



Ameren Missouri Heating and Cooling Program Impact and Process Evaluation

PROGRAM YEAR 2017

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Prepared for:

Ameren Missouri

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Table of Contents

Executive Summary.....6

- Program Description..... 6
- Key Impact Evaluation Findings..... 6
 - Program Data Adjustments..... 6
 - Gross Impacts..... 2
 - Net Savings..... 4
- CSR Impact Evaluation Requirements 6
 - Marketing and Outreach..... 7
- Key Process Evaluation Findings..... 7
- CSR Process Evaluation Requirements 7
- Key Conclusions and Recommendations..... 9
- PY16 Recommendation Tracking..... 10

Introduction13

- Program Description..... 13
- Program Activity 15

Evaluation Methodology15

- Data Tracking Review 16
- Engineering Analysis..... 17
- Cost-Effectiveness Analysis 17
- Participant Surveys..... 17
- Stakeholder Interviews..... 18
- Contractor Interviews..... 19
- Distributor Interviews..... 19
- Nonparticipant Surveys 19
- Key Progress Indicators 19
- Benchmarking Research..... 19

Process Evaluation Findings.....20

- Program Design 20
- Program Delivery 21
 - PY17 Program Changes 21

- Contractor Engagement..... 21
- Distributor Engagement..... 22
- Quality Assurance Processes 22
- Delivery Successes and Program Achievements..... 23
- Program Implementation Challenges and Potential Changes 23
- Marketing and Outreach..... 23
- Participant Experience with Tune Ups..... 23
- Participant Experience..... 25
 - Participant Satisfaction 25
 - Reasons for Selecting Specific Equipment 26
 - Sources of Participant Program Awareness..... 27
 - Participant Demographics..... 28
- Contractor Experience..... 29
 - Overall Experience 29
- Gross Impact Evaluation Results..... 30**
 - Measure Installation Verification 31
 - Measure-Specific Gross Savings 34
 - Estimated Savings Results 34
 - Measure-Specific Per-Unit Savings 36
 - Air Source Heat Pumps 36
 - Central Air Conditioners..... 38
 - Electronically Commutated Motors..... 39
 - Dual Fuel Heat Pumps..... 41
 - Ductless Heat Pumps 42
 - Geothermal Heat Pumps 43
 - Tune Up Measures 44
- Summary..... 45
- Net Impact Evaluation Results..... 51**
 - Free Ridership Results 53
 - Equipment..... 53
 - Tune Up..... 55
 - Free Ridership Results..... 56

Free Ridership Scoring	56
Distribution of Free Ridership Scores	56
Participant Spillover Results	57
Nonparticipant Spillover.....	58
Methodology.....	59
Results.....	62
Heating and Cooling Program-Specific Nonparticipant “Like” Spillover.....	65
Benchmarking.....	69
Key Progress Indicators	69
Cost-Effectiveness.....	70
Appendix A. End-Use Load Shapes and Coincidence Factors	A-72
Appendix B. Free Ridership Scoring Tables.....	B-73
Appendix C. Detailed Engineering Data and Development.....	C-83
Early Retirement Baseline Efficiency	C-83
Tune Up Measure Savings.....	C-87
Appendix D. 1. Stakeholder Interview Guide, 2. Contractor Interview Guide, 3. Immediate Participant Survey, 4. Follow-up Participant, 5. General Population Survey.....	D-90
Appendix E. Nonparticipant Spillover Qualification Flow Chart.....	E-90
Appendix F. Nonparticipant Spillover Data	F-90
Appendix G. Participant Survey Responses	G-90
Appendix H. Participant Survey	H-90

Tables

Table 1. PY17 Summary: Ex Post Program Gross Savings Accounting for Verified Measures.....	3
Table 2. PY17 Net Impact Results Summary	5
Table 3. PY17 Heating and Cooling Program Savings Comparisons.....	5
Table 4. Summary Responses to CSR Impact Evaluation Requirements	6
Table 5. Summary Responses to CSR Process Evaluation Requirements	8
Table 6. PY16 Evaluation Recommendation Tracking.....	11
Table 7. PY17 Heating and Cooling Program Measures and Program Activity.....	14
Table 8. PY17 Heating and Cooling Program Activity Summary	15

Table 9. PY17 Process and Impact Evaluation Activities and Rationale.....	15
Table 10. Participant Survey Response Rates	18
Table 11. PY17 Completed Stakeholder Interviews.....	18
Table 12. Contractor Interview Stratification	19
Table 13. Rebated Measures	20
Table 14. Respondents’ Homes Living Space	28
Table 15. Measure Installation	33
Table 16. Program Average Size & Efficiency of HVAC systems	35
Table 17. ASHP PY17 Savings Variables	37
Table 18. CAC PY17 Savings Variables.....	38
Table 19. ECM Fans PY17 Savings Variables	41
Table 20. DFHP PY17 Savings Assumptions	42
Table 21. Ductless ASHP PY17 Savings Assumptions	43
Table 22. GSHP PY17 Savings Assumptions	44
Table 23. Tune Up Savings Summary	45
Table 24. ASHP Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings.....	46
Table 25. Ductless Heat Pump Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings	46
Table 26. DFHP Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings.....	46
Table 27. GSHP Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings	47
Table 28. CAC Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings.....	47
Table 29. ECM Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings.....	48
Table 30. Tune Up Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings.....	48
Table 31. PY17 Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross Demand Reduction.....	48
Table 32. PY17 Summary: Ex Post Program Gross Savings Accounting for Installation Rates.....	50
Table 33. PY17 Net Impact Results Summary	53
Table 34. PY17 Heating and Cooling Free Ridership Results	56
Table 35. Participant Spillover	58
Table 36. PY17 Like Measures.....	60
Table 37. Ameren Missouri Marketing and Outreach Elements for Criterion B.....	61
Table 38. PY17 Like NPSO Response Summary.....	62
Table 39. PY17 Confidence/Precision Results for Like Measures	63

Table 40. PY17 Like NPSO Analysis	63
Table 41. PY17 Combined Savings and Marketing Allocation.....	64
Table 42. PY17 NPSO by Program	65
Table 43. Distributor Sales by SEER Level and Year from PY17	66
Table 44. PY17 CAC and HP Market.....	69
Table 45. Key Progress Indicators	70
Table 46. Cost-Effectiveness Results (PY17)	71
Table 47. Raw Survey Responses Translation to Free Ridership Scoring Matrix Terminology – Equipment Measures.....	B-73
Table 48. Raw Survey Responses Translation to Free Ridership Scoring Matrix Terminology – Tune Up Measures.....	B-75
Table 49. Frequency of ASHP Free Ridership Scoring Combinations.....	B-77
Table 50. Frequency of CAC Free Ridership Scoring Combinations.....	B-78
Table 51. Frequency of Tune Up Free Ridership Scoring Combinations.....	B-80
Table 52. EER improvement by Customer	C-89

Figures

Figure 1. Participant Benefits After Tune Up.....	24
Figure 2. Satisfaction with System Following Tune Up.....	25
Figure 3. Age of Participants’ Homes.....	29
Figure 4. Overall Distribution of Free Ridership Scores by Measure	57
Figure 5. Distributor Sales by SEER Level and Year from PY17	66
Figure 6. Combined Distributor Data from PY13, PY15, PY16, and PY17 by SEER Level and Year*	67
Figure 7. CAC Early Retirement Free Ridership Decision Matrix	B-81
Figure 8. ASHP Early Retirement Free Ridership Decision Matrix	B-82
Figure 9. Efficiency Curve Examples.....	C-84
Figure 10. Early Retirement SEER by Age.....	C-86
Figure 11. Test out EER comparison	C-88

Executive Summary

Ameren Missouri engaged Cadmus to perform annual process and impact evaluations of the Heating and Cooling program for a three-year period, from 2016 through 2018. This annual report covers the impact and process evaluation findings for Program Year 2017 (PY17), the period from March 1, 2017, through February 28, 2018—the second year of the three-year program cycle.

Program Description

Ameren Missouri's Heating and Cooling program provides its residential customers with rebates to install energy-efficient heating and cooling equipment. To participate, residential customers must have measures installed by a participating contractor. Program rebates partially cover the costs of retrofitting and/or replacing heating and cooling equipment. In PY17, the program reintroduced air-conditioner tune ups, which it last offered in PY15.

In PY17, the Heating and Cooling program provided rebates for the following:

- Central Air Conditioners (CAC)
- Air Source Heat Pumps (ASHP) (including ductless heat pumps)
- Geothermal or Ground Source Heat Pumps (GSHP)
- Dual Fuel Heat Pumps (DFHP)
- Electronically Commutated Motors (ECM)
- Air-conditioner and heat pump tune ups (tune up)

For PY16–PY18, Ameren Missouri has contracted with ICF International (ICF) to implement the program. ICF markets the program, recruits contractors, and conducts program training sessions with contractors. ICF also takes primary responsibility for maintaining a website for data reporting, receiving online applications, processing rebates, and conducting quality control checks.

Participating contractors submit all required paperwork for processing rebates on behalf of participants. To be a participating contractor, an HVAC company representative must attend a training session conducted by ICF and sign a participation agreement. The training session covers program rules and lessons learned the previous year

Key Impact Evaluation Findings

The following sections describe Cadmus' key findings for the PY17 evaluation period.

Program Data Adjustments

Cadmus verified all of program heating and cooling systems were installed and operating and were classified correctly in the program database through participant surveys. Surveyed participants indicated that some systems, categorized as “early retirement” in the program data, should have been

categorized as “replace on fail” because the unit was not repairable. Equipment failure is subjective—customers may say their system has failed, but HVAC contractors can, in many cases, make field repairs to demonstrate the system could operate and provide cooling according to program rules. Thirteen percent (n=52) of surveyed customers indicated they believe their system was not repairable. For this proportion of participants, Cadmus adjusted verification rates to indicate the system should receive savings of a replace at failure system, rather than the early retirement categorization reported by the contractor. While these adjustments are subjective and not perfectly consistent with program rules, they provide an independent measure of early retirement participation. Cadmus determined that an independent measure was important for PY17 as the program incentives are larger for early replacement system and program rules do not require any documentation of the temperature drop across the coil (program requirement for reparability). Ameren Missouri is addressing these concerns for PY18.

Cadmus adjusted ASHP measures replacing electric resistance (except new construction measures). Survey findings showed that 5% (n=3) of customer systems had an incorrect measure type regarding baseline.

Gross Impacts

Cadmus adjusted the gross savings estimates based on PY13-PY16 metering results and PY17 participant survey data. Savings calculations for all measures were identical to PY16 except the following:

- Baseline efficiency for all replace at fail heat pump systems now follow the current federal standard of 14 SEER 8.2HSPF
- The efficiency of the population of replaceable systems has changed over time due to federal standards changes. We updated baseline early retirement HSPF and SEER values to account for the current efficiency of replaced systems.
- Measure ECM savings for customers with automatic fan setting have been updated to exclude any assumed continuous operation for automatic fan settings.
- Survey findings to verify early retirement systems. Cadmus added verification questions to the PY17 survey to better assess customer understanding of their system’s condition prior to replacement.

Table 1 summarizes PY17 participation, *ex post* gross per-unit savings, realization and verification rates, and *ex post* total gross savings. In PY17 program equipment participation increased 19% over PY16 with significant percentage increases in participation of ductless heat pumps (+66%), ASHP’s (+24%) and CAC’s (+21%). DFHP’s (-11%) and GSHP’s (-42%) participation decreased compared to PY16.

