling Insulation R5-R30 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%	70%
2002	Building Shell	Ceiling Insulation R5-R38 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%	70%
2003	Building Shell	Ceiling Insulation R5-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%	70%
2004	Building Shell	Ceiling Insulation R11-R49 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%	70%
2005	Building Shell	Ceiling Insulation R5-R60 SF LI DI electric furnace base	SF Income Eligible	SF	Retrofit	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%	70%
2006	Building Shell	Radiant Barrier	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2007	Building Shell	Cool Roof	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2008	Building Shell	Air Sealing - Tier 1	SF Income Eligible	SF	Retrofit	4%	5%	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%
2009	Building Shell	Air Sealing - Tier 2	SF Income Eligible	SF	Retrofit	4%	5%	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%
2010	Building Shell	Air Sealing - Tier 3	SF Income Eligible	SF	Retrofit	4%	5%	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%
2011	Building Shell	Wall Insulation	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2012	Building Shell	Storm Windows	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2013	Building Shell	Insulated Cellular Shades	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2014	Building Shell	Smart Window Coverings - Film/Transformer	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2015	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2016	Building Shell	Duct Insulation	SF Income Eligible	SF	Retrofit	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%	70%	70%	70%	70%	70%
2017	Building Shell	Duct Sealing	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2018	Building Shell	Floor Insulation	SF Income Eligible	SF	Retrofit	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
2019	Building Shell	Foundation Sidewall Insulation	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%
2020	Building Shell	Kneewall and Sillbox Insulation	N/A	SF	Retrofit	7%	9%	12%	15%	20%	25%	30%	36%	42%	48%	53%	58%	61%	64%	66%	68%	69%	70%	70%

Ameren MO			Scenario 2 Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Scenario 2 Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2081	Building Shell	Duct Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2082	Building Shell	Duct Sealing	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2083	Building Shell	Floor Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2084	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2085	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2086	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2087	Building Shell	Ceiling Insulation R5-R30 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2088	Building Shell	Ceiling Insulation R5-R38 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2089	Building Shell	Ceiling Insulation R5-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2090	Building Shell	Ceiling Insulation R11-R49 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2091	Building Shell	Ceiling Insulation R5-R60 MF LI DI heat pump base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2092	Building Shell	Radiant Barrier	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2093	Building Shell	Cool Roof	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2094	Building Shell	Air Sealing - Tier 1	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2095	Building Shell	Air Sealing - Tier 2	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2096	Building Shell	Air Sealing - Tier 3	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2097	Building Shell	Wall Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2098	Building Shell	Storm Windows	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2099	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2100	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2101	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2102	Building Shell	Duct Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2103	Building Shell	Duct Sealing	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2104	Building Shell	Floor Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2105	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2106	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2107	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2108	Building Shell	Ceiling Insulation R5-R30 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2109	Building Shell	Ceiling Insulation R5-R38 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2110	Building Shell	Ceiling Insulation R5-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2111	Building Shell	Ceiling Insulation R11-R49 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2112	Building Shell	Ceiling Insulation R5-R60 MF LI DI gas heat electric cool base	MF Income Eligible	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2113	Building Shell	Radiant Barrier	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2114	Building Shell	Cool Roof	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2115	Building Shell	Air Sealing - Tier 1	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2116	Building Shell	Air Sealing - Tier 2	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2117	Building Shell	Air Sealing - Tier 3	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2118	Building Shell	Wall Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2119	Building Shell	Storm Windows	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2120	Building Shell	Insulated Cellular Shades	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2121	Building Shell	Smart Window Coverings - Film/Transformer	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2122	Building Shell	Smart Window Coverings - Shade/Blind/Controller/Sensor	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2123	Building Shell	Duct Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2124	Building Shell	Duct Sealing	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2125	Building Shell	Floor Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2126	Building Shell	Foundation Sidewall Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2127	Building Shell	Kneewall and Sillbox Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2128	Building Shell	Basement Wall Insulation	N/A	MF	Retrofit	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2129	Building Shell	ENERGY STAR New Home - electric heat	N/A	MF	NC	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
2130	Building Shell	ENERGY STAR New Home - gas heat	N/A	MF	NC	23%	29%	35%	42%	49%	55%	61%	66%	71%	74%	77%	79%	80%	81%	81%	81%	81%	81%	81%
3001	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	Retrofit	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3002	Cross-Cutting	Flexpay - high usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3003	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3004	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	Retrofit	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3005	Cross-Cutting	Flexpay - medium usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3006	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3007	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	Retrofit	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3008	Cross-Cutting	Flexpay - low usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3009	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3010	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	SF	NC	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%

Ameren MO			Scenario 2 Adoption Rates by Measure																					
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Scenario 2 Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3011	Cross-Cutting	Flexpay - high usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3012	Cross-Cutting	Home Energy Management System - high usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3013	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	SF	NC	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3014	Cross-Cutting	Flexpay - medium usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3015	Cross-Cutting	Home Energy Management System - medium usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3016	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	SF	NC	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3017	Cross-Cutting	Flexpay - low usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3018	Cross-Cutting	Home Energy Management System - low usage	N/A	SF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3019	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	Retrofit	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3020	Cross-Cutting	Flexpay - high usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3021	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3022	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	Retrofit	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3023	Cross-Cutting	Flexpay - medium usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3024	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3025	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	Retrofit	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3026	Cross-Cutting	Flexpay - low usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3027	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	Retrofit	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3028	Cross-Cutting	Home Energy Report - high usage	Home Energy Report	MF	NC	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3029	Cross-Cutting	Flexpay - high usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3030	Cross-Cutting	Home Energy Management System - high usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3031	Cross-Cutting	Home Energy Report - medium usage	Home Energy Report	MF	NC	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3032	Cross-Cutting	Flexpay - medium usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3033	Cross-Cutting	Home Energy Management System - medium usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3034	Cross-Cutting	Home Energy Report - low usage	Home Energy Report	MF	NC	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%	90%	90%	90%	90%	90%	90%	90%
3035	Cross-Cutting	Flexpay - low usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
3036	Cross-Cutting	Home Energy Management System - low usage	N/A	MF	NC	4%	6%	8%	11%	15%	20%	25%	32%	39%	47%	54%	62%	68%	74%	78%	82%	85%	87%	89%
4001	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	Retrofit	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4002	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	Retrofit	6%	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%
4003	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	Retrofit	3%	5%	6%	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%
4004	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	Retrofit	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4005	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	Retrofit	4%	5%	7%	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%
4006	Electronics	ENERGY STAR Display	N/A	SF	ROB	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
4007	Electronics	ENERGY STAR Laptop	N/A	SF	ROB	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
4008	Electronics	ENERGY STAR PC	N/A	SF	ROB	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%
4009	Electronics	ENERGY STAR Sound Bar	N/A	SF	ROB	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%
4010	Electronics	ENERGY STAR TV	N/A	SF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
4011	Electronics	Advanced Tier 2 Power Strips - Average	SF Income Eligible	SF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4012	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	SF	NC	6%	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%
4013	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	SF Income Eligible	SF	NC	3%	5%	6%	8%	11%	15%	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%
4014	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4015	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	SF Income Eligible	SF	NC	4%	5%	7%	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%
4016	Electronics	ENERGY STAR Display	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4017	Electronics	ENERGY STAR Laptop	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4018	Electronics	ENERGY STAR PC	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4019	Electronics	ENERGY STAR Sound Bar	N/A	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4020	Electronics	ENERGY STAR TV	N/A	SF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4021	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	Retrofit	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4022	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	Retrofit	7%	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%
4023	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	Retrofit	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4024	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	Retrofit	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4025	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	Retrofit	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4026	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	Retrofit	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4027	Electronics	ENERGY STAR Display	N/A	MF	ROB	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
4028	Electronics	ENERGY STAR Laptop	N/A	MF	ROB	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
4029	Electronics	ENERGY STAR PC	N/A	MF	ROB	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%
4030	Electronics	ENERGY STAR Sound Bar	N/A	MF	ROB	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4031	Electronics	ENERGY STAR TV	N/A	MF	ROB	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
4032	Electronics	Advanced Tier 2 Power Strips - Average	MF Income Eligible	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4033	Electronics	Advanced Tier 2 Power Strips - Average	Efficient Products	MF	NC	7%	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%
4034	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	MF Income Eligible	MF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
4035	Electronics	Advanced Tier 1 Power Strips -Kits - Unknown Location	Energy Efficient Kits	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4036	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	MF Income Eligible	MF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%

Ameren MO			Scenario 2 Adoption Rates by Measure		Scenario 2 Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4037	Electronics	Advanced Tier 1 Power Strips / TOS/NC/DI - Home Entertainment	Multifamily Market Rate	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4038	Electronics	ENERGY STAR Display	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4039	Electronics	ENERGY STAR Laptop	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4040	Electronics	ENERGY STAR PC	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4041	Electronics	ENERGY STAR Sound Bar	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
4042	Electronics	ENERGY STAR TV	N/A	MF	NC	19%	24%	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%
5001	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	SF	Recycle	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%
5002	HVAC Equipment	Dirty Filter Alarm_SF:Kits	SF Income Eligible	SF	Retrofit	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
5003	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5004	HVAC Equipment	Smart Ceiling Fan	N/A	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5005	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5006	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%
5007	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5008	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5009	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	4%	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%
5010	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC SF	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5011	HVAC Equipment	Smart Vents/Sensors	N/A	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5012	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	Retrofit	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%
5013	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5014	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%
5015	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%
5016	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC SF	SF Income Eligible	SF	ROB	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%
5017	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	SF Income Eligible	SF	ROB	4%	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%
5018	HVAC Equipment	AC General Tune-Up (no charge or coil clean) SF	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5019	HVAC Equipment	AC Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
5020	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5021	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5022	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
5023	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
5024	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
5025	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	SF Income Eligible	SF	ROB	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
5026	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible	SF	ROB	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
5027	HVAC Equipment	General HP tune-up (no charge or coil clean)	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5028	HVAC Equipment	HP Tune-up / refrigerant charge SF	SF Income Eligible	SF	Retrofit	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5029	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning SF	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5030	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning SF	SF Income Eligible	SF	Retrofit	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5031	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	SF Income Eligible	SF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5032	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	SF Income Eligible	SF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5033	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	SF Income Eligible	SF	ROB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5034	HVAC Equipment	Ductless ASHP - replace on fail SF ROF	SF Income Eligible	SF	ROB	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%
5035	HVAC Equipment	DFHP - SEER 19	N/A	SF	ROB	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5036	HVAC Equipment	DFHP - SEER 20	N/A	SF	ROB	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5037	HVAC Equipment	DFHP - SEER 21	N/A	SF	ROB	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5038	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	ROB	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
5039	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5040	HVAC Equipment	Smart Ceiling Fan	N/A	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5041	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5042	HVAC Equipment	Learning Thermostat - ASHP heating/cooling SF	SF Income Eligible	SF	NC	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%
5043	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling SF	SF Income Eligible	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5044	HVAC Equipment	Smart Vents/Sensors	N/A	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5045	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	SF Income Eligible	SF	NC	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%
5046	HVAC Equipment	Setback thermostat for SF - full setback - gas heating / central AC	SF Income Eligible	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5047	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5048	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
5049	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
5050	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC SF	SF Income Eligible	SF	NC	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
5051	HVAC Equipment	Ductless AC - replace on fail SF	SF Income Eligible	SF	NC	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
5052	HVAC Equipment	ASHP SEER 16 replace ASHP - replace on fail SF	SF Income Eligible	SF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5053	HVAC Equipment	ASHP - SEER 18 - replace on fail SF	SF Income Eligible	SF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
5054	HVAC Equipment	ASHP - SEER 21 - replace on fail SF	SF Income Eligible	SF	NC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Ameren MO			Scenario 2 Adoption Rates by Measure		Scenario 2 Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5055	HVAC Equipment	Ductless ASHP - replace on fail SF NC	SF Income Eligible	SF	NC	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%
5056	HVAC Equipment	DFHP - SEER 19	N/A	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5057	HVAC Equipment	DFHP - SEER 20	N/A	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5058	HVAC Equipment	DFHP - SEER 21	N/A	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5059	HVAC Equipment	AC - Energy Star Room_SF: Low Income	SF Income Eligible	SF	NC	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%
5060	HVAC Equipment	Room AC recycling - Primary	Appliance Recycling	MF	Recycle	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%
5061	HVAC Equipment	Dirty Filter Alarm_MFMR	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5062	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5063	HVAC Equipment	Smart Ceiling Fan	N/A	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5064	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5065	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5066	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5067	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5068	HVAC Equipment	Learning Thermostat - electric furnace heating / central AC MF	Efficient Products	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5069	HVAC Equipment	Setback thermostat - full setback - elec furnace heating / central AC MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5070	HVAC Equipment	Smart Vents/Sensors	N/A	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5071	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5072	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5073	HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
5074	HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
5075	HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC MF	MF Income Eligible	MF	ROB	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
5076	HVAC Equipment	Ductless ASHP Replace Electric Resistance ROF	MF Income Eligible	MF	ROB	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
5077	HVAC Equipment	AC General Tune-Up (no charge or coil clean) MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5078	HVAC Equipment	AC Tune-up / refrigerant charge	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5079	HVAC Equipment	AC Tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5080	HVAC Equipment	AC Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5081	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5082	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5083	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5084	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5085	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5086	HVAC Equipment	General HP tune-up (no charge or coil clean)	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5087	HVAC Equipment	HP Tune-up / refrigerant charge MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5088	HVAC Equipment	HP tune-up / Indoor Coil (Evaporator) Cleaning MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5089	HVAC Equipment	HP Tune-up / Outdoor Coil (Condenser) Cleaning MF	MF Income Eligible	MF	Retrofit	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5090	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5091	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5092	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5093	HVAC Equipment	Ductless ASHP - replace on fail MF ROF	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5094	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5095	HVAC Equipment	DFHP - SEER 20	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5096	HVAC Equipment	DFHP - SEER 21	MF Income Eligible	MF	ROB	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
5097	HVAC Equipment	AC - Energy Star Room_MF: Low Income	MF Income Eligible	MF	ROB	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%
5098	HVAC Equipment	High Efficiency Bathroom Exhaust Fan	N/A	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5099	HVAC Equipment	Smart Ceiling Fan	N/A	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5100	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5101	HVAC Equipment	Learning Thermostat - ASHP heating/cooling MF	N/A	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5102	HVAC Equipment	Setback thermostat - full setback - ASHP heating/cooling MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5103	HVAC Equipment	Smart Vents/Sensors	N/A	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5104	HVAC Equipment	Learning Thermostat - Gas Heated / central AC	Efficient Products	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5105	HVAC Equipment	Setback thermostat - full setback - gas heating / central AC MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5106	HVAC Equipment	CAC - SEER 14 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5107	HVAC Equipment	CAC - SEER 15 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5108	HVAC Equipment	CAC - SEER 16 Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5109	HVAC Equipment	CAC - SEER 17+ Replace at Fail: HVAC MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5110	HVAC Equipment	Ductless AC - replace on fail MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5111	HVAC Equipment	ASHP - SEER 16 - replace on fail MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5112	HVAC Equipment	ASHP - SEER 18 - replace on fail MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5113	HVAC Equipment	ASHP - SEER 21 - replace on fail MF	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5114	HVAC Equipment	Ductless ASHP - replace on fail MF NC	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%
5115	HVAC Equipment	DFHP - SEER 19	MF Income Eligible	MF	NC	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%	76%

Ameren MO		Scenario 2 Adoption Rates by Measure			Scenario 2 Adoption Rates																			
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6055	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6056	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6057	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6058	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6059	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6060	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	ROB	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6061	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6062	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6063	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6064	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6065	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6066	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6067	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6068	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li DI	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6069	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6070	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6071	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6072	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6073	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6074	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6075	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6076	Lighting	LED Nightlights	Multifamily Market Rate	MF	ROB	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6077	Lighting	T8 Linear Fluorescent	N/A	MF	ROB	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6078	Lighting	Occupancy Sensor	N/A	MF	Retrofit	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6079	Lighting	LED - 10W (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6080	Lighting	LED - 10W (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6081	Lighting	LED - 10W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6082	Lighting	LED - 12W (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6083	Lighting	LED - 12W (Replacing CFL)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6084	Lighting	LED - 15W (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6085	Lighting	LED - 15W (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6086	Lighting	LED - 15W (Halogen baseline) - Specialty Connected Light	N/A	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6087	Lighting	LED - 20W (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6088	Lighting	LED - 20W (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6089	Lighting	LED - 4W Candelabra (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6090	Lighting	LED - 4W Candelabra (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6091	Lighting	LED - 8W Globe Light G25 Bulb (Replacing CFL)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6092	Lighting	LED - 8W Globe Light G25 Bulb (Replacing Specialty Incandescent)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6093	Lighting	LED - 12W Dimmable Light Bulb (Replacing CFL)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6094	Lighting	LED - 12W Dimmable Light Bulb (Replacing Specialty Incandescent) Li DI	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6095	Lighting	LED - 10.5W Downlight E26 (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6096	Lighting	LED - 10.5W Downlight E26 (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6097	Lighting	LED - 15W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6098	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6099	Lighting	LED - 15W Flood Light PAR30 Bulb (Halogen baseline) - Specialty Connected Light	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6100	Lighting	LED - 18W Flood Light PAR30 Bulb (CFL baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6101	Lighting	LED - 18W Flood Light PAR38 Bulb (Halogen baseline)	MF Income Eligible	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6102	Lighting	LED Nightlights	Multifamily Market Rate	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6103	Lighting	T8 Linear Fluorescent	N/A	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
6104	Lighting	Occupancy Sensor	N/A	MF	NC	48%	55%	60%	65%	70%	73%	75%	77%	79%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
7001	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	ROB	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%
7002	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	ROB	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%
7003	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	SF	NC	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
7004	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	SF	NC	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%

Ameren MO		Scenario 2 Adoption Rates by Measure				Scenario 2 Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type																			
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7005	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	ROB	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
7006	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	ROB	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
7007	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	ROB	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
7008	Pools	ENERGY STAR Pool Pump and motor w auto controls - multi speed	Efficient Products	MF	NC	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7009	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Efficient Products	MF	NC	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7010	Pools	ENERGY STAR VFDs on Residential Swimming Pool Pumps	Multifamily Market Rate	MF	NC	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
8001	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	ROB	3%	4%	6%	8%	10%	14%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%
8002	Water Heating	Water Heater Wrap	SF Income Eligible	SF	Retrofit	3%	4%	6%	8%	10%	14%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%
8003	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	Retrofit	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8004	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	Retrofit	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8005	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	Retrofit	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8006	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	Retrofit	3%	4%	6%	8%	10%	14%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%
8007	Water Heating	Pipe Insulation	SF Income Eligible	SF	Retrofit	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8008	Water Heating	Gravity Film Heat Exchanger	N/A	SF	Retrofit	10%	14%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%
8009	Water Heating	Heat Pump Hot Water Heater	Efficient Products	SF	NC	3%	4%	6%	8%	10%	14%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%
8010	Water Heating	Water Heater Wrap	SF Income Eligible	SF	NC	3%	4%	6%	8%	10%	14%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%
8011	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	SF	NC	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8012	Water Heating	Low Flow Bathroom Faucet Aerator SFLI DI	SF Income Eligible	SF	NC	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8013	Water Heating	Low Flow Showerheads	SF Income Eligible	SF	NC	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8014	Water Heating	Thermostatic Restrictor Shower Valve	SF Income Eligible	SF	NC	3%	4%	6%	8%	10%	14%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%
8015	Water Heating	Pipe Insulation	SF Income Eligible	SF	NC	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%	62%	62%	62%	62%	62%
8016	Water Heating	Gravity Film Heat Exchanger	N/A	SF	NC	10%	14%	17%	22%	27%	32%	38%	43%	47%	51%	54%	57%	59%	60%	61%	62%	62%	62%	62%
8017	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	ROB	3%	5%	6%	8%	11%	14%	19%	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%
8018	Water Heating	Water Heater Wrap	N/A	MF	Retrofit	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8019	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	Retrofit	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%
8020	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	Retrofit	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8021	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	Retrofit	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8022	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	Retrofit	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8023	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	Retrofit	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8024	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	Retrofit	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8025	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	Retrofit	11%	15%	19%	24%	29%	35%	41%	46%	51%	55%	59%	62%	64%	65%	67%	68%	68%	68%	68%
8026	Water Heating	Pipe Insulation	MF Income Eligible	MF	Retrofit	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8027	Water Heating	Gravity Film Heat Exchanger	N/A	MF	Retrofit	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8028	Water Heating	Heat Pump Hot Water Heater	Efficient Products	MF	NC	3%	5%	6%	8%	11%	14%	19%	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%
8029	Water Heating	Water Heater Wrap	N/A	MF	NC	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8030	Water Heating	Kit Faucet Aerator (Kitchen)	Energy Efficient Kits	MF	NC	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%	67%
8031	Water Heating	Faucet Aerators (Kitchen) MFMR	Multifamily Market Rate	MF	NC	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8032	Water Heating	Low Flow Bathroom Faucet Aerator MFLI DI	MF Income Eligible	MF	NC	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8033	Water Heating	Common Area Faucet Aerators	MF Income Eligible	MF	NC	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8034	Water Heating	Low Flow Showerheads	MF Income Eligible	MF	NC	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8035	Water Heating	Common Area Low Flow Showerheads	MF Income Eligible	MF	NC	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8036	Water Heating	Thermostatic Restrictor Shower Valve	MF Income Eligible	MF	NC	11%	15%	19%	24%	29%	35%	41%	46%	51%	55%	59%	62%	64%	65%	67%	68%	68%	68%	68%
8037	Water Heating	Pipe Insulation	MF Income Eligible	MF	NC	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
8038	Water Heating	Gravity Film Heat Exchanger	N/A	MF	NC	23%	29%	35%	40%	46%	50%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%
9001	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER1	4%	5%	7%	9%	12%	16%	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%
9002	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER2	25%	30%	34%	37%	40%	43%	45%	46%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%
9003	ER Appliance	Refrigerator - early replacement	SF Income Eligible	SF	ER3	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%	72%
9004	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER1	21%	25%	30%	34%	37%	40%	43%	45%	46%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%
9005	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER2	21%	25%	30%	34%	37%	40%	43%	45%	46%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%
9006	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	SF	ER3	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%
9007	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER1	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%
9008	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER2	27%	30%	34%	36%	39%	41%	42%	43%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
9009	ER Appliance	Refrigerator - early replacement	MF Income Eligible	MF	ER3	29%	35%	40%	46%	51%	55%	58%	61%	63%	65%	66%	67%	67%	67%	67%	67%	67%	67%	67%
9010	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER1	21%	25%	30%	34%	37%	40%	43%	45%	46%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%
9011	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER2	21%	25%	30%	34%	37%	40%	43%	45%	46%	48%	49%	49%	49%	49%	49%	49%	49%	49%	49%
9012	ER Appliance	Freezers ENERGY STAR - early replacement	N/A	MF	ER3	20%	26%	31%	38%	44%	50%	55%	59%	63%	66%	68%	70%	71%	72%	72%	72%	72%	72%	72%
10001	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement SF	SF Income Eligible	SF	ER1	7%	9%	12%	16%	21%	26%	3												

Ameren MO		Scenario 2 Adoption Rates by Measure				Scenario 2 Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10004	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%
10005	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	2%	3%	4%	5%	7%	9%	11%	14%	18%	21%	25%	28%	31%	33%	36%	37%	39%	40%	40%
10006	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	4%	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%
10007	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER1	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%
10008	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER2	2%	3%	4%	5%	7%	9%	11%	14%	18%	21%	25%	28%	31%	33%	36%	37%	39%	40%	40%
10009	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement SF ER	SF Income Eligible	SF	ER3	4%	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%
10010	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER1	4%	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%
10011	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER2	2%	3%	4%	5%	7%	9%	11%	14%	18%	21%	25%	28%	31%	33%	36%	37%	39%	40%	40%
10012	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER SF	SF Income Eligible	SF	ER3	4%	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%
10013	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER1	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
10014	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10015	ER HVAC Equipment	CAC - SEER 14 ER: HVAC SF	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10016	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER1	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
10017	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10018	ER HVAC Equipment	CAC - SEER 15 ER: HVAC SF	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10019	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER1	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
10020	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10021	ER HVAC Equipment	CAC - SEER 16 ER: HVAC SF	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10022	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER1	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
10023	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10024	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC SF	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10025	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER1	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%
10026	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10027	ER HVAC Equipment	Ductless AC - ER SF	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10028	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
10029	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10030	ER HVAC Equipment	ASHP SEER 16 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10031	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
10032	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10033	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10034	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
10035	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10036	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement SF ER	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10037	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER1	5%	7%	9%	12%	16%	21%	26%	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%
10038	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER2	28%	31%	33%	36%	37%	39%	40%	40%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
10039	ER HVAC Equipment	Ductless ASHP ER SF	SF Income Eligible	SF	ER3	32%	38%	44%	50%	56%	60%	64%	67%	69%	71%	72%	73%	73%	73%	73%	73%	73%	73%	73%
10040	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10041	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10042	ER HVAC Equipment	ASHP - SEER 16 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10043	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%