Table 1. PY17 Summary: Ex Post Program Gross Savings Accounting for Verified Measures

Measure	PY17 Participation	Per-Unit Ex Post Savings (kWh/yr)	Verification Rate***	Total Ex Post Savings (MWh/yr) †
Air-Source Heat Pump				
ASHP ER with ASHP 16+ ER	261	4,813	108%	1,353
ASHP Replace at Fail with ASHP 16+	41	1,239	107%	55
ASHP SEER 15 ER Elec Resist Furnace ER	475	10,633	95%	4,796
ASHP SEER 15 Replace at Fail Elect Resist Furnace	53	10,098	94%	505
ASHP SEER 15 Replace at Fail Elect Resist Furnace (NC)	59	563	100%	33
ASHP ER with ASHP SEER 15 ER	240	3,638	110%	960
ASHP Replace at Fail with ASHP SEER 15	28	748	111%	23
ASHP SEER 16+ ER Elec Resist Furnace ER	401	12,335	95%	4,700
ASHP SEER 16+ Replace at Fail Elec Resist Furnace	51	12,491	94%	600
ASHP SEER 16+ Replace at Fail Elec Resist Furnace (NC)	43	1,698	100%	73
Ductless Air-Source Heat Pump				
Ductless ASHP ER	9	2,814	100%	25
Ductless ASHP Replace Electric Resistance ER	51	6,889	100%	351
Ductless ASHP ROF	4	926	100%	3.7
Ductless ASHP Replace Electric Resistance ROF	174	5,628	100%	979
Dual Fuel Heat Pump				
DFHP SEER 15_SF	18	589	100%	11
DFHP SEER 16_SF	14	922	100%	13
DFHP SEER 17+_SF	20	1305	100%	26
DFHP SEER 18+_SF	3	1162	100%	3.5
Ground Source Heat Pump				
GSHP SEER 14+ ER ASHP with GSHP ER	8	11,692	100%	94
GSHP SEER 14+ ER Elec Resist Furnace ER	20	24,500	100%	490
GSHP SEER 14+ Replace Elec Resist Furnace	92	22,729	100%	2,091
GSHP - 23 EER ER	28	7,800	100%	218
GSHP - 23 EER Replace at Fail	10	3,431	100%	34
Central Air Conditioner				
CAC SEER 14 ER	4,762	1,551	87%	6,427
CAC SEER 14 Replace at Fail	135	320	559%*	241
CAC SEER 15 ER	2,258	1,829	87%	3,593
CAC SEER 15 Replace at Fail	73	348	503%*	128
CAC SEER 16+ ER	6,154	1,836	87%	9,832
CAC SEER 16+ Replace at Fail	87	361	1020%*	320
Electronically Commutated Motor (ECM)				
Concept 3 Installations Continuous Fan ER_50	719	3,258	100%	2,343
Concept 3 Installations Continuous Fan ER_100	50	3,408	100%	170
Concept 3 Continuous Fan Replace at Fail_50	53	3,153	100%	167
Concept 3 Continuous Fan Replace at Fail_100	2	3,380	100%	6.8
Concept 3 Installations Auto Fan ER_50	8,976	292	100%	2,622
Concept 3 Installations Auto Fan ER_100	646	467	100%	302

Measure	PY17 Participation	Per-Unit <i>Ex Post</i> Savings (kWh/yr)	Verification Rate***	Total <i>Ex Post</i> Savings (MWh/yr) †
Concept 3 Installations Auto Fan Replace at Fail_50	320	125	100%	40
Concept 3 Installations Auto Fan Replace at Fail_100	11	484	100%	5.3
Tune Ups				
HVAC Maintenance and Tune Up SF	1,431	3	100%	4.3
Indoor Coil Cleaning	92	328	100%	30
Outdoor Coil Cleaning	1,300	243	100%	315
RCA 10% improvement SF	127	825	100%	105
Total**	29,299	-	100.00%	44,089

* Due to the recategorization of early retirement customers and relatively low participation of replace at fail, verification rates are high for these measures.

**May not sum due to rounding

***All verification rates have been rounded

† Total savings equals Participation X Per Unit Savings X Verification Rate

Net Savings

As shown in Table 2, the Heating and Cooling program has a savings-weighted net-to-gross (NTG) ratio of 97%. First year NPSO savings are shown below, as are 2023 NPSO savings which have been adjusted to account for measures with an effective useful life (EUL) that does not extend through 2023. NPSO is separately added because it has a different load shape than the program savings, and therefore has a different impact on demand than energy. Cadmus reduced survey sampling in PY17 and updated measure specific NTG values for the ASHPs, CACs and Tune Ups only. Cadmus applied PY16 NTG values to ductless heat pumps, DFHPs, GSHPs, and ECM measures, as the relative participation in those measures and corresponding survey response rates were low, additionally the program made no significant changes to incentive levels or marketing between PY16 and PY17.

Table 2. PY17 Net Impact Results Summary

Measure Group	Ex Post Gross Savings (MWh/yr)	Free Ridership	Participant Spillover	HVAC NPSO	NTG	Net Energy Savings (MWh/yr) ***	Net Demand Savings kW/yr	
							Fist Year	2023
Air-Source Heat Pump	13,097	13%	0%	0%	87%	11,394	5,311	5,311
Ductless Air-Source Heat Pump	1,360	12%	3%	0%	91%	1,240	578	578
Dual Fuel Heat Pump*	53	1%	<1%	0%	99%	53	24	24
Ground Source Heat Pump*	2,927	6%	<1%	0%	95%	2,769	1,291	1,291
Central Air Conditioner	20,541	22%	0%	0%	78%	16,022	15,179	15,179
Electronically Commutated Motor*	5,656	7%	<1%	0%	94%	5,306	2,473	2,473
Tune Up	455	32%	0%	0%	68%	309	35	35
Nonparticipant Spillover	-	-	-	-	-	5,547	4,324	317
Program**	44,089	16%	<1%	0%	97%	42,640	29,324	25,208

*PY16 results used for free ridership and spillover due to low response rate. One ground source heat pump participant, two dual fuel heat pump participants and three ductless heat pump participants completed a survey.

**May not sum due to rounding.

***Net savings may not match NTG multiplied by the *ex post* gross savings due to the rounding of NTG estimates.

As shown in Table 3, the PY17 program achieved 191% of its net energy savings target of 22,320 MWh, specified in Ameren Missouri’s residential tariff.¹ Appendix A presents the coincidence factors used to calculate demand savings for this program.

Table 3. PY17 Heating and Cooling Program Savings Comparisons

Metric	MPSC-Approved Target	Ex Ante Net Savings Reported	Ex Post Gross Savings Determined by EM&V ¹	Ex Post Net Savings Determined by EM&V ²	Percentage of Goal Achieved ³
Energy (MWh)	22,320	48,086	44,089	42,640	191%
Demand – First Year (kW)	14,245	32,050	30,436	29,324	206%
Demand – Year 2023	14,245	32,050	30,436	25,208	177%

¹ MWh calculated by multiplying verified program participation by Cadmus’ evaluated per-unit savings values; kW calculated by applying coincident factors shown in Appendix A.

² Calculated by multiplying evaluated gross savings and evaluated NTG ratio and adding the appropriate program-level allocation of NPSO savings .

³ Compares MPSC approved target and *ex post* net savings, determined by EM&V.

¹ Union Electric Company. d/b/a Ameren Missouri’s 2nd Filing to Implement Regulatory Changes in Furtherance of Energy File No. EO-2015-0055 Efficiency as Allowed by MEEIA. Appendix B.MEEIA 2016–2018 Summary

CSR Impact Evaluation Requirements

According to the Missouri Code of State Regulations (CSR), demand-side programs included as part of a utility’s preferred resource plan are subject to ongoing process and impact evaluations that meet certain criteria. Specifically, the CSR requires that impact evaluations of a demand-side program satisfy the requirements listed in Table 4. The table also indicates data Cadmus used to satisfy these impact CSR evaluation requirements for the Heating and Cooling program. At the end of the Process Evaluation section, this report provides a summary of the process CSR requirements in Table 5.

Table 4. Summary Responses to CSR Impact Evaluation Requirements

CSR Requirement ¹	Method Used	Description of Program Method
Approach: The evaluation must use one or both of the following comparisons to determine the program impact:		
Comparisons of pre-adoption and post-adoption loads of program participants, corrected for the effects of weather and other intertemporal differences	✓	The team developed heating and cooling loads using multiple data sources, including; direct load monitoring of CAC (from PY13) and Heat Pumps (PY16), and billed usage corrected to normalized weather. Savings are estimated from normalized loads using the increases efficiency of installed system performance.
Comparisons between loads for program participants and an appropriate control group over the same period		
Data: The evaluation must use one or more of the following types of data to assess program impact:		
Monthly billing data	✓	PY16 billing data were used to verify baseline energy consumption
Hourly load data	✓	PY16 Daily load data were analyzed for 250 participants to verify post-installation usage characteristics.
Load research data		
End-use load metered data	✓	PY13-PY16 Metered load data from CAC, ASHPs, and GSHP were used to verify heating and cooling consumption.
Building and equipment simulation models		
Survey responses	✓	PY13 -PY17 Survey responses were used to verify measures’ installation, operation, and disposition.
Audit and survey data on:		
Equipment type/size efficiency	✓	The evaluation team gathered equipment information on participating homes.
Household or business characteristics	✓	The evaluation team collected household characteristics from participating homes.
Energy-related building characteristics	✓	The evaluation team collected survey data on heating and cooling systems in the participating homes.

¹ State of Missouri. “Administrative Rules: Missouri Code of State Regulations.” Missouri 4 CSR 240-20.093, 4 CSR 240-20.094, 4 CSR 240-22.070(8). Revised January 2016. Available online: <http://www.sos.mo.gov/adrules/csr/csr.asp>

Marketing and Outreach

Ameren Missouri directly markets the Heating and Cooling program, in concert with participating contractors, who utilize Ameren Missouri's program marketing and co-branded materials. Ameren Missouri markets the program through direct mailers, radio and television advertisements, gas station pump toppers, and other channels.

Key Process Evaluation Findings

Because this program delivery has not changed significantly, we are not reporting detailed process evaluation results unless we identified a significant area of difference or concern.

As in past years, the Heating and Cooling program has been well received by participants and contractors, who expressed high satisfaction levels with the program.

Consistent with last year's findings, most participants heard about the Heating and Cooling program from a contractor, and participants most frequently contacted contractors to resolve technical issues with their existing equipment. Participants also learned about the program via Ameren Missouri's marketing and contacted their contractors for reasons other than addressing maintenance issues (e.g., lowering their energy consumption; taking advantage of rebates).

Ameren Missouri's pool of registered contractors effectively promoted the Heating and Cooling program to participants, especially when customers contacted them to address a maintenance issue. Contractors serve as a key driver of promoting the Heating and Cooling program, although participant survey data suggested limitations to contractors' marketing efforts: most participants selected their contractors because they knew them or they received a referral from a trusted source, while only a small portion of participants selected their contractors based on their marketing materials.

CSR Process Evaluation Requirements

As previously discussed, the Missouri CSR requires that demand-side programs operating as part of a utility's preferred resource plan must be subject to ongoing process and impact evaluations that meet certain criteria. Process evaluations must address, at a minimum, the five questions listed in Table 5, which provides a summary response for each specified CSR process requirement.

Table 5. Summary Responses to CSR Process Evaluation Requirements

CSR Requirement Number ¹	CSR Requirement Description	Summary Response
1	What are the primary market imperfections common to the target market segment?	The primary market imperfection common to the target market is inadequate consumer information about the cost saving benefits of high-efficiency HVAC systems for cooling and electric heating and the investment/cost of installing a new HVAC unit. This can deter customers from ultimately making the decision to purchase high-efficiency and cost-savings equipment until absolutely necessary. The greater upfront costs of high-efficiency systems can deter customers from purchasing these units, even if these costs are recovered over the equipment's life through lower operating costs.
2	Is the target market segment appropriately defined, or should it be further subdivided or merged with other market segments?	The target market was defined as customers living in single-family homes; multifamily buildings of four units or fewer; or row houses. This is the appropriate market definition for a residential heating and cooling program designed to encourage property owners to choose high-efficiency equipment when making heating and cooling equipment purchases.
3	Does the mix of end-use measures included in the program appropriately reflect the diversity of end-use energy service needs and existing end-use technologies within the target market segment?	The program targeted the heating and cooling end use. Within this end use the measures offer a range of energy-saving heating and cooling technologies, available at different price points to customers.
4	Are the communication channels and delivery mechanisms appropriate for the target market segment?	Contractors are a critical interface to the public and can provide important program information when customers are likely to make equipment purchase decisions. The program also conducts broader marketing efforts to provide customers with information that could encourage them to replace their existing equipment before it experiences problems and/or engage their contractor about options when they come into contact (which also can encourage contractors to participate in the program). As such the communication and program delivery mechanisms are appropriate for the target market.
5	What can be done to more effectively overcome the identified market imperfections and to increase the rate of customer acceptance and implementation of each end-use measure included in the program?	The program could conduct additional marketing to explain the long-term cost savings of energy-efficient heating and cooling equipment and reduce customers' initial barriers to purchasing equipment by increasing incentives or providing financing options.

¹ State of Missouri. "Administrative Rules: Missouri Code of State Regulations." Missouri 4 CSR 240-20.093, 4 CSR 240-20.094, 4 CSR 240-22.070(8). Revised January 2016. Available online: <http://www.sos.mo.gov/adrules/csr/csr.asp>

Key Conclusions and Recommendations

The Heating and Cooling program encourages Ameren Missouri customers to upgrade their heating and cooling equipment to efficient units when making new equipment purchases. The program's contractors play a critical role in delivering the program, and serve as the program's primary interface to the public. While contractors serve as the primary drivers of program participation, the Heating and Cooling program deploys additional mechanisms to raise awareness about the program, reaching customers who, for various reasons, do not have contact with contractors (e.g., experiencing problems with their equipment or maintenance-related issues). The program's two-pronged marketing approach provides an effective means to encourage upgrades to efficient equipment to as broad an audience as possible and the program shows continued growth in market share, participation, and measure offerings. The program increased equipment rebate participation by nearly 20% in PY17 alone. Bringing back popular tune up measures further increased the number of rebates by another 5%. The program shows a growing contractor network and stable and positive participant satisfaction.

Cadmus offers the following conclusions and recommendations for program improvements:

Conclusion 1. High opportunity early retirement measures continue to provide significant energy benefits and program challenges. Central air conditioner early retirement account for 98% of all CAC rebates and nearly half of ex-ante savings. Verification surveys found that a significant share of early retirement equipment may have been misclassified. The program requirements for early replacement classification are that the contractor measure that the unit still has a temperature drop across the coil, which is not verifiable through a follow-up survey. Alternatively, survey results indicated that 13% of early retirement participants believe their existing units were not repairable. It is possible that the unit met the program requirements for early retirement classification while the customer still perceives the unit as not repairable. To be conservative, Cadmus used the customer perception of unit condition as the verification approach. Ameren Missouri has instituted several program changes for PY18 to better align and inform customers of early retirement criteria by updating the terms of service and requiring contractors to record measurements of the systems delta-t. In addition, Ameren Missouri increased the replace on failure incentive to match the early retirement incentive, eliminating any possible contractor or customer incentive to misrepresent the condition of replaced systems.

Of customers reporting that cost was a major reason they chose to replace their systems(n=65), 86% reported the cost to repair their system as more than \$500. Of customers reporting that cost was **not** a major reason they chose to replace their systems(n=42), 48% reported the cost to repair their system as more than \$500.

Recommendation 1. Monitor PY18 verification surveys against temperature drop data to determine whether the implemented PY18 program changes have minimized differences between verification surveys and reported early retirement classifications to assess whether additional early retirement criteria may be warranted. There is no industry consensus on the best definition of early retirement and the definition of "operable" or "operating" (as used below) is still subject to interpretation. A sample of other early retirement programs utilize the following criteria:

- System must be operable and existing SEER of 10 or less (Ameren Illinois)
- System must be in operating condition, at least 5 years old, and with a maximum nominal SEER of 10 (KCP&L)
- System must be operating or a repair cost estimate of \$1,500 or less (Xcel Energy)

Conclusion 2. The heating and cooling program has captured a significant share of the replacement market. Cadmus estimates that approximately 50,000 systems are replaced every year in Ameren Missouri's territory and the program captures approximately 30% of that market. According to distributor data Ameren Missouri captures approximately 40% of 16+ SEER and 80% of 14-15 SEER system purchases. A participant contractor mentioned that incentives in the highest program tiers should be increased.

Recommendation 2. Ameren Missouri should explore incremental cost differences among the various tiers of system replacements to determine if incentives are aligned to those costs. With the lower market share found in the higher tier systems Cadmus recommends Ameren Missouri explore if a realignment of incentives may drive higher participation in these tiers and remain cost-effective.

Conclusion 3. Contractor provided tune up data was inconsistent. Contractors must submit a data collection form on tuned systems. Cadmus found conflicting information in the data collection form and variation among the core provided services. Further, about one third of customers did not perceive any benefits from having the tune up. While tune ups only account for 1% of program savings, improved performance could lead to additional program opportunities and customer satisfaction.

Recommendation 3. Encourage additional contractor training and requirements for minimum service offerings and documentation for the tune ups. Consider incentivizing training opportunities for contractors. Contractors often have difficulties finding time for training. Consider timing of offers to accommodate various schedules. Additional trainings could be suggested through; local community colleges, North American Technician Excellence (NATE), or Building Performance Institute (BPI).

PY16 Recommendation Tracking

Cadmus followed up with Ameren Missouri about its response to the PY16 evaluation's recommendations. Table 6 sets forth these actions, as reported by Ameren Missouri.

Table 6. PY16 Evaluation Recommendation Tracking

PY16 Recommendation	Ameren Missouri Response	Explanation
<p>The Heating and Cooling program should continue to recruit new contractors, active in Ameren Missouri’s territory, into the program. The program also could build on its efforts to work with distributors to recruit contractors into the program via equipment showrooms and trade shows. The program could solicit feedback from its contractor advisory board on the best ways to expand the contractor network.</p>	<p>Completed</p>	<p>Recruitment efforts continue for all areas of the service territory. The actual number of participating contractors fluctuates, particularly around the annual required refresher training. These trainings are held through distributors to engage their contractors as well as online for contractor ease of attendance.</p>
<p>In addition to highlighting rebates, the Heating and Cooling program should emphasize the benefits of efficient equipment and encourage customers to take advantage of the program by calling contractors. The program could that highlight energy-efficient heating and cooling equipment saves energy in comparison to less-efficient equipment and can save money on utility bills.</p>	<p>Ongoing</p>	<p>Since it's difficult to cover all scenarios regarding what system the customer is replacing, we hesitate to claim specific dollar savings in the marketing materials. We're also limited on space in a lot of the channels like social, energy statement messaging, postcard, etc. However, in nearly all communications, we do tell customers that by installing a high-efficiency system, they can save energy and money. We provide a guideline for recommending a new system by mentioning that if it's 10 years or older, they should consider replacing it. We also used our marketing materials to remind customers that heating and cooling accounts for nearly half the home's energy costs and reinforcing that upgrading their system can help them save energy and money. Our call-to-action on nearly all marketing is to visit our find-a-contractor page.</p>

PY16 Recommendation	Ameren Missouri Response	Explanation
<p>Educate customers about the advantages of operating their heat pumps at the lowest possible temperature.* While a tradeoff exists regarding comfort, high-efficiency HPs operate twice as efficiently as electric resistance heating, even during cold outdoor conditions. Helping customers understand the energy impacts of their systems' operation can drive customers to demand their systems' most efficient operation. Contractors should be encouraged to explain to customers that limiting compressor operations to improve comfort uses significant additional energy. This may help avoid return visits to address customers' complaints about comfort.</p>	<p>Completed</p>	<p>The program engaged the Contractor Advisory Group, distributors, and manufacturers to better understand this issue. Guidance and training was provided through program communications and as a part of the annual required refresher training.</p>
<p>Clarify measure qualifications and provide comprehensive measure mapping. With many contractors in the program, and with many possible replaced equipment types and installed measures, contractors must quickly understand program requirements and incentives available to their customers. Cadmus recommends the following activities to help reduce confusion and possible improper categorization:</p> <ul style="list-style-type: none"> • Consider flowcharts or logic maps for contractors and customers to outline available incentives • Consider consistent measure-naming conventions, so customers can be easily identified through in data tracking Example: [Installed Equipment Type] – [Minimum Efficiency] – [Disposition of Replaced Equipment - Qualifying Replaced Equipment Type] / ASHP - SEER 16+ - Early Retirement of Operating Electric Resistance Heating with Central AC 	<p>Completed</p>	<p>The updated program rebate chart that was released on March 1, 2018 contained several simplifications of naming conventions where possible while still maintaining clarity. The existing matrix showing what rebates are available based on existing system type was updated to outline the available incentives as well.</p>
<p>Engage with contractors to understand the reasons for their problems with AHRI numbers and take further steps to make the process easier for contractors. Cadmus recommends that ICF engage with contractors (possibly through the contractor advisory group) to explore what difficulties contractors face in when looking up AHRI numbers and to take steps to ease the process.</p>	<p>Ongoing</p>	<p>The program engaged the contractor advisory group and individual contractors who did and didn't have issues with AHRI. Those identified as having issues participate at a low rate, and others identify limited issues with AHRI ratings. The program does engage distributors to assist their contractors. Best practices from these discussions will be incorporated into training.</p>

*The temperature where electric resistance supplemental heating is disabled in favor of higher-efficiency compressor usage.

Introduction

Ameren Missouri engaged Cadmus to perform annual process and impact evaluations of the Heating and Cooling program for a three-year period (2016 through 2018). This annual report covers the impact and process evaluation findings for Program Year 2017 (PY17): the period from March 1, 2017, through February 28, 2018—the second year of the three-year program cycle.

Program Description

Through the Heating and Cooling program, Ameren Missouri offered customers living in single-family homes, condos, or townhomes incentives for installing high-efficiency CACs or HPs through participating program contractors. The program also offered incentives for installations of electronically commutated fan motors (ECMs). As in past years (excepting PY2016), the program offered an incentive for diagnostic testing and tuning of existing HVAC systems to manufacturer specifications (through the Tune Up plus Ameren Missouri Efficiency Analysis).

To participate in the program and to receive a rebate, a residential customer must have a qualifying measure installed or a tune up conducted by a participating contractor who then submits all required paperwork to process the rebate. To become a participating contractor, an HVAC company representative must attend a program training session conducted by ICF International (ICF), the program implementer. Ameren Missouri and participating contractors market and promote the program to potential participants.

The Heating and Cooling program offers tiered incentives for installing efficient heating and cooling equipment that either replaces electric-powered equipment or is installed in new construction (NC). Incentives vary by the equipment's efficiency level, by whether the customer replaces working or broken equipment, and by the equipment type that a heat pump replaces. Because of the differences between baseline equipment types, the nature of baseline equipment, and the way new equipment types and efficiency levels interact, the program offers 38 different measures.

Ameren Missouri requires that contractors observe a temperature drop (delta-t) across the coil for an existing piece of equipment to qualify as working. Ameren Missouri also offers incentives for ECMs installed with new equipment or replacing existing fans. Table 7 shows the measures addressed by the program.