Ameren MO		Scenario 2 Adoption Rates by Measure				Scenario 2 Adoption Rates																		
Measure #	End-Use	Measure Name	Program	Home Type	Replacement Type	Adoption Rates																		
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10044	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10045	ER HVAC Equipment	ASHP - SEER 18 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10046	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER1	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10047	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER2	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10048	ER HVAC Equipment	ASHP - SEER 21 - replace electric furnace / CAC - early replacement MF ER	MF Income Eligible	MF	ER3	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10049	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER1	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10050	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER2	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10051	ER HVAC Equipment	Ductless ASHP Replace Electric Resistance ER MF	MF Income Eligible	MF	ER3	4%	5%	7%	9%	13%	17%	21%	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%
10052	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10053	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10054	ER HVAC Equipment	CAC - SEER 14 ER: HVAC MF	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10055	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10056	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10057	ER HVAC Equipment	CAC - SEER 15 ER: HVAC MF	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10058	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10059	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10060	ER HVAC Equipment	CAC - SEER 16 ER: HVAC MF	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10061	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10062	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10063	ER HVAC Equipment	CAC - SEER 17+ ER: HVAC MF	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10064	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10065	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10066	ER HVAC Equipment	Ductless AC - ER MF	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10067	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10068	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10069	ER HVAC Equipment	ASHP SEER 16 MF ER Replace ASHP: HVAC ER	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10070	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10071	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10072	ER HVAC Equipment	ASHP SEER 18 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10073	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10074	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10075	ER HVAC Equipment	ASHP SEER 21 replace ASHP - early replacement MF ER	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10076	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER1	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10077	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER2	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%
10078	ER HVAC Equipment	Ductless ASHP ER MF	MF Income Eligible	MF	ER3	27%	33%	39%	46%	52%	57%	62%	66%	69%	72%	74%	75%	76%	76%	76%	76%	76%	76%	76%

APPENDIX F: DEMAND RESPONSE DETAIL

Data Needed	Value	Source	Notes
General			
Years in study	19	Ameren MO	
Discount rate	6.16%	Ameren MO	
Peak demand line loss factor	5.68%	Ameren MO	
Reserve margin	16.50%	Ameren MO	
Rate of inflation	2%	Ameren MO	
CP load per eligible customer (kW) - Residential	3.58	Ameren MO with GDS Calculations	
CP load per eligible customer (kW) - C&I - SGS Only	5.22	Ameren MO with GDS Calculations	
CP load per eligible customer (kW) - C&I - LGS, SPS, LPS	206.47	Ameren MO with GDS Calculations	
CP load per eligible customer (kW) - C&I - LGS, SPS	173.72	Ameren MO with GDS Calculations	
CP load per eligible customer (kW) - C&I - SGS, LGS, SPS	16.98	Ameren MO with GDS Calculations	
CP load per eligible customer (kW) - C&I - SGS, LGS, SPS, LPS	19.35	Ameren MO with GDS Calculations	
Number of control hours for DLC	32	6-8 events per summer, 3-4 hours each	6-8 events per summer, 3-4 hours each
Number of control hours for TOU	1300	Ameren MO rate schedule - 5 hrs/day, weekdays	
Number of control hours for CPP	80	GDS Assumption	
Number of control hours for PTR	80	Portland Gas and Electric	12-20 events per summer, 3-4 hours each
Number of control hours for IBR	80	GDS Assumption	
Number of control hours for ice storage	480	6 hours a day for summer weekdays	
Existing customers in Peak Time Savings program (DLC AC Thermostat)	250 currently w/ 7500-10000 by end of 2019	Ameren data response 6.18.19	
Existing customers in aggregator program (capacity bidding)	34 for 2019; estimated for 2020 is 150	Ameren data response 6.18.19	
Summer or winter peaking	Summer	Ameren MO	
AMI saturation forecast	2019 0%, 2020 9%, 2021 27%, 2022 44%, 2023 62%, 2024 79%, 2025 100%	Ameren data response 6.18.19	
Res NLI Hierarchy preference	1. DLC 2. PTR 3. TOU 4. CPP 5. IBR	Ameren MO and GDS Assumptions	
Res LI Hierarchy preference	1. PTR 2. DLC 3. TOU 4. CPP 5. IBR	Ameren MO and GDS Assumptions	
Small Non Res Hierarchy preference	1. PTR 2. DLC 3. Demand Bidding 4. TOU 5. CPP	Ameren MO and GDS Assumptions	
Large Non Res Hierarchy preference	1. Capacity Bidding 2. Interruptible Rate 3. CPP	Ameren MO and GDS Assumptions	
TOU on peak hours	2p-7p weekdays June-Sep	https://www.ameren.com/missouri/residential/rates/time-of-day-rate	
Per Participant CP Load Reduction (kW or %)			
Residential Central AC Thermostat	1.059 kW	2012 FERC DR Survey Data (Reported realized savings data for 20 utility programs, adjusted to account for peak summer temperature differences using NOAA Normal Max Summer Temperature Data, 1981-2010)	
Residential Electric Water Heating	0.41 kW	Average of Brattle Study (0.4 kW), Cadmus PSE potential study (0.57 kW with 94% effective rate applied), and Cadmus evaluation for Kootenai (0.26 kW)	
Residential Room AC	0.504 kW	GDS Calculations using Enernoc saturations, UECs, and peak factors. Net Fraction of Load Available for Spinning Reserves from US DOE report on Use of Residential Smart Appliances for Peak-Load Shifting and Spinning Reserves, 2010.	
Residential Pool Pumps	1.36 kW	Southern California Edison Pool Pump Demand Response Potential Report 2008	
Residential CPP without Enabling Technology	12.95%	Impacts on Ameren TOU CPP Pilot Results	
Residential CPP with Enabling Technology	23.44%	Impacts on Ameren TOU CPP Pilot Results	
Residential TOU without Enabling Technology	6.24%	Average of studies for 7 areas: Ameren MO (Brattle Group 2013 presentation), Portland OR (Brattle group 2016 report), Kansas City (KCP&L 2016 Potential study), Ontario (2017 report on impact of TOU rates), California (2017 CA TOU pilot report), Michigan (2017 Economic Potential for Peak DR in MI), and Colorado (2016 Review of Alternative Rate Designs)	
Residential TOU with Enabling Technology	8.04%	Average of two studies in Michigan: 2017 Economic Potential for Peak DR in Michigan and 2014 Dynamic Pricing report	
Residential IBR	0.14%	Ameren MO research in 2017 IRP	
Residential Peak Time Rebate	12.90%	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016.	p. 96/138 of pdf
Residential PEV Charging	.62 TOU only, .66 with level 2 charger	Testimony from Steven M. Wills for Ameren MO	
Non Residential Central AC Thermostat	1.6 kW	2012 FERC DR Survey Data (Reported realized savings data for 14 utility programs, adjusted to account for peak summer temperature differences using NOAA Normal Max Summer Temperature Data, 1981-2010)	
Non Residential PP	2 kW	Rocky Mountain Institute, LIPA Edge Program Profile	

Data Needed	Value	Source	Notes
General			
Non Residential Lighting	8.94%	Business Energy Advisor/E Source, Strategies for C&I Demand Response; LIGHTING CALIFORNIA'S FUTURE: COST-EFFECTIVE DEMAND RESPONSE, Prepared For: California Energy Commission By: NEV Electronics, LLC, California Lighting Technology Center, March 2011; Lighting Controls Association, Lighting Control and Demand Response, By Craig DiLouie, on May 20, 2014; Demonstration and Evaluation of lighting technologies and Applications, Lighting Research Center, Field Test Issue 6, October 2011; What is the relation between energy consumption savings and peak load savings and how can this affect future energy conservation requirements? - Study conducted by the City of Toronto.	
Non Residential Electric Water Heating	0.9 kW	2012 FERC DR Survey Data (Reported realized savings data for 6 utility programs)	
Non Residential TES	19.4 kW	MISO DR, EE, DG Potential Study: Supplemental Program Slides. Value for Local Resource Zone 5 (Includes Ameren MO service area)	
Non Residential CPP with Enabling Technology	21.47%	Dynamic Pricing: Transitioning from Experiments to Full Scale Deployments, Michigan Retreat on Peak Shaving to Reduce Wasted Energy, The Brattle Group, August 06, 2014.	
Non Residential CPP without Enabling Technology	11.3%	The Potential Impact of Demand-Side Rates for Ameren Missouri, The Brattle Group, Stakeholder Webinar, May 24, 2013	
Non Residential TOU with Enabling Technology	3.8%	Dynamic Pricing: Transitioning from Experiments to Full Scale Deployments, Michigan Retreat on Peak Shaving to Reduce Wasted Energy, The Brattle Group, August 06, 2014.	
Non Residential TOU without Enabling Technology	2%	The Potential Impact of Demand-Side Rates for Ameren Missouri, The Brattle Group, Stakeholder Webinar, May 24, 2013	
Non Residential Peak Time Rebate	0.7%	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016.	
Non Residential Ag Irrigation	44 kW	2012 FERC DR Survey Data (Reported realized savings data for 17 utility programs)	
Non Residential Golf Cart Charging	0.75 kW per cart	Demand Response and Load Management Strategies for Electric Forklifts and Non-Road EV Fleets, Richard Cromie Program Manager, Southern California Edison Co.	
Non Residential Charging of Other Plug-In Utility Vehicles	1.7 kW per utility vehicle; 42.75 kW per golf course	Demand Response and Load Management Strategies for Electric Forklifts and Non-Road EV Fleets, Richard Cromie Program Manager, Southern California Edison Co.	
Non Residential Capacity Bidding	19.50%	2014 Statewide Load Impact Evaluation of California Aggregator Demand Response Programs. 2015. Christensen Associates Energy Consulting.	
Non Residential Demand Bidding	7%	Average taken from: 2013, 2014, and 2015 Load Impact of California Statewide Demand Bidding Programs for Non-Res Customers by Christensen Associates Energy Consulting and FERC 2012 DR Study.	
Non Residential Charging of Other Plug-In Utility Vehicles	1.7 kW per utility vehicle	Demand Response and Load Management Strategies for Electric Forklifts and Non-Road EV Fleets, Richard Cromie Program Manager, Southern California Edison Co.	
Non Residential Interruptible Rate	41.3 KW	MISO DR, EE, DG Potential Study: Supplemental Program Slides, July 31, 2015. Value for Local Resource Zone 5 (Includes Ameren MO service area)	
Control equipment useful life			
AMI meters	20 Years	Ameren Illinois AMI Cost/Benefit Analysis, 2012	
Controllable smart thermostat	11 Years	Illinois Technical Reference Manual 2018	
Level 2 EV Charger	10 Years	US DOE, Costs Associated with Non-Residential EV Supply Equipment, 2015	
Load switches	10 Years	Freeman, Sullivan & Co Cost Effectiveness of CECONY Demand Response Programs 2013; PA Act 129 Order 2013	
Costs			
Equipment and installation cost for smart thermostat	\$249 therm	Nest & Ecobee	BYOT program- self install
Equipment cost for smart water heater	\$592	Home Depot - average of 4 cheapest smart water heaters; assuming self install by customer	592
Equipment and installation cost for DLC pool pump	\$146 installed	DR Advanced Controls Framework and Assessment of Enabling Tech Costs, LBNL August 2017	
Equipment and installation cost for golf cart charging	\$9,000	Eaton Pow-R-Command Golf Car Off-Peak Charging	
Equipment and installation cost for utility vehicle	\$9,000	Eaton Pow-R-Command Golf Car Off-Peak Charging	