Table 7. PY17 Heating and Cooling Program Measures and Program Activity

Measure Category	Baseline Disposition	Baseline Equipment	Efficiency Level	Incentive	PY17 Participation
Air Source Heat Pump	Early Retirement	Elect Resistance Heat	SEER 16+	\$900	401
	Replace at Fail	Elect Resistance Heat	SEER 16+	\$900	51
	New Construction	N/A	SEER 16+	\$650	43
	Early Retirement	ASHP	SEER 16+	\$650	261
	Replace at Fail	ASHP	SEER 16+	\$650	41
	Early Retirement	Elect Resistance Heat	SEER 15	\$800	475
	Replace at Fail	Elect Resistance Heat	SEER 15	\$800	53
	New Construction	N/A	SEER 15	\$500	59
	Early Retirement	ASHP	SEER 15	\$500	240
	Replace at Fail	ASHP	SEER 15	\$500	28
Ductless Heat Pump	Early Retirement	ASHP	SEER 19+	\$300	9
	Early Retirement	Elect Resistance Heat	SEER 19+	\$500	51
	Replace at Fail	ASHP	SEER 19+	\$300	4
Dual Fuel Heat Pump	Replace at Fail	Elect Resist	SEER 19+	\$500	174
	Replacement	Non-Electric	SEER 15	\$175	18
	Replacement	Non-Electric	SEER 16	\$200	14
	Replacement	Non-Electric	SEER 17+	\$200	20
Ground Source Heat Pump	Replacement	Non-Electric	SEER 18+	\$200	3
	Early Retirement	ASHP	EER 14+	\$2,000	8
	Early Retirement	Elect Resistance Heat	EER 14+	\$2,000	20
	Replace at Fail	Elect Resistance Heat	EER 14+	\$2,000	92
	Early Retirement	GSHP	EER 23+	\$800	28
Central Air Conditioner	Replace at Fail	GSHP	EER 23+	\$800	10
	Early Retirement	CAC	14 SEER	\$300	4762
	Replace at Fail	CAC	14 SEER	\$250	135
	Early Retirement	CAC	15 SEER	\$400	2258
	Replace at Fail	CAC	15 SEER	\$275	73
	Early Retirement	CAC	16 SEER	\$500	6154
Electronically Commutated Motor (ECM)	Replace at Fail	CAC	16 SEER	\$300	87
	Early Retirement	Continuous PSC* Fan	AHRI Rated	\$50	719
	Early Retirement	Continuous PSC* Fan	non-AHRI Rated	\$100	50
	Replace at Fail	Continuous PSC* Fan	AHRI Rated	\$50	53
	Early Retirement	Continuous PSC* Fan	non-AHRI Rated	\$100	2
	Early Retirement	Auto PSC* Fan	AHRI Rated	\$50	8976
	Early Retirement	Auto PSC* Fan	non-AHRI Rated	\$100	646
	Replace at Fail	Auto PSC* Fan	AHRI Rated	\$50	320
Tune Up	Early Retirement	Auto PSC* Fan	non-AHRI Rated	\$100	11
	Existing System	CAC or ASHP	Tune Up	\$75	1431

*PSC = Permanent Split Capacitor Fan Motor

Program Activity

In PY17, the Heating and Cooling program delivered \$7.8 million in rebates for products purchased by Ameren Missouri program participants, as shown in Table 8 (Table 7, above, presents a more detailed breakdown of measure-level participation).

Table 8. PY17 Heating and Cooling Program Activity Summary

Measure	PY17 Rebate Totals
Air Source Heat Pump	\$1,216,950
Central Air Conditioner	\$5,488,725
Ductless Heat Pump	\$116,400
Electronically Commutated Motor	\$574,300
Dual Fuel Heat Pump	\$10,550
Ground Source Heat Pump	\$270,400
Tune Up	\$107,325
Total	\$7,784,650

Evaluation Methodology

In evaluating Ameren Missouri’s Heating and Cooling program, Cadmus identified the following objectives for PY17:

- Determine heating and cooling savings for heat pumps, ECMs, tune ups
- Determine cooling savings for CACs
- Evaluate baseline assumptions about equipment usage
- Determine measure-specific net-to-gross (NTG) estimates, including participant and nonparticipant spillover
- Measure customer satisfaction with the program and implementer, along with customers’ motivations for participating
- Assess program design implementation and opportunities for improvement

Table 9 lists evaluation activities and briefly explains the purpose of each activity; descriptions of each activity follow the table.

Table 9. PY17 Process and Impact Evaluation Activities and Rationale

Evaluation Activity	Process	Impact	Rationale
Review the Tracking Data	✓	✓	Provide assurance that all necessary program data are tracked accurately and incorporated into savings estimates.
Update Engineering Analysis Variables		✓	Update gross kWh savings estimates.

Evaluation Activity	Process	Impact	Rationale
Conduct a Cost-Effectiveness Analysis		✓	Measure the program’s cost-effectiveness using five standard perspectives: total resource cost, utility cost, societal cost test, participant cost test, and ratepayer impact test.
Conduct Surveys with Program Participants	✓	✓	Collect customer feedback about program processes, satisfaction, and information sources about the program. Confirm measure baseline equipment and equipment disposition. Evaluate program free ridership and spillover.
Interview Stakeholders	✓		Identify changes to program delivery, along with successes and challenges.
Interview Participating Contractors	✓	✓	Provide information about the heating and cooling system market in Missouri to inform NPSO.
Interview Equipment Distributors	✓	✓	Provide information about the heating and cooling system market in Missouri to inform NPSO.
Review Marketing Materials	✓		Understand the program’s outreach
Update Key Progress Indicators	✓		Update key progress indicators developed in PY16.
Conduct Benchmarking Research		✓	Compare the Heating and Cooling program’s gross savings and NTG factor with those of similar Heating and Cooling programs.

Data Tracking Review

Cadmus reviewed the program tracking data recorded in the Vision database to determine accuracy and to identify variables necessary for impact calculations. Specifically, the team assessed data quality and completeness to determine whether ICF had gathered the data necessary for an accurate evaluation.

The Vision database, which was continually updated, contained the following information:

- Incentive amount
- Measure type
- Customer information
- New HVAC equipment information
- Existing (replaced) equipment information
- Installed system efficiency
- HVAC system type (AC or HP)
- HVAC system model number
- AHRI certificate number
- HVAC system size in tons
- Tune Up activities conducted
- Tune up measurements

Engineering Analysis

Cadmus conducted an engineering review of Ameren Missouri's TRM gross savings estimates that leveraged algorithms and inputs developed during PY13 through PY17. This engineering analysis consisted of the following steps;

1. Import measure level data tracking into the Cadmus analysis template
2. Aggregate measures by analyses category including; ASHP, CAC's, Ductless Heat Pumps, DFHP's, GSHP, ECM Motors, and Tune Ups
3. Find and replace missing measure data with category level data in the database including; installed capacity, efficiency
4. Incorporate survey findings to verify measure installation and baseline category.
5. For each measure define the baseline efficiency and calculate gross measure savings based on market data survey data and federal standards
6. Summarize program level impacts

Cost-Effectiveness Analysis

Using final PY17 Heating and Cooling program participation and implementation data, as well as the *ex post* gross and net savings estimates presented in this report, Ameren Missouri determined the program's cost-effectiveness using DSMore (a financial analysis tool designed to evaluate the costs, benefits, and risks of demand-side management [DSM] programs and services) and Cadmus reviewed results. As shown in the Cost-Effectiveness Results section, Ameren Missouri assessed cost-effectiveness using all five of the standard perspectives produced by DSMore:

- Total Resource Cost (TRC)
- Utility Cost Test (UCT)
- Societal Cost Test (SCT)
- Participant Cost Test (PART)
- Ratepayer Impact Test (RIM)

Participant Surveys

Cadmus conducted online surveys with participating customers. Customers received an invitation to the online survey via email if their contractors recorded an email address. Heat pump participants without recorded email addresses received survey invitations via a mailed postcard for the evaluation's first three months (the evaluation team focused on these participants to boost response rates for these measures). Because of budgetary constraints, this method of contacting participants was discontinued.

The team conducted two online surveys, administering one shortly after a customer installed a measure (immediate survey), the other six months after installation (follow-up survey):

- The immediate survey included questions about measure and program satisfaction, program free ridership, baseline equipment types and dispositions, information sources about the program, contractor satisfaction, and demographics.
- The follow-up survey included questions from the immediate survey for which responses could change over time and questions to help determine program spillover.

Customers were surveyed only once and received an invitation to only one of the two surveys. When customers installed multiple measures, the team randomly selected which measure their survey would address. Table 10 shows participant survey response rates.

Table 10. Participant Survey Response Rates

Survey Type	Number of Invitations	Number of Responses	Response Rates
Immediate Email Survey	1,878	500	26.6%
Immediate Postcard Survey	189	22	11.6%
Follow-up Email Survey	2,557	547	21.4%

In PY16, the team confirmed no statistically significant difference emerged between survey responses from postcard and email invitations. Therefore, Cadmus discontinued the use of postcard surveys early in 2017.

Stakeholder Interviews

In December 2017, Cadmus interviewed Heating and Cooling program stakeholders. We designed the interview guide to allow the evaluation team to achieve the following:

- Understand program successes and challenges
- Gain insights into program marketing processes
- Obtain information about how the program engaged with contractors
- Identify key quality assurance processes utilized by the program

The team spoke with two stakeholders at Ameren Missouri and ICF, as shown in Table 11. Appendix D provides the stakeholder interview guide.

Table 11. PY17 Completed Stakeholder Interviews

Stakeholder Group	Interviews Conducted
Ameren Missouri Program Management	1
ICF Program Management	1
Total	2

Throughout PY17, the team regularly spoke with Ameren Missouri program staff to discuss program operations and to coordinate evaluation activities.

Contractor Interviews

As in PY16, Cadmus interviewed 10 participating contractor business owners or managers, to investigate the attribution of nonparticipant spillover and contractor satisfaction with the program. Cadmus randomly selected the contractors for a stratified sample. By stratifying the sample by program equipment sales, the team ensured the interviews included small, medium-size, and large contractors, in terms of the number of projects completed, as shown in Table 12.

Table 12. Contractor Interview Stratification

Strata	Number of Contractors Interviewed
1 to 10 completed projects	3
11 to 100 completed projects	3
More than 100 completed projects	4

Distributor Interviews

In February 2018, Cadmus collected data from residential heating and cooling equipment distributors operating within Ameren Missouri’s service territory to determine the volume of recent sales and the market shares of different efficiency levels of equipment sold. The team focused data collection on sales of HPs and CACs of various efficiency levels before and during the 2015–2017 Heating and Cooling program (i.e., PY17 data), which could be compared with similar data that the team collected from distributors in PY16, PY15 and PY13.

Nonparticipant Surveys

In PY17 Cadmus conducted 2,373 online and 58 phone surveys with Ameren Missouri customers who did not participate in any of Ameren Missouri’s energy efficiency programs. Cadmus conducted the surveys to calculate nonparticipant spillover (NPSO). The evaluation team drew a random sample of 62,500 Ameren Missouri customers and fielded the survey until we reached our quota of 2,244 nonparticipant customers. The team asked respondents if they had adopted energy-efficiency measures and about the influence of Ameren Missouri’s efficiency program marketing campaign on their decision to adopt the measures.

Key Progress Indicators

Cadmus tracks the following key progress indicators for the Heating and Cooling program across the three-year program cycle: program year electric savings, number of contractors registered, and customer satisfaction with the Heating and Cooling program and with Ameren Missouri.

Benchmarking Research

Cadmus conducted benchmarking research examining early retirement rate program criteria for other heating and cooling programs.

Process Evaluation Findings

This section presents Cadmus’ process evaluation findings for Ameren Missouri’s Heating and Cooling program. The report organizes the findings in four sections: Program Design, Program Delivery, Participant Experience, and Contractor Experience. As the program has achieved high participant satisfaction in the past and program changes were limited to the additional tune up measure, Cadmus conducted a limited process evaluation for PY17.

Program Design

The Heating and Cooling program seeks to achieve energy and demand savings by encouraging residential customers to purchase efficient CACs, HPs, and ECMs, and to improve the operation of their existing equipment. The program targets residential customers in Ameren Missouri’s service territory with CAC, HPs (e.g., GSHPs, DFHPs, and ASHPs—including ductless), or electric furnaces, incentivizing customers to replace existing or broken equipment with efficient units. The program also provides residential customers with incentives to install efficient equipment in new residential construction and to conduct air conditioner or heat pump tune ups.

Ameren Missouri’s Heating and Cooling program is designed to reduce the administrative burden for residential customers by requiring that participating contractors submit all required paperwork for rebates on customers’ behalf. Participants receive rebates directly from Ameren Missouri after equipment installation or may opt to receive the rebate directly from the contractor at the time of sale by assigning it to the contractor.

From PY16 through PY18, Ameren Missouri contracted with ICF to implement the program. ICF recruits and trains contractors, and maintains a website for receiving online applications, processing rebates, and conducting quality control checks. Table 13 illustrates Ameren Missouri’s rebate expenditures for the Heating and Cooling program’s measures.