Data Needed	Value	Source	Notes
General			
Equipment and installation cost for non-residential lighting	\$1,900	Demonstration and Evaluation of lighting technologies and Applications, Lighting Research Center, Field Test Issue 6, October 2011	
Equipment and installation cost for PEV charging (level 1 charger)	\$245 for TOU meter, \$100 install	Provided by Ameren for a Landis&Gyr S4X meter	Assumed customer has level 1 charger, needs TOU meter to participate
Equipment and installation cost for residential PEV charging (enabling tech, level 2 charger)	\$0	GDS Assumption	Assumed customer already has level 2 charger, no additional cost to participate
Equipment and installation cost for agriculture irrigation control	\$41/kW	DR Advanced Controls Framework and Assessment of Enabling Tech Costs, LBNL August 2017	
Equipment and installation cost for capacity bidding	\$0	Ameren data response 6.18.19	All participants are required to have a recordable, interval meter. In many cases the interval meter already exists for billing. If it does not exist, the cost per year to participate is ~\$250, which is covered with program administration budget.
Equipment and installation cost for demand bidding	\$0	GDS Assumption	
Equipment cost for utility vehicle charging	\$9,000	Demand Response and Load Management Strategies for Electric Forklifts and Non-Road EV Fleets, Richard Cromie Program Manager, Southern California Edison Co.	Assume split between utility & customer
Incentive costs for residential DLC programs	MAP: \$50/participant-yr , RAP: \$25/participant-yr	Ameren MO Peak Time Savings Program; Market Research	
BYOT program one-time rebate incentive	\$50/thermostat	Ameren MO Peak Time Savings Program	
Incentive costs for non-residential DLC programs	MAP: \$50/participant-yr, RAP: \$25/participant-yr	Market Research	
Incentive costs for interruptible program	\$8.5/kW	PG&E Program	
Incentive costs for capacity bidding program	\$25/kW	Ameren MO	
Incentive costs for demand bidding program	\$0.5/kWh	PG&E Program	
Admin costs residential DLC programs	\$44,000	Assumes one senior project manager overseeing each of the residential and non-residential sectors, one associate engineer and one engineering assistant working on all of the DLC programs for each sector. All consultants are assumed to work 10 hours per week. These consultants are billed at GDS rates.	
Admin costs non-residential DLC programs	\$38,000		
Admin costs residential rate programs	\$20,000		
Admin costs non-residential rate programs	\$20,000		
Evaluation Cost	\$50,000/year/program	GDS Estimate	
Marketing Cost - TES & Non Residential EWH	\$9/new participant/program	Incremental Marketing Cost for WH. Source:Assessment of Long-Term, System-Wide Potential for Demand-Side and Other Supplemental Resources, 2013-2032 Volume I, PacifiCorp, Cadmus, March 2013	
Marketing Cost - All other programs with small customers	\$50/new participant/program	TENNESSEE VALLEY AUTHORITY POTENTIAL STUDY VOLUME 3: DEMAND RESPONSE POTENTIAL STUDY, Global Energy partners, December 21, 2011	
Marketing Cost - Programs with large customers	\$500/new participant/program	TENNESSEE VALLEY AUTHORITY POTENTIAL STUDY VOLUME 3: DEMAND RESPONSE POTENTIAL STUDY, Global Energy partners, December 21, 2011	
Program implementation cost	\$400,000 for brand new program	TENNESSEE VALLEY AUTHORITY POTENTIAL STUDY VOLUME 3: DEMAND RESPONSE POTENTIAL STUDY, Global Energy partners, December 21, 2011	
Amortize program costs?	No	Ameren MO	
Central Controller - Hardware Cost	\$25,000/10 years for DLC program	GDS Experience	
Central Software - Software Cost	\$5,000/year for DLC programs	GDS Experience	
Saturations			
Residential (MR) Central AC	95.7%	2019 primary research conducted by ODC in the Ameren Missouri	
Residential (IE) Central AC	83.0%	2019 primary research conducted by ODC in the Ameren Missouri	
Residential (MR) Room AC	15.1%	2019 primary research conducted by ODC in the Ameren Missouri	
Residential (IE) Room AC	32.2%	2019 primary research conducted by ODC in the Ameren Missouri	
Residential (MR) Electric Water Heating	28.2%	2019 primary research conducted by ODC in the Ameren Missouri	
Residential (IE) Electric Water Heating	35.3%	2019 primary research conducted by ODC in the Ameren Missouri	
Residential (MR) Pool Pumps	4.7%	2019 primary research conducted by ODC in the Ameren Missouri	
Residential (IE) Pool Pumps	1.2%	2019 primary research conducted by ODC in the Ameren Missouri	
Residential Number of thermostats	1.095	EIA RECS table HC6.1	
Residential Wifi	76%	https://www.securitysales.com/research/majority-broadband-households-wifi-connection/	

Data Needed	Value	Source	Notes
General			
Residential TOU & CPP without Enabling Technology	100% (all customers eligible)	GDS Assumption	
Residential (MR) TOU & CPP with Enabling Technology	95.7% (only customers with central AC)	2019 primary research conducted by ODC in the Ameren Missouri	
Residential (IE) TOU & CPP with Enabling Technology	83% (only customers with central AC)	2020 primary research conducted by ODC in the Ameren Missouri	
Non-Residential Central AC	80.85%	EIA CBECS, average of "West North Central" and "East South Central" regions	
Non-Residential Room AC	5%	Ameren Business Interest Survey Questionnaire	
Non-Residential Electric Water Heating	28%	Ameren/Enernoc 2013 Study	
Non-Residential Pool Pumps	4.6%	Ameren/Enernoc 2013 Study	
Non-Residential TES	2.41%	EIA CBECS, average of "West North Central" and "East South Central" regions for chillers	
Non-Residential TOU & CPP without Enabling Technology	100% (all customers eligible)	GDS Assumption	
Non-Residential TOU & CPP with Enabling Technology	80.85% (only customers with central AC)	EIA CBECS, average of "West North Central" and "East South Central" regions	
Non-Residential Lighting	12.10%	Ameren's Latest Commercial Market Baseline Study (2011) adjusted for actual lighting installations from Ameren-Missouri Implementation Database	% of T12 lighting
Non-Residential Number of Thermostats	1.654	Ratio from Res/Non-Res Central AC applied to Res # Thermostats	
Non-Residential Wifi	76%	https://www.securitysales.com/research/majority-broadband-households-wifi-connection/	
Number of Golf courses in Ameren territory	153	golflink.com, EIA data on residential customers	
Number of Irrigated farms	685	1: USDA, 2013 Farm and Ranch Irrigation Survey, Table 12: On-Farm Energy Expense for Pumping Irrigation Water by Water Source and Type of Energy, State of MO; 2: Based on Percent of Zip Codes in Each County Served by Ameren MO. Zip Codes Served provided by Ameren MO.	
Adoption Rates			Also see Adoption Rates (F.3)
Residential (MR) Central AC Thermostat	34.8% MAP, 20% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at \$50 incentive, with 73% awareness factor; RAP: adoption rate at \$25 incentive with 59% awareness factor
Residential (IE) Central AC Thermostat	32.8% MAP, 15% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at \$50 incentive, with 73% awareness factor; RAP: adoption rate at \$25 incentive with 49% awareness factor
Residential (MR) Electric Water Heating	26.5% MAP, 15% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at \$50 incentive, with 73% awareness factor; RAP: adoption rate at \$25 incentive with 59% awareness factor
Residential (IE) Electric Water Heating	33% MAP, 14% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at \$50 incentive, with 73% awareness factor; RAP: adoption rate at \$25 incentive with 49% awareness factor
Residential Room AC	31% MAP, 20% RAP	Ameren Missouri Demand Side Management Market Potential Study, Volume 4, Demand Response Analysis, EnerNOC, December 20, 2013.	
Residential Pool Pumps	38% MAP, 19% RAP	Pool Pump Demand Response Potential, Design & Engineering Services Customer Service Business Unit Southern California Edison, June 2008 (76% of survey respondents expressed and interest in an incentive-based pool pump demand response program). For RAP it is assumed that 25% of interested customers will participate.	
Residential (MR) Rate Programs overall	49% MAP, 25% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at 3 cents/kWh off-peak rate, with 73% awareness factor; RAP: adoption rate at 6 cents/kWh off-peak rate, with 59% awareness factor
Residential (IE) Rate Programs overall	16% MAP, 8% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at 3 cents/kWh off-peak rate, with 73% awareness factor; RAP: adoption rate at 6 cents/kWh off-peak rate, with 49% awareness factor
Residential (MR) CPP without Enabling Technology	12.4% MAP, 6.3% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. 46% MAP and 17% RAP, adjusted with Market Research, Adoption Curves.	
Residential (IE) CPP without Enabling Technology	3.6% MAP, 2.0% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. 15% MAP and 5% RAP, adjusted with Market Research, Adoption Curves.	
Residential (MR) CPP with Enabling Technology	15.9% MAP, 8.1% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. 59% MAP and 22% RAP, adjusted with Market Research, Adoption Curves.	

Data Needed	Value	Source	Notes
General			
Residential (IE) CPP with Enabling Technology	4.6% MAP, 2.7% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. 19% MAP and 7% RAP, adjusted with Market Research, Adoption Curves.	
Residential (MR) TOU without Enabling Technology	7.8% MAP, 4.1% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. 29% MAP and 11% RAP, adjusted with Market Research, Adoption Curves.	
Residential (IE) TOU without Enabling Technology	2.4% MAP, 1.2% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. 10% MAP and 3% RAP, adjusted with Market Research, Adoption Curves.	
Residential (MR) TOU with Enabling Technology	38% MAP, 14% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016.	Not cost-effective, so did not include this in the distribution of rate programs proportioned by Market Adoption Research.
Residential (IE) TOU with Enabling Technology	12% MAP, 5% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016.	Not cost-effective, so did not include this in the distribution of rate programs proportioned by Market Adoption Research.
Residential (MR) Inclining Block Rate	Mandatory if not on another DLC rate - 100% of remaining customers	Discussion with Ameren MO	
Residential (IE) Inclining Block Rate	Mandatory if not on another DLC rate - 100% of remaining customers	Discussion with Ameren MO	
Residential (MR) Peak Time Rebate	15.1% MAP, 13% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. 56% MAP and 21% RAP, adjusted with Market Research, Adoption Curves.	Adjusted to have starting adoption rate of 13% based on discussions with Ameren MO. Increased RAP adoption to have 13% every year, instead of final rate of 7.8%
Residential (IE) Peak Time Rebate	4.3% MAP, 2.3% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. 18% MAP and 6% RAP, adjusted with Market Research, Adoption Curves.	
Residential Electric Vehicle Charging - Level 1	94% MAP, 57% RAP	Plug-in Electric Vehicle and Infrastructure Analysis September 2015, Prepared for the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy by Idaho National Lab.	
Residential Electric Vehicle Charging - Level 2	94% MAP, 57% RAP	Plug-in Electric Vehicle and Infrastructure Analysis September 2015, Prepared for the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy by Idaho National Lab.	
Non Residential Central AC Thermostat	26.4% MAP, 9% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at \$50 incentive, with 73% awareness factor; RAP: adoption rate at \$25 incentive with 32% awareness factor
Non Residential Pool Pumps	16% MAP, 7% RAP	Used Direct Load - Control Water Heating take rate. FERC 2012 DR survey data contained no utility programs targeting just commercial pool pumps. A general search for such programs by GDS also produced no useful results.	
Non Residential Lighting	14% MAP, 3% RAP	Used Direct Load - Air Conditioning take rate. FERC 2012 DR survey data contained only one program targeting lighting with a take rate of .6%. A general search for such programs by GDS also produced no useful results.	
Non Residential EWH	30.4% MAP, 10% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at \$50 incentive, with 73% awareness factor; RAP: adoption rate at \$25 incentive with 32% awareness factor
Non Residential (Small Customers) Rate Programs overall	26% MAP, 12% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at 8% lower than current rates, with 73% awareness factor; RAP: adoption rate at 8% lower than current rates, with 32% awareness factor
Non Residential (Large Customers) Rate Programs overall	31% MAP, 14% RAP	ODC Market Research, Adoption Curves	MAP: adoption rate at 8% lower than current rates, with 73% awareness factor; RAP: adoption rate at 8% lower than current rates, with 49% awareness factor
Non Residential Thermal Electric Storage	20% MAP, 7% RAP	Used TOU with enabling technology take rate. It is assumed that an enabling system will be installed to manage charging.	
Non Residential CPP with Enabling Technology	21.6% MAP, 7% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. Adjusted with Market Adoption Research.	

Data Needed	Value	Source	Notes
General			
Non Residential CPP without Enabling Technology	19.4% MAP, 6.3% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016. Adjusted with Market Adoption Research.	
Non Residential TOU with Enabling Technology	20% MAP, 7% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016.	Not cost-effective, so did not include this in the distribution of rate programs proportioned by Market Adoption Research.
Non Residential TOU without Enabling Technology	5.6% MAP, 5% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016.	Not cost-effective, so did not include this in the distribution of rate programs proportioned by Market Adoption Research.
Non Residential Peak Time Rebate	63% MAP, 21% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2017	Not cost-effective, so did not include this in the distribution of rate programs proportioned by Market Adoption Research.
Non Residential Ag Irrigation	30% MAP, 15% RAP	Demand Response Market Research:Portland General Electric, 2016 to 2035, The Brattle Group, January 2016.	
Non Residential Capacity Bidding	50.2% MAP, 18% RAP	Market Research, Adoption Curves (Custom program)	MAP: adoption rate at \$100/kW incentive, with 73% awareness factor; RAP: adoption rate at \$25/kW incentive with 32% awareness factor
Non Residential Demand Bidding	8% MAP, 1% RAP	Demand Response Market Potential in Xcel Energy's Northern States Power Service Territory, The Brattle Group, April 2014. "Customer interest in such a program was modest based on market research, with around 10% of small/medium customers and 8% of large customers being interested."; Capacity bidding programs at PG&E and SCE in California have low (less than 1%) and declining enrollments as shown in the Annual CBP Evaluations (2). Long term forecasts of enrollments are also expected to remain at current levels. (3)	
Non Residential Interruptible Rate	21% MAP, 3% RAP	FERC 2012 DR Survey Data	
Non Residential Charging of Other Plug-In Utility Vehicles	20% MAP, 7% RAP	Used TOU with enabling technology take rate. It is assumed that an enabling system will be installed to manage charging.	
Non Residential Golf Cart Charging	20% MAP, 7% RAP	Used TOU with enabling technology take rate. It is assumed that an enabling system will be installed to manage charging.	
Programs that require AMI	PTR, rate programs	GDS Assumption	Use Ameren's AMI forecast

Cost-Effectiveness Results					
	Program	TRC - MAP	TRC - RAP	UCT - MAP	UCT - RAP
Residential (MR)	DLC Central AC	1.40	1.92	1.96	3.01
	DLC Room AC	0.76	0.75	0.76	0.75
	DLC Pool Pumps	2.49	2.10	2.49	2.10
	DLC Water Heating	0.37	0.37	0.37	0.37
	Peak Time Rebate	1.55	1.65	1.55	1.65
	Time of Use with Enabling Tech	0.65	0.55	0.65	0.55
	Time of Use without Enabling Tech	2.63	2.18	2.63	2.18
	Critical Peak Pricing with Enabling Tech	2.15	2.26	2.15	2.26
	Critical Peak Pricing without Enabling Tech	6.89	7.73	6.89	7.73
	Inclining Block Rate	0.08	0.12	0.08	0.12
	Electric Vehicle Charging Rate - Level 1 Chargers	0.34	0.28	0.34	0.28
	Electric Vehicle Charging Rate - Level 2 Chargers	8.64	9.51	8.64	9.51
Residential (IE)	Peak Time Rebate	1.49	1.45	1.49	1.45
	DLC Central AC	1.24	1.58	1.24	1.58
	DLC Water Heating	0.37	0.37	0.37	0.37
	Time of Use with Enabling Tech	0.52	0.44	0.52	0.44
	Time of Use without Enabling Tech	1.70	1.13	1.70	1.13
	Critical Peak Pricing with Enabling Tech	2.06	2.11	2.06	2.11
	Critical Peak Pricing without Enabling Tech	5.17	4.82	5.17	4.82
Inclining Block Rate	0.09	0.12	0.09	0.12	
Non-Residential	Peak Time Rebate	0.29	0.33	0.29	0.33
	DLC Central AC	2.00	2.27	2.75	3.31
	DLC Pool Pumps	1.29	0.73	1.29	0.73
	DLC Water Heating	0.69	0.69	0.69	0.69
	DLC Lighting	0.11	0.08	0.11	0.08
	DLC Agricultural Irrigation	2.04	1.65	2.04	1.65
	Capacity Bidding	1.23	4.60	1.23	4.60
	Demand Bidding	1.71	0.35	1.71	0.35
	Interruptible Rate	11.46	7.14	11.46	7.14
	Time of Use with Enabling Tech	0.44	0.49	0.44	0.49
	Time of Use without Enabling Tech	0.84	1.00	0.84	1.00
	Critical Peak Pricing with Enabling Tech	7.57	7.33	7.57	7.33
	Critical Peak Pricing without Enabling Tech	16.66	13.25	16.66	13.25
	Thermal Electric Storage Cooling Rate	0.11	0.10	0.14	0.14
	Golf Cart Charging	1.10	0.44	1.21	0.47
Utility Fleet Vehicle Charging	0.16	0.09	0.16	0.09	

Program RAP - MW Savings (0 if not cost effective)																				
Program		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Residential (MR)	DLC Central AC	25	28	32	35	39	43	46	50	54	57	61	65	68	72	76	80	84	87	91
	DLC Room AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DLC Pool Pumps	1	2	5	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	DLC Water Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Time Rebate	14	19	25	32	31	31	30	30	30	29	29	28	28	27	27	27	26	26	25
	Time of Use with Enabling Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Time of Use without Enabling Tech	0	0	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	4
	Critical Peak Pricing with Enabling Tech	1	6	17	29	31	31	31	31	30	30	29	29	28	28	27	27	27	26	25
	Critical Peak Pricing without Enabling Tech	1	3	8	14	15	15	15	15	14	14	14	14	14	13	13	13	13	12	12
	Inclining Block Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Electric Vehicle Charging Rate - Level 1 Chargers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Electric Vehicle Charging Rate - Level 2 Chargers	0	1	2	5	7	8	10	12	14	17	20	22	26	29	33	37	41	46	51
Residential (IE)	Peak Time Rebate	0	1	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	DLC Central AC	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	38	40
	DLC Water Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Time of Use with Enabling Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Time of Use without Enabling Tech	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	Critical Peak Pricing with Enabling Tech	0	2	4	7	8	8	8	8	8	7	7	7	7	7	7	7	6	6	6
	Critical Peak Pricing without Enabling Tech	0	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Inclining Block Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Peak Time Rebate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DLC Central AC	1	4	9	12	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14
	DLC Pool Pumps	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DLC Water Heating	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLC Lighting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DLC Agricultural Irrigation	0	1	3	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	
Capacity Bidding	101	115	123	137	152	166	174	188	203	184	196	209	221	226	238	228	238	242	252	
Demand Bidding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interruptible Rate	1	3	7	12	13	13	13	13	13	12	12	12	12	12	12	12	12	12	12	
Non-Residential	Time of Use with Enabling Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Time of Use without Enabling Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Critical Peak Pricing with Enabling Tech	1	7	17	29	31	31	31	30	30	29	28	28	27	26	26	25	24	24	23
	Critical Peak Pricing without Enabling Tech	1	4	10	17	18	18	18	18	17	17	17	16	16	16	15	15	14	14	14
	Thermal Electric Storage Cooling Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Golf Cart Charging	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Utility Fleet Vehicle Charging	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Program RAP - Program Costs (\$0 if not cost effective)																						
Program		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040		
Residential (MR)	DLC Central AC	\$2,386,328	\$2,546,354	\$2,709,279	\$2,875,077	\$3,040,188	\$3,205,538	\$3,373,056	\$3,544,338	\$3,717,954	\$3,893,352	\$4,062,154	\$4,236,476	\$4,406,885	\$4,582,347	\$4,758,820	\$4,936,354	\$5,114,909	\$5,294,534	\$5,475,199	\$5,656,964	
	DLC Room AC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	DLC Pool Pumps	\$439,900	\$382,169	\$578,239	\$493,275	\$351,856	\$297,647	\$284,966	\$284,019	\$286,024	\$288,776	\$406,541	\$501,233	\$627,591	\$517,549	\$378,455	\$326,719	\$317,424	\$317,298	\$320,082	\$320,082	
	DLC Water Heating	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	Peak Time Rebate	\$2,499,480	\$1,940,860	\$2,261,218	\$2,870,569	\$2,043,333	\$2,019,070	\$1,997,609	\$1,974,719	\$1,951,130	\$1,925,440	\$1,900,990	\$1,874,638	\$1,847,835	\$1,819,215	\$1,790,530	\$1,761,663	\$1,734,071	\$1,706,153	\$1,678,380	\$1,650,732	
	Time of Use with Enabling Tech	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	Time of Use without Enabling Tech	\$65,332	\$88,933	\$109,345	\$143,576	\$103,130	\$105,082	\$106,800	\$108,499	\$110,210	\$111,932	\$113,574	\$115,151	\$116,629	\$118,225	\$119,782	\$121,211	\$124,561	\$126,453	\$128,358	\$130,263	
	Critical Peak Pricing with Enabling Tech	\$673,343	\$1,985,590	\$4,318,762	\$5,110,879	\$1,403,632	\$711,286	\$826,303	\$525,550	\$524,465	\$523,333	\$522,150	\$520,894	\$519,529	\$518,132	\$516,691	\$515,161	\$514,267	\$513,378	\$512,495	\$511,612	
	Critical Peak Pricing without Enabling Tech	\$230,409	\$307,474	\$619,812	\$706,992	\$173,161	\$73,576	\$47,625	\$47,465	\$48,415	\$49,383	\$50,370	\$51,378	\$52,405	\$53,454	\$54,523	\$55,613	\$56,725	\$57,860	\$59,017	\$60,197	
	Inclining Block Rate	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	Electric Vehicle Charging Rate - Level 1 Chargers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	Electric Vehicle Charging Rate - Level 2 Chargers	\$282,543	\$122,323	\$204,599	\$247,209	\$252,694	\$196,001	\$237,704	\$264,507	\$276,475	\$315,914	\$322,528	\$357,030	\$392,721	\$429,810	\$468,114	\$507,855	\$548,960	\$591,505	\$635,574	\$683,129	
	Residential (IE)	Peak Time Rebate	\$152,029	\$165,547	\$339,152	\$457,717	\$338,112	\$315,688	\$309,106	\$306,826	\$305,395	\$303,823	\$302,318	\$300,264	\$297,933	\$295,292	\$292,531	\$289,558	\$287,682	\$284,808	\$281,763	\$278,548
		DLC Central AC	\$753,065	\$821,249	\$885,412	\$950,099	\$1,055,168	\$1,146,597	\$1,235,899	\$1,345,748	\$1,491,832	\$2,027,060	\$2,124,365	\$2,237,138	\$2,345,487	\$2,453,090	\$2,560,583	\$2,667,380	\$2,796,064	\$2,912,914	\$3,028,360	\$3,142,860
DLC Water Heating		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Time of Use with Enabling Tech		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Time of Use without Enabling Tech		\$33,862	\$40,148	\$44,681	\$52,056	\$43,302	\$44,162	\$44,997	\$45,845	\$46,708	\$47,586	\$48,457	\$49,326	\$50,184	\$51,082	\$51,983	\$52,870	\$54,188	\$55,201	\$56,233	\$57,283	
Critical Peak Pricing with Enabling Tech		\$241,004	\$509,046	\$1,076,587	\$1,250,751	\$370,072	\$200,415	\$155,144	\$150,404	\$150,765	\$151,124	\$151,480	\$151,827	\$152,158	\$152,491	\$152,823	\$153,143	\$153,633	\$154,135	\$154,650	\$155,177	
Critical Peak Pricing without Enabling Tech		\$230,409	\$307,474	\$619,812	\$706,992	\$173,161	\$73,576	\$47,625	\$47,465	\$48,415	\$49,383	\$50,370	\$51,378	\$52,405	\$53,454	\$54,523	\$55,613	\$56,725	\$57,860	\$59,017	\$60,197	
Inclining Block Rate		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Peak Time Rebate		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
DLC Central AC		\$600,047	\$775,013	\$1,235,708	\$996,378	\$628,046	\$486,664	\$451,642	\$446,632	\$449,502	\$453,438	\$462,159	\$720,679	\$1,064,116	\$1,428,831	\$1,108,110	\$701,867	\$531,772	\$492,916	\$710,057	\$710,057	
DLC Pool Pumps		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
DLC Water Heating		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
DLC Lighting		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
DLC Agricultural Irrigation		\$358,108	\$206,884	\$308,473	\$333,637	\$321,436	\$316,047	\$316,001	\$317,576	\$319,588	\$321,738	\$371,549	\$377,999	\$410,967	\$384,762	\$351,631	\$340,525	\$339,407	\$341,081	\$343,476	\$345,476	
Capacity Bidding	\$2,798,318	\$1,017,416	\$1,295,278	\$1,573,921	\$1,853,767	\$2,134,826	\$2,418,522	\$2,702,683	\$2,988,598	\$2,595,867	\$2,824,598	\$3,055,260	\$3,288,067	\$3,523,911	\$3,761,501	\$3,402,969	\$3,586,702	\$3,775,770	\$3,964,580	\$3,964,580		
Demand Bidding	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Interruptible Rate	\$281,720	\$119,366	\$188,399	\$240,678	\$200,429	\$194,045	\$193,161	\$194,211	\$195,213	\$196,229	\$197,264	\$198,345	\$199,470	\$200,650	\$201,877	\$203,139	\$203,953	\$204,805	\$205,695	\$206,625		
Time of Use with Enabling Tech	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Time of Use without Enabling Tech	\$70,000	\$149,224	\$142,968	\$167,557	\$75,770	\$77,286	\$78,831	\$80,408	\$82,016	\$83,656	\$85,330	\$87,036	\$88,777	\$90,552	\$92,364	\$94,211	\$96,095	\$98,017	\$99,977	\$101,977		
Critical Peak Pricing with Enabling Tech	\$297,843	\$533,270	\$1,054,815	\$1,226,794	\$401,297	\$255,021	\$218,124	\$211,586	\$212,825	\$215,149	\$217,296	\$219,454	\$222,280	\$225,259	\$227,636	\$229,532	\$214,244	\$216,166	\$218,127	\$219,127		
Critical Peak Pricing without Enabling Tech	\$192,439	\$152,020	\$243,091	\$266,170	\$115,723	\$89,210	\$83,383	\$83,321	\$84,739	\$86,387	\$88,032	\$89,712	\$91,528	\$93,416	\$95,216	\$96,958	\$98,095	\$98,017	\$99,977	\$101,977		
Thermal Electric Storage Cooling Rate	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Golf Cart Charging	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Utility Fleet Vehicle Charging	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		