Table 13. Rebated Measures

Qualifying Products	Total Rebate Amount (Thousands) Paid
Air Source Heat Pump	1,217
Central Air Conditioner	5,489
Ductless Heat Pump	116
Electronically Commutated Motor	574
Dual Fuel Heat Pump	11
Ground Source Heat Pump	270
Tune Up	107
Total	7,785

Program Delivery

This section presents information shared by program stakeholders, including contractors, during interviews with the evaluation team about program management and delivery. We also provide a review of the tracking data. Interviews focused primarily on program changes, contractor engagement and training, quality assurance processes, successes and challenges, and future program changes.

PY17 Program Changes

In PY17, the only change to the Heating and Cooling program was the reintroduction of the tune up measure. Other than this, the program stayed consistent with the PY16 design.

According to program rules, equipment tune ups are available for individual air conditioners or heat pumps only once per system. Per the program manager, the tune up was promoted heavily in PY 13-15. Because contractors do not acquire many new customers in a year, those offering the tune up measure in the past faced a reduced customer base to whom they could offer it the following years. As a result, stakeholders reported a reduced uptake in tune up measures relative to PY15. These stakeholders noted that Ameren Missouri processed approximately 7,700 tune ups per year during previous years. In PY17, 1,250 unique customers received up to three tune ups², and the program delivered 2,950 tune up measures.

Ameren Missouri offers its customers a “Tune Up Plus Efficiency Analysis” (TEA), which diagnoses and rates air conditioner and heat pump efficiency as “Good Operating Condition,” “Preventative Maintenance or Upgrades Recommended,” or “Maintenance, Upgrades, or Replacement Recommended.” Contractors may offer a range of recommendations on the TEA form, including to add ductwork, make airflow improvements, install new blower motors, install different filters, or replace the system.

Contractor Engagement

Contractors serve as a critical component for delivering the Heating and Cooling program. Contractors install energy-efficient equipment, complete and submit customer rebate applications, and market the program. In PY16, 398 unique contractors and, in PY17, 404 unique contractors installed program measures in the program. In PY17, 39% (43% in PY16) of the program contractors installed 10 or less measures and collectively installed 4% (2% in PY16) of the total program measures.

In PY17, 7% of contractors (5% in PY16) installed 60% of all measures (50% in PY16). In PY17, the program registered slightly more contractors, and higher-volume contractors installed a greater proportion of overall program measures than in PY16. To ensure all its service territory areas have program coverage, Ameren Missouri recruits contractors in rural areas, which, according to the program

² Customers receive a tune-up on each individual system.

manager, are often smaller and more likely to experience program participation issues (such as finding equipment AHRI numbers) because their experience with program processes is more limited.

Training

As in PY16, the Heating and Cooling program requires two types of mandatory training for participating contractors; an initial enrollment training session and an annual refresher training at the beginning of each program year. In PY17, the program offered webinar training to contractors that conduct tune ups, with 107 contractors completing the tune up training. The training was offered as a standalone service in PY17 and Ameren Missouri will continue to offer it in PY18 (contractors who took the training in PY17 are not required to take the training in PY18 to offer tune-ups).

Communication

As in PY16, the Heating and Cooling program was actively engaged with contractors in PY17 through several mechanisms: a contractor advisory group; dedicated program account managers; regular email communications and newsletters; notices about program activity posted on an online contractor portal; and a contractor appreciation dinner.

Cadmus asked contractors how they stayed informed about the program throughout the year and found that some contractors used multiple channels. Of the 10 contractors interviewed, eight said they stayed informed through emails sent by the program; four reported regular communications with program representatives; three looked for information through the online contractor portal; two were members of the contractor advisory council; and two said they stayed informed about the program through annual trainings.

Distributor Engagement

The Heating and Cooling program continues to actively engage with heating and cooling equipment distributors. As in PY16, distributor engagement helps facilitate contractor recruitment, either through referrals to the program or through events at distributor facilities throughout Ameren Missouri's service territory.

Quality Assurance Processes

As in PY16, the ICF conducts quality assurance by reviewing applications, surveying customers after equipment installation and tune-ups, and conducting post-installation site visits at customers' residences. Specific quality assurance process elements include the following:

- Reviewing applications submitted by contractors.
- Sending post-installation surveys to customers in winter by email, through which customers verify that contractors installed the equipment recorded, verify the home's heating source, and the equipment that was removed (if any). ICF asks customers to send photographs of the installed equipment's model and serial numbers with their completed surveys.
- Conducting site visits at 200 customer homes to verify equipment installations and to test system performance as compared to the manufacturer's specifications.

Delivery Successes and Program Achievements

Stakeholders reported that their engagement with contractors worked particularly well in PY17. They noted that the program successfully and actively engaged approximately the same number of contractors as PY16 and saw the proportion of contractors who process higher volumes of projects increase.

Program Implementation Challenges and Potential Changes

Stakeholders noted that finalizing the program evaluation process posed a challenge as Ameren Missouri and regulatory stakeholders discussed how to verify early retirement projects. Cadmus notes the discussions were ongoing through the first half of PY17 and, as a result, adjustments to program requirements, such as contractor documentation of delta-t for early retirement systems, will take effect in PY18.

Another challenge arose in continually recruiting contractors and encouraging contractor participation in tune up offerings. The program already has high market penetration, continuing to add contractors proves difficult in that environment.

Marketing and Outreach

Ameren Missouri provides materials and co-branding opportunities to help participating contractors market the program. The program also directly advertised its equipment and tune up rebates by direct-mail, radio and television ads, digital advertisements, bill inserts, and gas-pump toppers. Marketing for the Heating and Cooling program accounted for 59% of Ameren Missouri’s overall marketing budget, and advertising purchases accounted for 79% of the program’s marketing budget.

Participant Experience with Tune Ups

Cadmus asked tune up participants a series of questions about their experience with this part of the program, including questions about equipment tuned up, the TEA report, and whether they followed the recommendations provided in the contractor’s report.

Almost all participants (97%, n=72) said their central air conditioner was tuned up under the program. Contractors also tuned up heat pumps (7%) and other equipment (8%).³ Seventy-eight percent of respondents said the contractor provided them with a report about their system’s efficiency; the other 22% of respondents said they did not receive the report, although another person living at the home may have received the report.

Cadmus then asked tune up participants if they received any recommendations from their contractors. Most participants (74%, n=74) said the contractor did not provide recommendations about how to further increase their system’s efficiency; 11% said the contractor recommended replacing their

³ Four of the six participants who said they had “other equipment” tuned-up specified that this equipment was their furnace.

systems; 4% said the contractor recommended repairing their ductwork; and 12% said the contractor recommended making other improvements. Other recommended improvements included upgrading fan motors, replacing unspecified parts, and upgrading system filters.

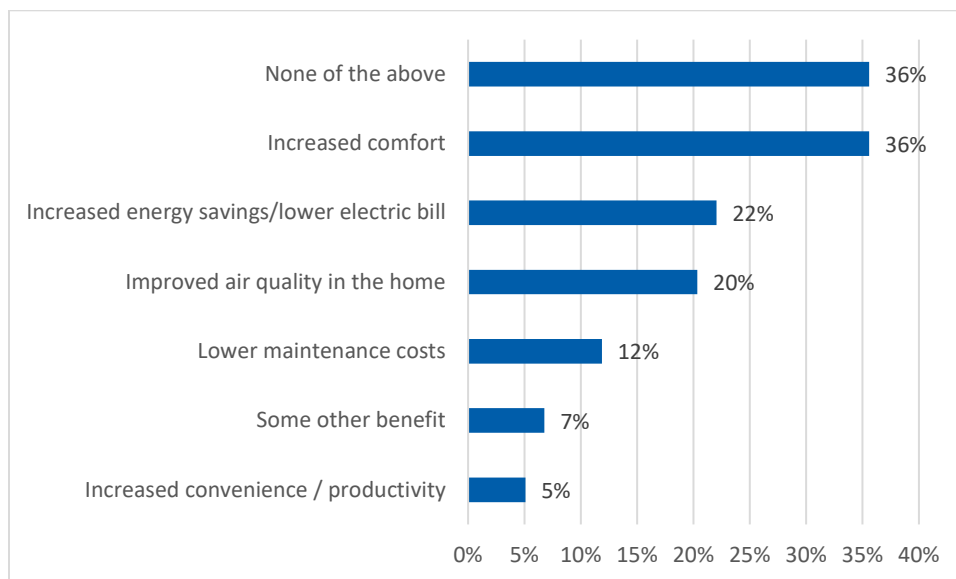
The evaluation team asked participants who received a recommendation from their contractor (11% of tune up customers) if they followed it. Ten of the 18 respondents who answered this question said they followed their contractors’ recommendations. Some respondents said which recommendations they followed, including the following:

- Replacing their system with a high-efficiency unit (n=4)
- Replacing parts (n=2)
- Making repairs to duct work (n=1)
- Replacing system filters (n=1)

Respondents choosing not to follow their contractors’ recommendations to upgrade their system said they expected their system to continue to work for the “foreseeable future” (n=2), they did not want to invest the money to upgrade their system (n=2), and they never considered upgrading their entire system as an option (n=2). Not all respondents answered this question.

The evaluation team also asked participants what benefits they experienced after their tune up. While customers may not fully perceive the benefits, the 38 participants who identified benefits noted increased comfort , energy savings, and improved air-quality most frequently , as shown in Figure 1.

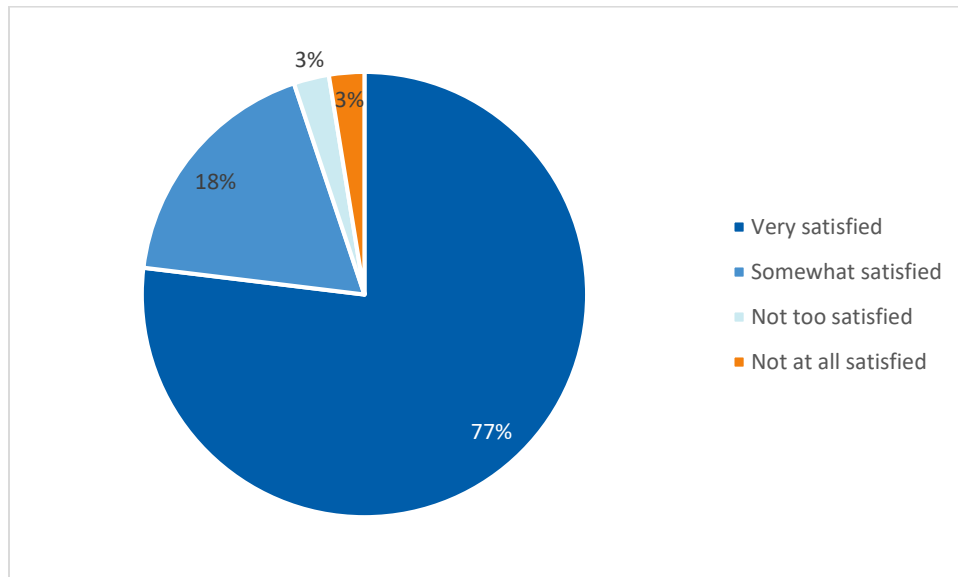
Figure 1. Participant Benefits After Tune Up



Immediate Participant Survey: I9. “Since you received your tune up, what benefits have you noticed? (Check all that apply)?” n=26 and Follow-up Participant Survey: H8. “Since you received your tune up, what benefits have you noticed? (Check all that apply)?” n=33 (Total n=59)

Cadmus also asked participants how satisfied they were with the performance of their system following their tune up. Figure 2 shows that participants were satisfied with their system performance, although they experienced lower satisfaction than did participants with newly installed measures (92% were “very satisfied” and 8% were “somewhat satisfied” with their new equipment).