Program RAP - Participants (0 if not cost effective)																					
Program	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040		
Residential (MR)	DLC Central AC	23,285	26,632	29,998	33,387	36,790	40,206	43,637	47,088	50,561	54,057	57,566	61,084	64,602	68,131	71,665	75,198	78,850	82,525	86,223	
	DLC Room AC	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	DLC Pool Pumps	506	1,646	3,433	4,587	4,982	5,092	5,128	5,146	5,161	5,175	5,188	5,201	5,212	5,223	5,234	5,243	5,260	5,276	5,293	
	DLC Water Heating	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	Peak Time Rebate	29,313	42,094	54,118	69,263	68,960	68,684	68,412	68,148	67,889	67,634	67,372	67,098	66,806	66,506	66,198	65,873	65,637	65,400	65,159	
	Time of Use with Enabling Tech	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	Time of Use without Enabling Tech	583	1,514	2,770	4,620	5,679	6,739	7,792	8,834	9,865	10,885	11,891	12,882	13,857	14,816	15,760	16,686	17,621	18,543	19,453	
	Critical Peak Pricing with Enabling Tech	1,788	8,102	21,301	35,954	38,666	39,175	39,110	38,912	38,686	38,455	38,217	37,972	37,715	37,455	37,189	36,913	36,687	36,459	36,229	
	Critical Peak Pricing without Enabling Tech	1,532	6,949	18,289	30,877	33,237	33,702	33,674	33,532	33,366	33,195	33,019	32,836	32,644	32,448	32,248	32,039	31,874	31,707	31,539	
	Inclining Block Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Electric Vehicle Charging Rate - Level 1 Chargers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Electric Vehicle Charging Rate - Level 2 Chargers	251	1,249	3,782	7,041	10,310	12,461	15,282	18,488	21,807	25,694	29,586	33,929	38,722	43,967	49,662	55,809	62,407	69,456	76,956	
	Residential (ID)	Peak Time Rebate	398	1,825	4,848	8,200	8,906	9,103	9,166	9,199	9,225	9,250	9,274	9,297	9,318	9,337	9,356	9,373	9,402	9,432	9,462
		DLC Central AC	2,902	4,788	6,619	8,403	10,257	12,134	14,024	15,927	17,841	19,767	21,701	23,641	25,585	27,535	29,489	31,445	33,453	35,473	37,506
DLC Water Heating		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Time of Use with Enabling Tech		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Time of Use without Enabling Tech		171	384	670	1,077	1,304	1,530	1,756	1,980	2,204	2,427	2,648	2,868	3,086	3,302	3,516	3,728	3,944	4,159	4,373	
Critical Peak Pricing with Enabling Tech		417	1,904	5,048	8,537	9,219	9,368	9,378	9,355	9,326	9,296	9,264	9,231	9,195	9,158	9,119	9,079	9,051	9,022	8,994	
Critical Peak Pricing without Enabling Tech		340	1,586	4,126	6,979	7,544	7,674	7,691	7,681	7,665	7,648	7,631	7,612	7,591	7,569	7,546	7,521	7,507	7,492	7,478	
Inclining Block Rate		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Time Rebate		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DLC Central AC		836	2,725	5,690	7,613	8,281	8,480	8,557	8,606	8,652	8,697	8,741	8,784	8,826	8,870	8,913	8,953	8,953	8,953	8,953	
DLC Pool Pumps		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DLC Water Heating		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DLC Lighting		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DLC Agricultural Irrigation		10	33	69	92	100	102	103	103	103	103	103	103	103	103	103	103	103	103	103	
Capacity Bidding	183	266	350	434	518	604	689	776	863	951	1,040	1,130	1,220	1,312	1,404	1,498	1,584	1,671	1,758		
Demand Bidding	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Interruptible Rate	13	62	166	282	303	308	307	306	304	302	301	299	297	296	294	293	290	287	284		
Non-Residential	Time of Use with Enabling Tech	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	Time of Use without Enabling Tech	4,049	5,575	6,924	8,682	8,585	8,518	8,459	8,403	8,350	8,296	8,241	8,184	8,126	8,068	8,008	7,945	7,845	7,746	7,647	
	Critical Peak Pricing with Enabling Tech	409	1,843	4,797	8,099	8,764	8,963	9,041	9,091	9,139	9,185	9,231	9,275	9,319	9,365	9,409	9,452	9,452	9,452	9,452	
	Critical Peak Pricing without Enabling Tech	449	2,030	5,303	8,957	9,695	9,911	9,992	10,042	10,089	10,135	10,179	10,222	10,265	10,310	10,353	10,394	10,388	10,382	10,376	
	Thermal Electric Storage Cooling Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Golf Cart Charging	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Utility Fleet Vehicle Charging	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Program MAP Adoption Rates																				
Program		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Residential (MR)	DLC Central AC	6%	8%	10%	11%	13%	14%	16%	17%	19%	21%	22%	24%	25%	27%	28%	30%	32%	33%	35%
	DLC Room AC	3%	10%	21%	28%	30%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%
	DLC Pool Pumps	4%	12%	26%	34%	37%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%
	DLC Water Heating	3%	9%	18%	24%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
	Peak Time Rebate	13%	13%	13%	13%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	15%	15%	15%	15%	15%
	Time of Use with Enabling Tech	2%	4%	6%	8%	10%	12%	14%	16%	18%	20%	22%	24%	26%	28%	30%	32%	34%	36%	38%
	Time of Use without Enabling Tech	0%	1%	1%	2%	2%	2%	3%	3%	4%	4%	5%	5%	5%	6%	6%	7%	7%	7%	8%
	Critical Peak Pricing with Enabling Tech	2%	5%	11%	14%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
	Critical Peak Pricing without Enabling Tech	1%	4%	8%	11%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
	Inclining Block Rate	10%	32%	68%	90%	97%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Electric Vehicle Charging Rate - Level 1 Chargers	9%	31%	63%	85%	92%	93%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
	Electric Vehicle Charging Rate - Level 2 Chargers	9%	31%	63%	85%	92%	93%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%	94%
Residential (IE)	Peak Time Rebate	0%	1%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
	DLC Central AC	2%	4%	6%	7%	9%	11%	12%	14%	16%	17%	19%	21%	23%	24%	26%	28%	29%	31%	33%
	DLC Water Heating	3%	11%	22%	30%	32%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
	Time of Use with Enabling Tech	1%	1%	2%	3%	3%	4%	4%	5%	6%	6%	7%	8%	8%	9%	9%	10%	11%	11%	12%
	Time of Use without Enabling Tech	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%
	Critical Peak Pricing with Enabling Tech	0%	1%	3%	4%	4%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
	Critical Peak Pricing without Enabling Tech	0%	1%	2%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
	Inclining Block Rate	10%	32%	68%	90%	97%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Residential	Peak Time Rebate	13%	16%	19%	21%	24%	27%	30%	32%	35%	38%	41%	44%	46%	49%	52%	55%	57%	60%	63%
	DLC Central AC	3%	9%	18%	24%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%
	DLC Pool Pumps	2%	5%	11%	14%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
	DLC Water Heating	3%	10%	21%	27%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
	DLC Lighting	1%	5%	9%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
	DLC Agricultural Irrigation	3%	10%	20%	27%	29%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
	Capacity Bidding	5%	7%	10%	12%	15%	17%	20%	22%	25%	27%	30%	33%	35%	38%	40%	43%	45%	48%	50%
	Demand Bidding	1%	3%	5%	7%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
	Interruptible Rate	2%	7%	14%	19%	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
	Time of Use with Enabling Tech	6%	7%	8%	9%	9%	10%	11%	12%	12%	13%	14%	15%	15%	16%	17%	18%	18%	19%	20%
	Time of Use without Enabling Tech	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
	Critical Peak Pricing with Enabling Tech	2%	6%	12%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%

Program MAP Adoption Rates																			
Program	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Critical Peak Pricing without Enabling Tech	2%	5%	10%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Thermal Electric Storage Cooling Rate	2%	6%	14%	18%	19%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Golf Cart Charging	2%	6%	14%	18%	19%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Utility Fleet Vehicle Charging	2%	6%	14%	18%	19%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

Program RAP Adoption Rates																					
Program		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
Residential (MR)	DLC Central AC	6%	6%	7%	8%	9%	10%	10%	11%	12%	13%	14%	14%	15%	16%	17%	18%	18%	19%	20%	
	DLC Room AC	2%	6%	14%	18%	19%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
	DLC Pool Pumps	2%	6%	13%	17%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
	DLC Water Heating	2%	5%	10%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
	Peak Time Rebate	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
	Time of Use with Enabling Tech	1%	1%	2%	3%	4%	4%	5%	6%	7%	7%	8%	9%	10%	10%	11%	12%	13%	13%	14%	
	Time of Use without Enabling Tech	0%	0%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	4%	4%	4%
	Critical Peak Pricing with Enabling Tech	1%	3%	5%	7%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
	Critical Peak Pricing without Enabling Tech	1%	2%	4%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
	Inclining Block Rate	10%	32%	68%	90%	97%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Electric Vehicle Charging Rate - Level 1 Chargers	6%	19%	38%	51%	56%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%
	Electric Vehicle Charging Rate - Level 2 Chargers	6%	19%	38%	51%	56%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%
Residential (IE)	Peak Time Rebate	0%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
	DLC Central AC	1%	2%	3%	3%	4%	5%	6%	7%	7%	8%	9%	10%	10%	11%	12%	13%	13%	14%	15%	
	DLC Water Heating	1%	5%	9%	13%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
	Time of Use with Enabling Tech	0%	1%	1%	1%	1%	2%	2%	2%	2%	3%	3%	3%	3%	4%	4%	4%	4%	5%	5%	
	Time of Use without Enabling Tech	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
	Critical Peak Pricing with Enabling Tech	0%	1%	2%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
	Critical Peak Pricing without Enabling Tech	0%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
	Inclining Block Rate	10%	32%	68%	90%	97%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Residential	Peak Time Rebate	13%	13%	14%	14%	15%	15%	16%	16%	17%	17%	17%	18%	18%	19%	19%	20%	20%	21%	21%	
	DLC Central AC	1%	3%	6%	8%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
	DLC Pool Pumps	1%	2%	5%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
	DLC Water Heating	1%	3%	7%	9%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
	DLC Lighting	0%	1%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
	DLC Agricultural Irrigation	2%	5%	10%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
	Capacity Bidding	3%	4%	5%	6%	6%	7%	8%	9%	10%	11%	11%	12%	13%	14%	15%	16%	16%	17%	18%	
	Demand Bidding	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
	Interruptible Rate	0%	1%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
	Time of Use with Enabling Tech	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	7%	7%	7%	7%
	Time of Use without Enabling Tech	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%
	Critical Peak Pricing with Enabling Tech	1%	2%	5%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%

Program RAP Adoption Rates																				
Program	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
Critical Peak Pricing without Enabling Tech	1%	2%	4%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	
Thermal Electric Storage Cooling Rate	1%	2%	5%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	
Golf Cart Charging	1%	2%	5%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	
Utility Fleet Vehicle Charging	1%	2%	5%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	