Figure 2. Satisfaction with System Following Tune Up



Immediate Participant Survey: I7. “How satisfied are you with the performance of your system since the tune up? Are you...?” n=37 and Follow-up Participant Survey: H6. “How satisfied are you with the performance of your system since the tune up? Are you...?” n=41 (Total n=78)

Reasons for dissatisfaction with the system following tune ups, provided by customers who were less than “very satisfied” included the following:

- Problems arising with system performance following the tune up (n=2)
- Not being informed of a way to “save money” (n=1)
- Their system still did not work well (n=1)
- Recommended upgrades were too expensive (n=1)

Participant Experience

Participant Satisfaction

Cadmus asked participants about their satisfaction with their measures, installing contractors, the Heating and Cooling program, and Ameren Missouri. As in the past, participants expressed very high satisfaction levels with all program elements.

Satisfaction with the Measure

Participants continued to express very high satisfaction levels with their measures, with almost all participants responding, “very satisfied” or “somewhat satisfied.” The evaluation team found that participants’ satisfaction had not diminished at the time of the Follow-up Participant Survey, approximately six months after participation.

Overall Satisfaction

Cadmus asked participants about their satisfaction levels with the Heating and Cooling program overall. Similar to PY16, participants expressed very high satisfaction levels with the program. Satisfaction also persisted over time—from immediately after installation to approximately six months after installation (i.e., between the Immediate Participant Survey and the Follow-up Participant Survey). In addition to expressing high satisfaction levels, almost all participants indicated they would recommend the Heating and Cooling program to friends and family members.

Cadmus asked participants about their satisfaction with their contractor. As in PY16, participants expressed very high satisfaction levels with their contractors and the high satisfaction level did not change after six months from the participants’ measure installations.

Satisfaction with Ameren Missouri

Cadmus asked participants about their satisfaction levels with Ameren Missouri as their utility. As in PY16, participants expressed high satisfaction levels with Ameren Missouri as a utility, although their satisfaction with Ameren Missouri was lower than their equipment satisfaction, their contractors, or the Heating and Cooling program. Seventy-three percent of respondents said they were “very satisfied” with Ameren Missouri as a utility, and 26% of participants said they were “somewhat satisfied” with Ameren Missouri. Only 1% of respondents said they were “not too satisfied” (n=1,074).⁴

Reasons for Selecting Specific Equipment

Cadmus asked participants what factors proved most important in selecting the equipment they installed. Cost savings and contractor recommendations were the most important factors, followed by the rebate, equipment reputation, and price.

Reasons for Selecting Heat Pumps

Cadmus asked participants installing HPs why they selected specific HP types. For participants installing air source and geothermal HPs, saving money on utility bills continued to be the most important factor. In PY17, participants selected ductless HPs primarily because they wanted a HP to save money on utility bills (six of 10 respondents), whereas in PY17, most participants (nine of 16) indicated that they selected a ductless HP because they wanted a HP, but they did not have the ductwork to install it (in PY17, only

⁴ In PY16, 72% of survey respondents said they were “very satisfied”; 26% of respondents were “somewhat satisfied”; and 1% were “not too satisfied” with Ameren Missouri.

two respondents indicated that they chose a ductless HP for this reason). Otherwise, respondents' reasons for selecting ductless HPs were similar between PY16 and PY17.

Sources of Participant Program Awareness

Cadmus asked program participants how they heard about the Heating and Cooling program. As in PY16 participants heard about the program primarily from their contractors or from a store. As in PY16, PY17 participants also heard about the program from Ameren Missouri, and most frequently cited the following sources:

- Mailings
- Bill statements
- Ameren Missouri's website

A small number of program participants heard about the Heating and Cooling program from television ads or from radio advertisements.

Because most customers learned about the Heating and Cooling program from a contractor, understanding how participants selected the contractors that installed their systems is key to understanding the program marketing process. Consistent with PY16, most participants selected their contractors based on prior experience with that contractor or following a referral from a trusted source. Some participants also selected contractors after seeing marketing materials or after visiting a service that reviews contractors, such as Angie's list.

As in PY16, most customers initially contacted contractors to resolve maintenance issues with existing heating and cooling equipment. In PY17, participants initially contacted their contractors for the following reasons:

- The system had problems
- The system stopped working
- Regular maintenance
- Keeping existing equipment running efficiently
- Learning whether a system needed repairs

In addition to contacting contractors to resolve maintenance issues, participants contacted contractors for other reasons:

- To save money or energy
- To take advantage of the rebate
- Reminded by Ameren Missouri marketing

Notably, the percentage of participants who reported contacting their contractors to save money or energy increased from 29% in PY16 to 41% in PY17.

As in PY16, survey data indicated that contractors served as the primary means for participants to learn about the program, primarily after experiencing maintenance issues. However, as in the past, marketing efforts also served as an important driver to encourage customers to purchase efficient equipment.

Participant Demographics

Cadmus asked participants to provide information about their household characteristics. Per the survey results, over 99% of participants owned the home where their measure was installed, and 77% had a gas water heater.

The team also asked participants about the kind of energy service they received at their homes. Respondents reported 81% of homes had natural gas and electric service; 16% of homes had only electric service; and 3% of homes had another combination of energy sources.

The team asked participants about the size of their homes. As shown in Table 14, most participants had homes between 1,500 and 2,000 square feet in size.

Table 14. Respondents’ Homes Living Space

Response	Percentage of Respondents*	Count of Response
Less than 1,000 square feet	5%	50
1,000 to less than 1,500 square feet	23%	230
1,500 to less than 2,000 square feet	26%	264
2,000 to less than 2,500 square feet	17%	172
2,500 to less than 3,000 square feet	15%	154
3,000 or more square feet	15%	152
Don't Know	-	49

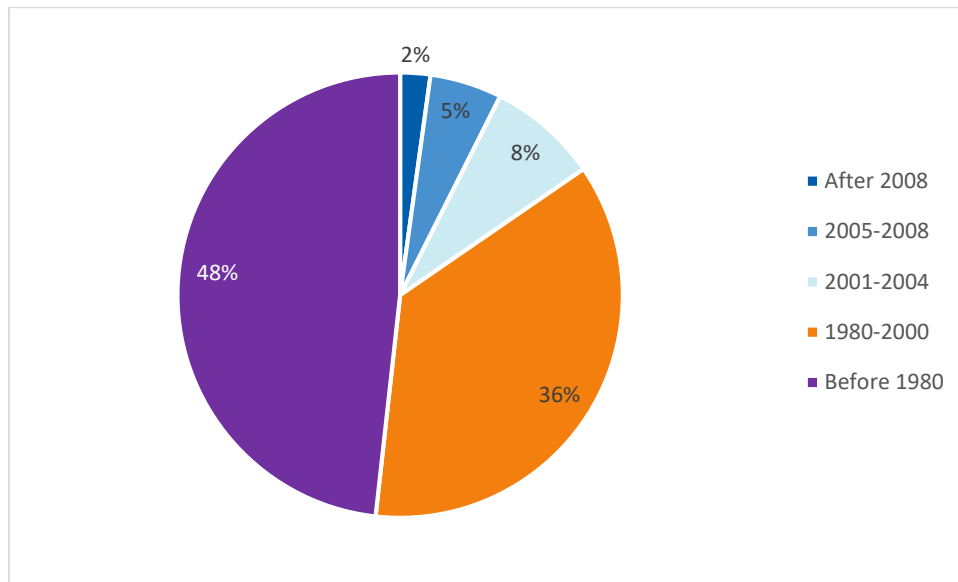
Immediate Participant Survey: D4. “Approximately how many square feet of living space does your home have? Don’t include the basement unless it is a space that you consider “lived in.”?” n=498 and Follow-up Participant Survey: C4.

“Approximately how many square feet of living space does your home have? Don’t include the basement unless it is a space that you consider “lived in.”?” n=524 (Total n=1,022)

* Percentages add up to more than 100% because of rounding.

The team asked participants about their home’s age. Like in PY16 and as shown in Figure 3, most participants lived in homes constructed before 1980, and 85% of participants lived in homes constructed during or before 2000. Only 2% of participants lived in homes constructed after 2008.

Figure 3. Age of Participants' Homes



Immediate Participant Survey: K6. "When was your home built?" n=513 and Follow-up Participant Survey: J6 "When was your home built?" n=538 (Total n=1,051)

Contractor Experience

Overall Experience

All 10 contractors interviewed said they were very satisfied with the program. One contractor said he was highly satisfied because the program had been "receptive to input from contractors;" another said the program was "super easy" to participate in, emphasizing that the online application was helpful.

When asked which program elements worked well, contractors cited the following:

- Customers received their rebate checks without any issues.
- The program was "very good" at listening to contractors and making adjustments according to contractor feedback.
- The program helped to sell more high-efficiency equipment, and helped to increase the contractors' profit margin "with minimal paperwork on the back end."
- The number of participants had increased and participation was "cut and dry."
- Advertisements were effective, and "everyone is pretty aware of the rebates."
- It became easier to track applications than in the past.

Four contractors also provided feedback on what did not work well with the program. One said doing online training each year was not worthwhile; one noted that some small businesses should qualify for the program; one said Ameren Missouri customer accounts were not always current; and one had "some issues with AHRI certificates," saying that equipment with proper efficiency did not always have AHRI certification.

In PY16, several contractors had difficulty finding AHRI certification numbers online, but in PY17 only one contractor expressed this difficulty. The program implementer explained that, in PY17, the program addressed this difficulty by undertaking a “journey-mapping exercise with contractors,” identifying best practices with contractors who had a well-developed approach to finding the numbers; and developing checklists for contractors to help them locate AHRI certificates. The program manager noted that contractors with lower participation levels were more likely to have experienced issues identifying AHRI numbers.

When asked if they had recommendations to improve the program, four of the 10 contractors offered recommendations, including the following:

- Make the program accessible to small businesses.
- Increase rebates for the highest-efficiency equipment.
- Allow customers to process the rebate applications directly.
- Increase marketing about the tune up measures.

Gross Impact Evaluation Results

This section details Cadmus’ determination of each measure’s installation rate and calculations of per-unit savings for Ameren Missouri’s Heating and Cooling program.

Data Tracking Review

Cadmus examined the program tracking database to determine missing measure data and possible duplicate measures. Of the 29,000 measures tracked in the program Cadmus found missing or erroneous inputs recorded for 121 measures, most of these missing inputs (n=87) were missing HSPF⁵ information on air source heat pump measures. Cadmus substituted these missing values with the average input in the measure category (approximately 5% of air source heat pump HSPF’s substituted).

Cadmus found measure adjustments in the program tracking data, and extracted the adjusted measures (marked with a negative one value and corresponding measure) from the program tracking. Cadmus found significant measure adjustment in the program tune up measures data where the program implementer provided measure adjustments to account for tune up activities conducted by program contractors. Cadmus examined unique customer account numbers to verify the number of systems tuned up at each site. Of the 2,900 tune up measures reported, Cadmus determined that 1,250 customers tuned up 1,431 systems. Customers tuned up to three systems.

⁵ HSPF was not a required field for contractors to collect in PY17

Measure Installation Verification

Heating and Cooling program measure savings depends on the installed equipment type and efficiency, and the removed equipment type and efficiency. The program implementer verifies contractor documentation against invoices for existing equipment as part of its quality control process. Cadmus surveyed participants about what type of equipment they had removed or replaced upon installing their new heating or cooling system. Cadmus also asked survey questions to determine the likelihood that the system met the early retirement program requirements⁶ or were replaced on failure. The verification process is discussed further below.

Cadmus applied adjustments to gross energy savings through measure verification rates. While we were unable to verify the specific program requirements of the temperature drop across the coil, we adjusted early retirement participation based upon customer perceptions of the condition of their replaced system.

Heat Pump Baseline Verification

Cadmus found 12 instances of customers indicating that they had replaced equipment other than the equipment specified by the measure name. Nine of these discrepancies were clarified by the program implementer. The remaining discrepancies (3 respondents or 5%) was between an air source heat pump and electric resistance furnace. Common air source heat pumps also include an electric resistance furnace for emergency heating, so an electrical furnace with a central air conditioner appears very similar to an air source heat pump. When the evaluation team found these discrepancies, the team cross-checked survey information with detailed records by the program implementer and incorporated systems with incorrectly identified baselines into the verification rates.