APPENDIX G: DISTRIBUTED ENERGY DETAIL

Ameren MO		Distributed Energy Measure Data and Cost-Effectiveness								
Measure ID	Measure Name	Measure Life (Full EUL)	Annual Reported	Gross Verified	Incremental Measure Cost (per measure)	Incremental	TRC Benefits	TRC Costs (no pgrm admin)	Net TRC Costs	TRC Ratio (no Admin)
			Energy Savings (per measure, kWh at meter)	Demand Savings (kW at meter)		O&M Cost (per measure)				
NR_CHP_01	CHP_Fuel_Cell_175kW	20	1,157,415	176	\$2,444,691	\$58,131	\$556,889	\$3,229,146	\$3,287,017	0.17
NR_CHP_02	CHP_Fuel_Cell_500kW	20	3,306,900	502	\$3,042,000	\$134,093	\$1,591,111	\$4,851,530	\$5,016,875	0.33
NR_CHP_03	CHP_Fuel_Cell_1125kW	20	7,440,525	1,130	\$5,325,750	\$296,683	\$3,579,999	\$9,329,350	\$9,701,376	0.38
NR_CHP_04	CHP_Fuel_Cell_Biogas_800kW	20	5,291,040	804	\$4,348,800	\$318,654	\$2,545,777	\$8,648,896	\$8,913,448	0.29
NR_CHP_05	CHP_Gas_Turbine_2500kW	20	17,082,000	2,491	\$7,595,792	\$216,848	\$5,631,021	\$10,522,059	\$11,376,159	0.54
NR_CHP_06	CHP_Gas_Turbine_3000kW	20	20,498,400	2,990	\$8,730,474	\$259,364	\$6,750,367	\$12,230,474	\$13,255,394	0.55
NR_CHP_07	CHP_Gas_Turbine_3500kW	20	23,914,800	3,488	\$9,736,997	\$301,595	\$7,908,441	\$13,806,890	\$15,002,630	0.57
NR_CHP_08	CHP_Micro_Turbine_25kW	20	91,980	14	\$81,768	\$1,167	\$30,596	\$97,514	\$102,113	0.31
NR_CHP_09	CHP_Micro_Turbine_100kW	20	367,920	56	\$299,718	\$4,628	\$118,845	\$362,177	\$380,573	0.33
NR_CHP_10	CHP_Micro_Turbine_200kW	20	735,840	112	\$526,491	\$9,153	\$239,139	\$650,009	\$686,801	0.37
NR_CHP_11	CHP_Reciprocating_Engine_125kW	20	394,200	60	\$324,398	\$9,363	\$176,412	\$450,755	\$470,465	0.39
NR_CHP_12	CHP_Reciprocating_Engine_350kW	20	1,103,760	168	\$883,628	\$24,999	\$486,406	\$1,220,976	\$1,276,164	0.40
NR_CHP_13	CHP_Reciprocating_Engine_1250kW	20	3,942,000	599	\$2,803,134	\$73,923	\$1,776,083	\$3,800,687	\$3,997,787	0.47
NR_CHP_14	CHP_Reciprocating_Engine_3000kW	20	9,460,800	1,437	\$5,081,681	\$156,372	\$4,364,423	\$7,191,853	\$7,664,893	0.61
NR_CHP_15	CHP_Reciprocating_Engine_4500kW	20	14,191,200	2,156	\$7,003,156	\$207,504	\$6,622,649	\$9,803,329	\$10,512,889	0.68
NR_CHP_16	CHP_Reciprocating_Engine_Biogas_1250kW	20	3,942,000	599	\$3,478,134	\$73,923	\$1,776,083	\$4,475,687	\$4,672,787	0.40
NR_CHP_17	CHP_Steam_Turbine_1500kW	20	5,847,300	888	\$6,750,000	\$263,129	-\$232,535	\$10,300,803	\$10,593,168	-0.02
NR_CHP_18	CHP_Steam_Turbine_3500kW	20	13,643,700	2,073	\$15,750,000	\$613,967	-\$542,582	\$24,035,207	\$24,717,392	-0.02
NR_CHP_19	CHP_Steam_Turbine_5000kW	20	19,491,000	2,961	\$22,500,000	\$877,095	-\$775,118	\$34,336,010	\$35,310,560	-0.02
NR_CHP_20	CHP_Gas_Turbine_5000kW	20	34,164,000	4,983	\$11,987,611	\$426,582	\$11,537,578	\$17,744,144	\$19,452,344	0.65
NR_CHP_21	CHP_Gas_Turbine_10000kW	20	68,328,000	9,966	\$16,374,416	\$824,708	\$24,515,420	\$27,503,487	\$30,919,887	0.89
NR_CHP_22	CHP_Gas_Turbine_15000kW	20	102,492,000	14,948	\$23,298,740	\$956,064	\$38,192,681	\$36,200,408	\$41,325,008	1.06
NR_CHP_23	CHP_Gas_Turbine_30000kW	20	204,984,000	29,897	\$39,020,176	\$1,899,251	\$81,209,509	\$64,649,736	\$74,898,936	1.26
NR_PV_01	Solar PV rooftop - 3kW	20	4,126	1	\$8,901	\$45	\$4,157	\$8,883	\$9,089	0.47
NR_PV_02	Solar PV rooftop - 5kW	20	6,877	2	\$14,835	\$75	\$6,929	\$14,805	\$15,148	0.47
NR_PV_03	Solar PV rooftop - 7kW	20	9,627	3	\$20,769	\$105	\$9,701	\$20,726	\$21,208	0.47
NR_PV_04	Solar PV rooftop - 10kW RESIDENTIAL	20	13,753	4	\$29,670	\$150	\$13,858	\$29,609	\$30,297	0.47
NR_PV_05	Solar PV rooftop - 10kW COMMERCIAL	20	13,753	4	\$21,647	\$180	\$13,319	\$22,554	\$23,242	0.59
NR_PV_06	Solar PV rooftop - 25kW	20	34,383	10	\$50,821	\$450	\$33,299	\$53,321	\$55,041	0.62
NR_PV_07	Solar PV rooftop - 50kW	20	68,766	20	\$97,299	\$900	\$66,597	\$102,605	\$106,043	0.65
NR_PV_08	Solar PV ground fixed - 100kW	20	137,532	41	\$188,901	\$1,062	\$133,194	\$189,951	\$196,828	0.70
NR_PV_09	Solar PV ground fixed - 250kW	20	343,830	102	\$444,515	\$2,654	\$332,985	\$449,089	\$466,281	0.74
NR_PV_10	Solar PV ground fixed - 500kW	20	687,660	204	\$842,790	\$5,308	\$665,971	\$855,188	\$889,571	0.78
NR_PV_11	Solar PV ground fixed - 1000kW	20	1,375,320	409	\$1,656,519	\$10,617	\$1,331,942	\$1,683,357	\$1,752,123	0.79
NR_PV_12	Solar PV ground fixed - 2000kW	20	2,750,640	818	\$3,224,227	\$21,233	\$2,663,884	\$3,284,144	\$3,421,676	0.81
NR_PV_13	Solar PV ground tracking - 100kW	20	181,084	53	\$255,462	\$1,213	\$178,281	\$253,880	\$262,934	0.70
NR_PV_14	Solar PV ground tracking - 250kW	20	452,710	132	\$468,776	\$3,033	\$445,703	\$476,762	\$499,397	0.93
NR_PV_15	Solar PV ground tracking - 500kW	20	905,419	264	\$1,139,754	\$6,067	\$891,406	\$1,141,513	\$1,186,784	0.78
NR_PV_16	Solar PV ground tracking - 1000kW	20	1,810,838	528	\$2,240,207	\$12,133	\$1,782,811	\$2,246,486	\$2,337,028	0.79
NR_PV_17	Solar PV ground tracking - 2000kW	20	3,621,676	1,057	\$3,418,314	\$24,267	\$3,565,623	\$3,505,523	\$3,686,607	1.02
NR_PV_18	Solar PV rooftop - 3kW, Storage - 12 kWh, 4 kW	20	4,126	1	\$19,701	\$444	\$4,233	\$23,861	\$24,068	0.18
NR_PV_19	Solar PV rooftop - 5kW, Storage - 12 kWh, 4 kW	20	6,877	2	\$25,635	\$474	\$7,056	\$29,649	\$29,992	0.24
NR_PV_20	Solar PV rooftop - 7kW, Storage - 12 kWh, 4 kW	20	9,627	3	\$31,569	\$504	\$9,878	\$35,436	\$35,917	0.28
NR_PV_21	Solar PV rooftop - 10kW RESIDENTIAL, Storage - 12 kWh, 4 kW	20	13,753	4	\$40,470	\$549	\$14,111	\$44,117	\$44,804	0.32
NR_PV_22	Solar PV rooftop - 10kW COMMERCIAL, Storage - 12 kWh, 4 kW	20	13,753	4	\$32,447	\$579	\$14,111	\$37,244	\$37,931	0.38
NR_PV_23	Solar PV rooftop - 25kW, Storage - 18 kWh, 6 kW	20	34,383	11	\$67,021	\$1,049	\$35,278	\$74,940	\$76,659	0.47
NR_PV_24	Solar PV rooftop - 50kW, Storage - 36 kWh, 12 kW	20	68,766	21	\$129,699	\$2,097	\$70,555	\$145,940	\$149,378	0.48
NR_PV_25	Solar PV ground fixed - 100kW, Storage - 48 kWh, 12 kW	20	137,532	43	\$232,101	\$2,658	\$141,111	\$246,389	\$253,266	0.57
NR_PV_26	Solar PV ground fixed - 250kW, Storage - 120 kWh, 30 kW	20	343,830	107	\$552,515	\$6,644	\$352,776	\$590,813	\$608,005	0.60
NR_PV_27	Solar PV ground fixed - 500kW, Storage - 200 kWh, 50 kW	20	687,660	214	\$1,022,790	\$11,958	\$705,553	\$1,089,083	\$1,123,466	0.65
NR_PV_28	Solar PV ground fixed - 1000kW, Storage - 420 kWh, 105 kW	20	1,375,320	428	\$2,034,519	\$24,582	\$1,411,106	\$2,177,107	\$2,245,873	0.65
NR_PV_29	Solar PV ground fixed - 2000kW, Storage - 700 kWh, 175 kW	20	2,750,640	857	\$3,854,227	\$44,508	\$2,822,212	\$4,096,555	\$4,234,087	0.69
NR_PV_30	Solar PV ground tracking - 100kW, Storage - 48 kWh, 12 kW	20	181,084	56	\$298,662	\$2,809	\$185,796	\$308,809	\$317,863	0.60
NR_PV_31	Solar PV ground tracking - 250kW, Storage - 120 kWh, 30 kW	20	452,710	141	\$576,776	\$7,023	\$464,489	\$617,936	\$640,571	0.75
NR_PV_32	Solar PV ground tracking - 500kW, Storage - 200 kWh, 50 kW	20	905,419	282	\$1,319,754	\$12,717	\$928,978	\$1,368,675	\$1,413,946	0.68
NR_PV_33	Solar PV ground tracking - 1000kW, Storage - 420 kWh, 105 kW	20	1,810,838	564	\$2,618,207	\$26,098	\$1,857,956	\$2,727,002	\$2,817,543	0.68
NR_PV_34	Solar PV ground tracking - 2000kW, Storage - 700 kWh, 175 kW	20	3,621,676	1,128	\$4,048,314	\$47,542	\$3,715,912	\$4,313,534	\$4,494,618	0.86
NR_PV_35	Solar PV rooftop - 15kW RESIDENTIAL	20	19,892	6	\$44,506	\$225	\$20,044	\$44,414	\$45,408	0.45
NR_PV_36	Solar PV rooftop - 15kW COMMERCIAL	20	19,892	6	\$31,556	\$270	\$19,265	\$32,981	\$33,976	0.58
NR_PV_37	Solar PV rooftop - 20kW RESIDENTIAL	20	26,523	8	\$59,341	\$300	\$26,725	\$59,219	\$60,545	0.45
NR_PV_38	Solar PV rooftop - 20kW COMMERCIAL	20	26,523	8	\$41,261	\$360	\$25,686	\$43,219	\$44,545	0.59
NR_PV_39	Solar PV rooftop - 15kW RESIDENTIAL, Storage - 15 kWh, 5 kW	20	19,892	6	\$58,006	\$724	\$20,044	\$62,380	\$63,375	0.32
NR_PV_40	Solar PV rooftop - 15kW COMMERCIAL, Storage - 15 kWh, 5 kW	20	19,892	6	\$45,056	\$769	\$19,265	\$51,241	\$52,236	0.38
NR_PV_41	Solar PV rooftop - 20kW RESIDENTIAL, Storage - 15 kWh, 5 kW	20	26,523	8	\$72,841	\$799	\$26,725	\$76,848	\$78,175	0.35
NR_PV_42	Solar PV rooftop - 20kW COMMERCIAL, Storage - 15 kWh, 5 kW	20	26,523	8	\$54,761	\$859	\$25,686	\$61,258	\$62,585	0.42