Early Retirement Verification

The program requires contractors to demonstrate that a system achieves a temperature drop across the coil for customers to receive an early retirement rebate. This requires testing by the program contractor that the replaced system produces conditioned air (through a delta-t across the coil). Cadmus used customer surveys to assess the likelihood that systems were functional. Customers were asked if they believed their systems were functional prior to replacement and if they believed their replaced systems were repairable. Two thirds of early retirement customers said they originally contacted their contractors because of problems they were having with their system, while the remaining either called about the rebate, a tune up, or more generally to improve operation. Of early retirement customers, 13% (n=52) did not believe their system could be repaired. Although these systems were categorized as early retirement by the contractors, Cadmus adjusted the verification rate to use customer perceptions

⁶ The program requires existing equipment must produce a delta-t across the indoor coil to qualify for an early retirement rebate.

of the system's condition⁷. We developed an adjustment factor from the customer responses following the decision flowchart shown in Appendix B. Ameren Missouri directed the program implementer to conduct additional quality assurance on early retirement customers. Starting in PY18, contractors are required to record and submit the delta-t to the program, which should improve the ability to verify early retirement systems. The program implementer will verify data submitted as part of its quality assurance process.

After first verifying the early retirement projects, Cadmus asked additional survey questions to determine the program's influence on the decision to replace their system early.⁸ An additional 16% (n=64) of the initially categorized early retirement customers indicated they were not influenced by the program and would have likely replaced their system at the same time. Details of this analysis are provided in the Net Impact Evaluation Results section, below. Combining the early retirement verification analysis with the early retirement program attribution analysis, Cadmus estimates that 70% of CAC participants and 76% of ASHP are verified and program attributable early retirement customers.

Measure installation rates are shown in Table 15. The total number of measures were not changed due to verification rate adjustment. Instead, some early retirement customers were reclassified to replace on fail as a result of the verification survey questions. Verification rates have been rounded.

⁷ The system may have still met the program rule of achieving a temperature drop across the coil. However, because the program didn't require documentation of the temperature drop and because the incentives were different between early retirement and replace at fail, Cadmus considered customer perception of system functionality when determining early retirement.

⁸ Cadmus conducted two levels of free ridership analysis 1) free ridership of early replacement; and 2) free ridership of the high efficiency purchase. In this section we discuss the free ridership of early replacement, i.e. the decision to purchase new equipment of any efficiency resulting from program influence. The decision to choose high efficiency equipment is discussed in the Net Impacts Section, below.

Table 15. Measure Installation

Measure	Surveyed Participants	Verification Rate
Air-Source Heat Pump		
ASHP ER with ASHP 16+ ER	84	108%
ASHP Replace at Fail with ASHP 16+		107%
ASHP SEER 15 ER Elec Resist Furnace ER		95%
ASHP SEER 15 Replace at Fail Elect Resist Furnace		94%
ASHP SEER 15 Replace at Fail Elect Resist Furnace (NC)		100%
ASHP ER with ASHP SEER 15 ER		110%
ASHP Replace at Fail with ASHP SEER 15		111%
ASHP SEER 16+ ER Elec Resist Furnace ER		95%
ASHP SEER 16+ Replace at Fail Elec Resist Furnace		94%
ASHP SEER 16+ Replace at Fail Elec Resist Furnace (NC)		100%
Ductless Air-Source Heat Pump		
Ductless ASHP ER	3	100%
Ductless ASHP Replace Electric Resistance ER		100%
Ductless ASHP ROF		100%
Ductless ASHP Replace Electric Resistance ROF		100%
Dual Fuel Heat Pump		
DFHP SEER 15_SF	2	100%
DFHP SEER 16_SF		100%
DFHP SEER 17+_SF		100%
DFHP SEER 18+_SF		100%
Ground Source Heat Pump		
GSHP SEER 14+ ER ASHP with GSHP ER	1	100%
GSHP SEER 14+ ER Elec Resist Furnace ER		100%
GSHP SEER 14+ Replace Elec Resist Furnace		100%
GSHP - 23 EER ER		100%
GSHP - 23 EER Replace at Fail		100%
Central Air Conditioner		
CAC SEER 14 ER	395	87%
CAC SEER 14 Replace at Fail		559%
CAC SEER 15 ER		87%
CAC SEER 15 Replace at Fail		503%
CAC SEER 16+ ER		87%
CAC SEER 16+ Replace at Fail		1020%

Electronically Commutated Motor (ECM)		
Concept 3 Installations Continuous Fan ER_50	1	100%
Concept 3 Installations Continuous Fan ER_100		100%
Concept 3 Continuous Fan Replace at Fail_50		100%
Concept 3 Continuous Fan Replace at Fail_100		100%
Concept 3 Installations Auto Fan ER_50		100%
Concept 3 Installations Auto Fan ER_100		100%
Concept 3 Installations Auto Fan Replace at Fail_50		100%
Concept 3 Installations Auto Fan Replace at Fail_100		100%
Tune Ups		
HVAC Maintenance and Tune Up SF	36	100%
Indoor Coil Cleaning		100%
Outdoor Coil Cleaning		100%
RCA 10% improvement SF		100%

Measure-Specific Gross Savings

This section outlines the methodology and results for Cadmus' evaluated per-unit savings for the following energy-efficiency measures rebated through PY17:

- ASHPs
- CACs
- ECMs
- DFHPs
- Ductless HPs
- GSHPs
- Tune Ups

The 2017 Ameren Missouri Technical Reference Manual (TRM) identifies separate *ex ante* savings values for HP and CAC measures for replace on burnout, early retirement, and new construction applications. The HP measures identify savings estimates for different baseline scenarios specific to whether the measure replaces another HP or an electric resistance furnace. ECM fan measure TRM values are categorized as either operating continuously or automatically.

Estimated Savings Results

Cadmus calculated energy savings for each measure type offered through the Heating and Cooling program. We calculated gross energy savings for each measure using the equations and inputs outlined in this section and the parameters of each installed measure available in the program tracking database. The team calculates measure savings for program measures individually, resulting in slight variances between average measure savings and the average measure characteristics; the resulting aggregate level parameters are shown in the summary below.

Table 16. Program Average Size & Efficiency of HVAC systems

Measure	Average Tonnage Installed	Average SEER Installed	Average HSPF Installed	Average EER Installed	Average COP Installed
Air-Source Heat Pump					
ASHP ER with ASHP 16+ ER	3.3	17.0	9.5	N/A	N/A
ASHP Replace at Fail with ASHP 16+	3.2	16.7	9.3	N/A	N/A
ASHP SEER 15 ER Elec Resist Furnace ER	2.8	15.1	8.7	N/A	N/A
ASHP SEER 15 Replace at Fail Elect Resist Furnace	3.1	15.1	8.7	N/A	N/A
ASHP SEER 15 Replace at Fail Elect Resist Furnace (NC)	2.9	15.1	8.6	N/A	N/A
ASHP ER with ASHP SEER 15 ER	3.0	15.1	8.7	N/A	N/A
ASHP Replace at Fail with ASHP SEER 15	3.1	15.1	8.7	N/A	N/A
ASHP SEER 16+ ER Elec Resist Furnace ER	3.1	16.7	9.3	N/A	N/A
ASHP SEER 16+ Replace at Fail Elec Resist Furnace	3.6	17.2	9.4	N/A	N/A
ASHP SEER 16+ Replace at Fail Elec Resist Furnace (NC)	3.5	17.3	9.8	N/A	N/A
Ductless Air-Source Heat Pump					
Ductless ASHP ER	1.5	21.5	11.2	N/A	N/A
Ductless ASHP Replace Electric Resistance ER	1.5	23.7	11.3	N/A	N/A
Ductless ASHP ROF	1.4	21.3	10.8	N/A	N/A
Ductless ASHP Replace Electric Resistance ROF	1.5	23.1	11.3	N/A	N/A
Dual Fuel Heat Pump					
DFHP SEER 15_SF	3.2	15.2	8.6	N/A	N/A
DFHP SEER 16_SF	3.4	16.2	9.1	N/A	N/A
DFHP SEER 17+_SF	3.7	18.0	9.6	N/A	N/A
DFHP SEER 18+_SF	3.0	18.0	9.7	N/A	N/A
Ground Source Heat Pump					
GSHP SEER 14+ ER ASHP with GSHP ER	3.9	N/A	N/A	26.6	4.4
GSHP SEER 14+ ER Elec Resist Furnace ER	3.6	N/A	N/A	27.1	4.4
GSHP SEER 14+ Replace Elec Resist Furnace	4.0	N/A	N/A	27.3	4.4
GSHP - 23 EER ER	4.1	N/A	N/A	26.8	4.4
GSHP - 23 EER Replace at Fail	4.1	N/A	N/A	25.9	4.3
Central Air Conditioner					
CAC SEER 14 ER	3.0	14.2	N/A	N/A	N/A
CAC SEER 14 Replace at Fail	3.0	14.2	N/A	N/A	N/A
CAC SEER 15 ER	3.3	15.2	N/A	N/A	N/A
CAC SEER 15 Replace at Fail	3.1	15.2	N/A	N/A	N/A
CAC SEER 16+ ER	3.0	16.4	N/A	N/A	N/A
CAC SEER 16+ Replace at Fail	2.9	16.5	N/A	N/A	N/A

Measure-Specific Per-Unit Savings

Cadmus reviewed the 2017 TRM deemed per-unit savings for all program measures. By comparing these assumptions to the latest data available from the tracking database and PY13 - PY16 metering, the team developed per-unit savings values. The following sections outline each measure’s estimated per-unit savings, along with the algorithm and inputs used.

Air Source Heat Pumps

The team estimated ASHP per-unit savings using the following algorithm:

$$\begin{aligned} \Delta kWh_{ASHP} = & \text{Installed Tons} \\ & \times \left(\frac{\text{Metered kWh Savings Cooling} \times \text{Installed SEER}}{\text{Metered SEER Cooling} \times \text{Metered Tons Cooling}} \right) \\ & + 12 \times \text{Heating EFLH} \times \left(\frac{1}{\text{Baseline HSPF}} - \frac{1}{\text{Installed HSPF}} \right) \end{aligned}$$

Where:

Installed Tons	=	Output capacity of installed ASHP (tons)
Metered kWh Savings Cooling	=	Average cooling savings from PY13 metering (kWh)
Installed SEER	=	SEER rating of the installed ASHP (Btu/Wh)
Metered SEER Cooling	=	SEER rating of the PY13 metered cooling systems (Btu/Wh)
Metered Tons Cooling	=	Output capacity of the PY13 metered cooling systems (tons)
12	=	Conversion constant from tons to kBtu/hr
Heating EFLH	=	Equivalent full-load heating hours
Baseline HSPF	=	HSPF value of the baseline system
Installed HSPF	=	HSPF value of the installed system

Table 17 presents the values for variables Cadmus used to estimate ASHP savings in PY17.