APPENDIX H: REGULATORY COMPLIANCE CHECKLIST

4 CSR 240-22.050 Demand Side Resource Analysis	IRP Rule	Section of MPS
(1)	The utility shall identify a set of potential demand-side resources from which demand side candidate resource options will be identified for the purposes of developing the alternative resource plans required by 4 CSR 240-22.060(3). A potential demand-side resource consists of a demand-side program designed to deliver one (1) or more energy efficiency and energy management measures or a demand-side rate. The utility shall select the set of potential demand-side resources and describe and document its selection—	1.1
(A)	To provide broad coverage of—	
1.	Appropriate market segments within each major class;	1.1 4.1.2.1
2.	All significant decision-makers, including at least those who choose building design features and thermal integrity levels, equipment and appliance efficiency levels, and utilization levels of the energy-using capital stock; and	1.1 4.1.3.1
3.	All major end uses, including at least the end uses which are to be considered in the utility's load analysis as listed in 4 CSR 240-22.030(3)(A)1.;	1.1 4.1.2.1
(B)	To fulfill the goal of achieving all cost-effective demand-side savings, the utility shall design highly effective potential demand-side programs consistent with subsection (1)(A) that broadly cover the full spectrum of cost-effective end-use measures for all customer market segments;	4.1.8
(C)	To include demand-side rates for all customer market segments;	6.3.1, 4.5.1
(D)	To consider and assess multiple designs for demand-side programs and demand-side rates, selecting the optimal designs for implementation, and modifying them as necessary to enhance their performance; and	To be Addressed in IRP
(E)	To include the effects of improved technologies expected over the planning horizon to—	
1.	Reduce or manage energy use; or	4.1.3.2, 4.1.6 4.5.1
2.	Improve the delivery of demand-side programs or demand-side rates.	4.5.1, 6.3.1
(2)	The utility shall conduct, describe, and document market research studies, customer surveys, pilot demand-side programs, pilot demand-side rates, test marketing programs, and other activities as necessary to estimate the maximum achievable potential, technical potential, and realistic achievable potential of potential demand-side resource options for the utility and to develop the information necessary to design and implement cost-effective demand-side programs and demand-side rates. These research activities shall be designed to provide a solid foundation of information applicable to the utility about how and by whom energy-related decisions are made and about the most appropriate and cost-effective methods of influencing these decisions in favor of greater long-run energy efficiency and energy management impacts. The utility may compile existing data or adopt data developed by other entities, including government agencies and other utilities, as long as the utility verifies the applicability of the adopted data to its service territory. The utility shall provide copies of completed market research studies, pilot programs, pilot rates, test marketing programs, and other studies as required by this rule and descriptions of those studies that are planned or in progress and the scheduled completion dates.	2.0, 4.1.7.1, 8.3
(3)	The utility shall develop potential demand-side programs that are designed to deliver an appropriate selection of end-use measures to each market segment. The utility shall describe and document its potential demand-side program planning and design process which shall include at least the following activities and elements:	To be Addressed in IRP
(A)	Review demand-side programs that have been implemented by other utilities with similar characteristics and identify programs that would be applicable for the utility;	4.1.3.1, 5.1.3.1, 6.1.2
(B)	Identify, describe, and document market segments that are numerous and diverse enough to provide relatively complete coverage of the major classes and decision-makers identified in subsection (1)(A) and that are specifically defined to reflect the primary market imperfections that are common to the members of the market segment;	1.1, 4.1.2.1
(C)	Identify a comprehensive list of end-use measures and demand-side programs considered by the utility and develop menus of end-use measures for each demand-side program. The demand-side programs shall be appropriate to the shared characteristics of each market segment. The end-use measures shall reflect technological changes in end-uses that may be reasonably anticipated to occur during the planning horizon;	4.1.3.4, 4.1.8
(D)	Assess how advancements in metering and distribution technologies that may be reasonably anticipated to occur during the planning horizon affect the ability to implement or deliver potential demand-side programs;	
(E)	Design a marketing plan and delivery process to present the menu of end-use measures to the members of each market segment and to persuade decision-makers to implement as many of these measures as may be appropriate to their situation. When appropriate, consider multiple approaches such as rebates, financing, and direct installations for the same menu of end-use measures;	4.1.3.1
(F)	Evaluate, describe, and document the feasibility, cost-reduction potential, and potential benefits of statewide marketing and outreach programs, joint programs with natural gas utilities, upstream market transformation programs, and other activities. In the event that statewide marketing and outreach programs are preferred, the utilities shall develop joint programs in consultation with the stakeholder group;	1.4
(G)	Estimate the characteristics needed for the twenty (20)-year planning horizon to assess the cost effectiveness of each potential demand-side program, including:	1.2
1.	An assessment of the demand and energy reduction impacts of each stand-alone end-use measure contained in each potential demand-side program;	4.1.3.3, 6.1.5, 7.1, 7.2.1.3
2.	An assessment of how the interactions between end-use measures, when bundled with other end-use measures in the potential demand-side program, would affect the stand-alone end-use measure impact estimates;	4.1.5.1, 6.1.6, 6.3.1
3.	An estimate of the incremental and cumulative number of program participants and end-use measure installations due to the potential demand-side program;	4.1, Appendices C-G
4.	For each year of the planning horizon, an estimate of the incremental and cumulative demand reduction and energy savings due to the potential demand-side program; and	4.1, Appendices C-G
5.	For each year of the planning horizon, an estimate of the costs, including:	4.1, Appendices C-G
A.	The incremental cost of each stand-alone end-use measure;	4.1.3.3, 6.1.5, 7
B.	The cost of incentives paid by the utility to customers or utility financing to encourage participation in the potential demand-side program. The utility shall consider multiple levels of incentives paid by the utility for each end-use measure within a potential demand-side program, with corresponding adjustments to the maximum achievable potential and the realistic achievable potential of that potential demand-side program;	4.1.7 4.1.7.2 6.1.5, 7
C.	The cost of incentives to customers to participate in the potential demand-side program paid by the entities other than the utility;	7.2.1.3
D.	The cost to the customer and to the utility of technology to implement a potential demand-side program;	4.1.7.2
E.	The utility's cost to administer the potential demand-side program; and	4.1.7.2
F.	Other costs identified by the utility;	4.1.7.2
(H)	A tabulation of the incremental and cumulative number of participants, load impacts, utility costs, and program participant costs in each year of the planning horizon for each potential demand-side program; and	4.1, Appendices C-G

4 CSR 240-22.050 Demand Side Resource Analysis	IRP Rule	Section of MPS
(I)	The utility shall describe and document how it performed the assessments and developed the estimates pursuant to subsection (3)(G) and shall provide documentation of its sources and quality of information.	4.1, 5.1, 6.1, 7.2.1
(4)	The utility shall develop potential demand-side rates designed for each market segment to reduce the net consumption of electricity or modify the timing of its use. The utility shall describe and document its demand-side rate planning and design process and shall include at least the following activities and elements:	6.3.1
(A)	Review demand-side rates that have been implemented by other utilities and identify whether similar demand-side rates would be applicable for the utility taking into account factors such as similarity in electric prices and customer makeup;	6.3.1
(B)	Identify demand-side rates applicable to the major classes and decision-makers identified in subsection (1)(A). When appropriate, consider multiple demand-side rate designs for the same major classes;	6.3.1
(C)	Assess how technological advancements that may be reasonably anticipated to occur during the planning horizon, including advanced metering and distribution systems, affect the ability to implement demand-side rates;	6.3.2 (& Appendix F)
(D)	Estimate the input data and other characteristics needed for the twenty (20)-year planning horizon to assess the cost effectiveness of each potential demand-side rate, including:	6.3.1
1.	An assessment of the demand and energy reduction impacts of each potential demand-side rate;	6.3.1
2.	An assessment of how the interactions between multiple potential demand-side rates, if offered simultaneously, would affect the impact estimates;	6.3.1
3.	An assessment of how the interactions between potential demand-side rates and potential demand-side programs would affect the impact estimates of the potential demand side programs and potential demand-side rates;	6.3.1
4.	For each year of the planning horizon, an estimate of the incremental and cumulative demand reduction and energy savings due to the potential demand-side rate; and	6.3.2 (& Appendix F)
5.	For each year of the planning horizon, an estimate of the costs of each potential demand-side rate, including:	6.3.2 (& Appendix F)
A.	The cost of incentives to customers to participate in the potential demand side rate paid by the utility. The utility shall consider multiple levels of incentives to achieve customer participation in each potential demand-side rate, with corresponding adjustments to the maximum achievable potential and the realistic achievable potentials of that potential demand-side rate;	6.3.2 (& Appendix F)
B.	The cost to the customer and to the utility of technology to implement the potential demand-side rate;	6.3.2 (& Appendix F)
C.	The utility's cost to administer the potential demand-side rate; and	6.3.2 (& Appendix F)
D.	Other costs identified by the utility;	6.3.2 (& Appendix F)
(E)	A tabulation of the incremental and cumulative number of participants, load impacts, utility costs, and program participant costs in each year of the planning horizon for each potential demand-side program;	6.2.3
(F)	Evaluate how each demand-side rate would be considered by the utility's Regional Transmission Organization (RTO) in resource adequacy determinations, eligibility to participate as a demand response resource in RTO markets for energy, capacity, and ancillary services; and	6.1.1
(G)	The utility shall describe and document how it performed the assessments and developed the estimates pursuant to subsection (4)(D) and shall document its sources and quality of information.	6.3.1
(5)	The utility shall describe and document its evaluation of the cost effectiveness of each potential demand-side program developed pursuant to section (3) and each potential demand-side rate developed pursuant to section (4). All costs and benefits shall be expressed in nominal dollars.	4.1.6 6.1.3, 7.2.1
(A)	In each year of the planning horizon, the benefits of each potential demand-side program and each potential demand-side rate shall be calculated as the cumulative demand reduction multiplied by the avoided demand cost plus the cumulative energy savings multiplied by the avoided energy cost. These calculations shall be performed both with and without the avoided probable environmental costs. The utility shall describe and document the methods, data, and assumptions it used to develop the avoided costs.	4.1.6 6,7
1.	The utility avoided demand cost shall include the capacity cost of generation, transmission, and distribution facilities, adjusted to reflect reliability reserve margins and capacity losses on the transmission and distribution systems, or the corresponding market-based equivalents of those costs. The utility shall describe and document how it developed its avoided demand cost, and the capacity cost chosen shall be consistent throughout the triennial compliance filing.	4.1.6
2.	The utility avoided energy cost shall include the fuel costs, emission allowance costs, and other variable operation and maintenance costs of generation facilities, adjusted to reflect energy losses on the transmission and distribution systems, or the corresponding market-based equivalents of those costs. The utility shall describe and document how it developed its avoided energy cost, and the energy costs shall be consistent throughout the triennial compliance filing.	4.1.6
3.	The avoided probable environmental costs include the effects of the probable environmental costs calculated pursuant to 4 CSR 240-22.040(2)(B) on the utility avoided demand cost and the utility avoided energy cost. The utility shall describe and document how it developed its avoided probable environmental cost.	4.1.6
(B)	The total resource cost test shall be used to evaluate the cost effectiveness of the potential demand-side programs and potential demand-side rates. In each year of the planning horizon—	4.1.3.1, 4.1.6
1.	The costs of each potential demand side program shall be calculated as the sum of all incremental costs of end-use measures that are implemented due to the program (including both utility and participant contributions) plus utility costs to administer, deliver, and evaluate each potential demand side program;	4.1.6
2.	The costs of each potential demand side rate shall be calculated as the sum of all incremental costs that are due to the rate (including both utility and participant contributions) plus utility costs to administer, deliver, and evaluate each potential demand side rate; and	6
3.	For purposes of this test, the costs of potential demand-side programs and potential demand-side rates shall not include lost revenues or utility incentive payments to customers.	4.1.6
(C)	The utility cost test shall also be performed for purposes of comparison. In each year of the planning horizon—	4.1.6
1.	The costs of each potential demand side program and potential demand-side rate shall be calculated as the sum of all utility incentive payments plus utility costs to administer, deliver, and evaluate each potential demand-side program or potential demand-side rate;	4.1.6
2.	For purposes of this test, the costs of potential demand-side programs and potential demand-side rates shall not include lost revenues; and	4.1.6
3.	The costs shall include, but separately identify, the costs of any rate of return or incentive included in the utility's recovery of demand-side program costs.	To be Addressed in IRP
(D)	The present value of program benefits minus the present value of program costs over the planning horizon must be positive or the ratio of annualized benefits to annualized costs must be greater than one (1) for a potential demand-side program or potential demand-side rate to pass the utility cost test or the total resource cost test. The utility may relax this criterion for programs that are judged to have potential benefits that are not captured by the estimated load impacts or avoided costs, including programs required to comply with legal mandates.	4.1.6, 5.1.4
(E)	The utility shall provide results of the total resource cost test and the utility cost test for each potential demand-side program evaluated pursuant to subsection (5)(B) and for each potential demand-side rate evaluated pursuant to subsection (5)(C) of this rule, including a tabulation of the benefits (avoided costs), demand-side resource costs, and net benefits or costs.	4.1.6, 6, 7.2.2.1, 7.2.2.2
(F)	If the utility calculates values for other tests to assist in the design of demand-side programs or demand-side rates, the utility shall describe and document the tests and provide the results of those tests.	4.1.6 7.2.2.1, 7.2.2.2
(G)	The utility shall describe and document how it performed the cost effectiveness assessments pursuant to section (5) and shall describe and document its methods and its sources and quality of information.	4.1.6, 6, 7
(6)	Potential demand-side programs and potential demand-side rates that pass the total resource cost test including probable environmental costs shall be considered as demand side candidate resource options and must be included in at least one (1) alternative resource plan developed pursuant to 4 CSR 240-22.060(3).	To be Addressed in IRP

4 CSR 240-22.050 Demand Side Resource Analysis	IRP Rule	Section of MPS
(A)	The utility may bundle demand-side candidate resource options into portfolios, as long as the requirements pursuant to section (1) are met and as long as multiple demand side candidate resource options and portfolios advance for consideration in the integrated resource analysis in 4 CSR 240-22.060. The utility shall describe and document how its demand-side candidate resource options and portfolios satisfy these requirements.	To be Addressed in IRP
(B)	For each demand-side candidate resource option or portfolio, the utility shall describe and document the time-differentiated load impact estimates over the planning horizon at the level of detail required by the supply system simulation model that is used in the integrated resource analysis, including a tabulation of the estimated annual change in energy usage and in diversified demand for each year in the planning horizon due to the implementation of the candidate demand-side resource option or portfolio.	4.1.3.3, 7.2.1
(C)	The utility shall describe and document its assessment of the potential uncertainty associated with the load impact estimates of the demand-side candidate resource options or portfolios. The utility shall estimate—	4.5.1
1.	The impact of the uncertainty concerning the customer participation levels by estimating and comparing the maximum achievable potential and realistic achievable potential of each demand-side candidate resource option or portfolio; and	4.5.1, 6.3.1, 7.2.3
2.	The impact of uncertainty concerning the cost effectiveness by identifying uncertain factors affecting which end-use resources are cost effective. The utility shall identify how the menu of cost-effective end-use measures changes with these uncertain factors and shall estimate how these changes affect the load impact estimates associated with the demand side candidate resource options.	4.5.1, 6.3.1, 7.2.3
(7)	For each demand-side candidate resource option identified in section (6), the utility shall describe and document the general principles it will use to develop evaluation plans pursuant to 4 CSR 240-22.070(8). The utility shall verify that the evaluation costs in subsections (5)(B) and (5)(C) are appropriate and commensurate with these evaluation plans and principles.	To be Addressed in IRP
(8)	Demand-side resources and load-building programs shall be separately designed and administered, and all costs shall be separately classified to permit a clear distinction between demand-side resource costs and the costs of load-building programs. The costs of demand-side resource development that also serve other functions shall be allocated between the functions served.	To be Addressed in IRP

AMEREN MISSOURI



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2020 DSM MARKET POTENTIAL STUDY

March

2020

FINAL REPORT

prepared by

GDS ASSOCIATES INC
BRIGHTLINE GROUP
ACEEE