Table 17. ASHP PY17 Savings Variables

Parameter	Ameren Missouri Catalog Name	Value	Source
Metered kWh Savings Cooling	ASHP Early Retirement with ASHP 16+	1,740	PY13 metering study* updated to 8.3SEER calculated baseline
	ASHP Early Retirement with ASHP SEER 15ER	1,740	PY13 metering study* updated to 8.3SEER calculated baseline
	ASHP Replace at Fail with ASHP 16+	334	PY13 metering study* updated with new federal standard
	ASHP Replace at Fail with ASHP SEER 15	334	PY13 metering study* updated with new federal standard
	ASHP SEER 15 Early Retirement Electric Resistance Furnace	1,740	PY13 metering study* updated to 8.33SEER calculated baseline
	ASHP SEER 15 Replace at Fail Electric Resistance Furnace	334	PY13 metering study* updated with new federal standard
	ASHP SEER 15 Replace at Fail Electric Resistance Furnace (New Construction)	334	PY13 metering study* updated with new federal standard
	ASHP SEER 16+ Early Retirement Electric Resistance Furnace	1,740	PY13 metering study* updated to 8.33SEER calculated baseline
	ASHP SEER 16+ Replace at Fail Electric Resistance Furnace	334	PY13 metering study* updated with new federal standard
Metered SEER Cooling	All ASHP	15.2	PY13 metering study*
Metered Tons Cooling	All ASHP	3.1	PY13 metering study*
Heating EFLH	All ASHP	1,496	2016 -2017 AMR Data & HP Metering
Baseline HSPF	ASHP Early Retirement with ASHP 16+	6.58	Estimated based on early retirement SEER. Cadmus data: $HSPF = 0.2675 \times SEER + 4.3475$
	ASHP Early Retirement with ASHP SEER 15	6.58	Estimated based on early retirement SEER. Cadmus data: $HSPF = 0.2675 \times SEER + 4.3475$
	ASHP Replace at Fail with ASHP 16+	8.2	Federal standard
	ASHP Replace at Fail with ASHP SEER 15	8.2	Federal standard
	ASHP SEER 15 Early Retirement Electric Resistance Furnace	3.41	Electric resistance heating efficiency (COP = 1)
	ASHP SEER 15 Replace at Fail Electric Resistance Furnace	3.41	Electric resistance heating efficiency (COP = 1)
	ASHP SEER 15 Replace at Fail Electric Resistance Furnace (New Construction)	8.2	Federal standard
	ASHP SEER 16+ Early Retirement Electric Resistance Furnace	3.41	Electric resistance heating efficiency (COP = 1)
	ASHP SEER 16+ Replace at Fail Electric Resistance Furnace	3.41	Electric resistance heating efficiency (COP = 1)

Parameter	Ameren Missouri Catalog Name	Value	Source
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*The Cadmus Group and Nexant. *Ameren Missouri CoolSavers Impact and Process Evaluation: Program Year 2013*. pp. 40. May 15, 2014. Available online:
<https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewdocument.asp?DocId=935842419>

Central Air Conditioners

Cadmus estimated CAC per-unit savings using the following algorithm:

$$\Delta kWh_{CAC} = \frac{\text{Metered kWh Savings Cooling} * \text{Installed Tons} * \text{Installed SEER}}{\text{Metered SEER Cooling} \times \text{Metered Tons Cooling}}$$

Where:

- Metered kWh Savings Cooling = Average cooling savings from metering (kWh)
- Installed tons = Output capacity of installed ASHP (tons)
- Installed SEER = SEER rating of the installed ASHP (Btu/Wh)
- Metered SEER Cooling = SEER rating of the metered cooling systems (Btu/Wh)
- Metered Tons Cooling = Output capacity of the metered cooling systems (tons)

Table 18 shows the values for variables the team used to estimate CAC savings in PY17.

Table 18. CAC PY17 Savings Variables

Parameter	Ameren Missouri Catalog Name	PY17 Value	Source
Metered kWh Savings Cooling	CAC SEER 14 Early Retirement	1740	PY13 metering study* Updated to 8.3 SEER Baseline
	CAC SEER 14 Replace at Fail	360	PY13 metering study*
	CAC SEER 15 Early Retirement	1740	PY13 metering study* Updated to 8.3 SEER Baseline
	CAC SEER 15 Replace at Fail	360	PY13 metering study*
	CAC SEER 16+ Early Retirement	1740	PY13 metering study* Updated to 8.3 SEER Baseline
	CAC SEER 16+ Replace at Fail	360	PY13 metering study*
Metered SEER Cooling	All CACs	15.20	PY13 metering study*
Metered Tons Cooling	All CACs	3.10	PY13 metering study*

*The Cadmus Group and Nexant. *Ameren Missouri CoolSavers Impact and Process Evaluation: Program Year 2013*. pp. 40. May 15, 2014. Available online:
<https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewdocument.asp?DocId=935842419>

Electronically Commutated Motors

Cadmus used a Wisconsin study⁹ to estimate savings from ECM fans installed through the Heating and Cooling program. ECM fans save energy depending on the mode in which they are operating; heating, cooling or while in circulation mode. Cadmus estimated ECM fan per-unit savings using the following algorithms:

$$\begin{aligned} \Delta kWh_{Auto\ With\ CAC} &= \left(\left(\text{Wisconsin Cooling Savings} \frac{\text{kWh}}{\text{year}} + \text{Cooling Savings All Systems} \right) \right. \\ &\quad \times \frac{\text{Missouri Cooling EFLH}}{\text{Wisconsin Cooling EFLH}} \\ &\quad \left. + \left(\text{Wisconsin Heating Savings kWh/year} \times \frac{\text{Missouri Heating EFLH}}{\text{Wisconsin Heating EFLH}} \right) \right) \\ &\quad - \text{Standby losses} \\ \Delta kWh_{Auto\ Without\ CAC} &= \left((\text{Cooling Savings All Systems}) \times \frac{\text{Cooling EFLH}}{\text{Wisconsin Cooling EFLH}} + \right. \\ &\quad \left. (\text{Wisconsin Heating Savings kWh/year} \times \frac{\text{Heating EFLH}}{\text{Wisconsin Heating EFLH}}) \right) - \text{Standby losses} \\ \Delta kWh_{Continuous\ Fan} &= \left((\text{Wisconsin Cooling Savings kWh/year} \right. \\ &\quad \left. + \text{Cooling Savings All System}) \frac{\text{Cooling EFLH}}{\text{Wisconsin Cooling EFLH}} \right. \\ &\quad \left. \times \text{Wisconsin Heating Savings kWh/year} \times \frac{\text{Heating EFLH}}{\text{Wisconsin Heating EFLH}} \right) \\ &\quad + \text{Wisconsin Circulation Savings kWh/year} - \text{Standby losses} \end{aligned}$$

Where:

Wisconsin Cooling Savings kWh/year	= ECM fan savings during the cooling season in Wisconsin (kWh/year)
Cooling Savings All Systems	= Cooling savings for the fan motor interaction on the cooling compressor (kWh/year)
Cooling EFLH	= Equivalent full-load cooling hours in Missouri
Wisconsin Cooling EFLH	= Equivalent full-load cooling hours in Wisconsin
Wisconsin Heating Savings kWh/year	= ECM fan savings during heating season in Wisconsin (kWh/year)
Heating EFLH	= Equivalent full load heating hours in Missouri

⁹ Energy Center of Wisconsin. *Electricity Use by New Furnaces, A Wisconsin Field Study*. pp. 41. October 2003. Available online: <http://www.proctoreng.com/dnld/WIDOE2013.pdf>

Wisconsin Heating EFLH = Equivalent full load heating hours in Wisconsin

Wisconsin Circulation Savings kWh/year = ECM fan savings while the fan is operating in circulation mode

Standby losses = Standby losses from ECM controls (kWh/year)

ECM fans can reduce fan speeds and power to save energy in three ways:

- Cooling mode savings
- Heating mode savings
- Circulation mode savings

The team calculated heating mode savings using estimates from a Wisconsin study, adjusting savings by estimating the proportion of heating run times in Wisconsin to heating run times in Missouri. For many other measures, the team adjusted the EFLH, based on results from the metering studies and daily AMR analysis described above. However, EFLH values are used as a proportional adjustment to account for climate differences between Wisconsin and Missouri. As comparable EFLH data were not available in Wisconsin, the team used the ENERGY STAR Calculator values for this measure. Table 19 shows variable values the team used to calculate PY17 savings for ECMs.

Table 19. ECM Fans PY17 Savings Variables

Parameter	PY17Value	Source
Wisconsin Cooling Savings kWh/year	70	Secondary source;* however, Cadmus re-weighted the source data to more accurately reflect the actual number of fans operated in continuous mode based on PY13 meter data
Cooling Savings All Systems	25	Additional cooling interaction saving of the ECM fan during the cooling season*
Wisconsin Cooling EFLH	542.5	EPA 2002/ENERGY STAR Calculator**
Wisconsin Heating Savings kWh/year	400	Secondary source*
Wisconsin Heating EFLH	2,545	EPA 2002/ENERGY STAR Calculator**
Wisconsin Circulation Savings kWh/year	2,960	Secondary source;* however, Cadmus weighted this value to more accurately reflect the actual number of fans operated in continuous mode based on PY13 meter data
Standby losses	30	Secondary source;* however, Cadmus weighted this values to more accurately reflect the actual number of fans operated in continuous mode based on PY13 meter data
Saint Louis Heating EFLH	2,009	EPA 2002/ENERGY STAR Calculator**
Saint Louis Cooling EFLH	1,215	EPA 2002/ENERGY STAR Calculator**

*Energy Center of Wisconsin. *Electricity Use by New Furnaces, A Wisconsin Field Study*. pp. 41. October 2003. Available online: <http://www.proctoreng.com/dnld/WIDOE2013.pdf>

**U.S. Environmental Protection Agency and U.S. Department of Energy. "Life Cycle Cost Estimate for 20 ENERGY STAR Qualified Air Source Heat Pump(s)." Excel file. Last updated April 2009. Available online: <https://esearch.energystar.gov/search?utf8=%E2%9C%93&sc=0&query=ashp%20sav%20calc&m=&affiliate=www.energystar.gov&commit=Search>

***The Cadmus Group and Nexant. *Ameren Missouri CoolSavers Impact and Process Evaluation: Program Year 2013*. pp. 40. May 15, 2014. Available online: <https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewdocument.asp?DocId=935842419>

Dual Fuel Heat Pumps

Cadmus estimated per-unit, DFHP savings using the following algorithm:

$$\Delta kWh_{DFHP} = Installed\ Tons \times \left(\frac{Metered\ kWh\ Savings\ Cooling \times Installed\ SEER}{Metered\ SEER\ Cooling \times Metered\ Tons\ Cooling} + 12 \times Heating\ EFLH \times \left(\frac{1}{Baseline\ HSPF} - \frac{1}{Installed\ HSPF} \right) \right)$$

Where:

- Installed Tons = Output capacity of installed DFHPs (tons)
- Metered kWh Savings Cooling = Average cooling savings from PY13 metering (kWh)
- Installed SEER = SEER rating of the installed DFHP (Btu/Wh)
- Metered SEER Cooling = SEER rating of the PY13 metered cooling systems (Btu/Wh)
- Metered Tons Cooling = Output capacity of the PY13 metered cooling systems (tons)

12	=	Conversion constant from tons to kBtu/hr
Heating EFLH	=	Equivalent full-load heating hours
Baseline HSPF	=	HSPF value of the baseline system
Installed HSPF	=	HSPF value of the installed system

Table 20 shows variable values the team used to estimate savings in PY17.

Table 20. DFHP PY17 Savings Assumptions

Parameter	Value	Source
Metered kWh Savings Cooling	334	PY13 metering study* updated with new federal standard
Metered SEER Cooling	15.2	PY13 metering study*
Metered Tons Cooling	3.1	PY13 metering study*
Heating EFLH	1,119	2016 -2017 AMR Data & HP Metering
Baseline HSPF	8.2	Federal standard

* The Cadmus Group and Nexant. *Ameren Missouri CoolSavers Impact and Process Evaluation: Program Year 2013*. pp. 40. May 15, 2014. Available online: <https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewdocument.asp?DocId=935842419>

Ductless Heat Pumps

Cadmus estimated per-unit ductless HPs savings using the following algorithm:

$$\Delta kWh = Installed\ Tons \times \left(\frac{Metered\ kWh\ Savings\ Cooling \times Installed\ SEER}{Metered\ SEER\ Cooling \times Metered\ Tons\ Cooling} + 12 \times Heating\ EFLH \times \left(\frac{1}{Baseline\ HSPF} - \frac{1}{Installed\ HSPF} \right) \right)$$

Where:

Installed Tons	=	Output capacity of installed ductless ASHP (tons)
Metered kWh Savings Cooling	=	Average cooling savings from PY13 metering (kWh)
Installed SEER	=	SEER rating of the installed ductless ASHP (Btu/Wh)
Metered SEER Cooling	=	SEER rating of the PY13 metered cooling systems (Btu/Wh)
Metered Tons Cooling	=	Output capacity of the PY13 metered cooling systems (tons)
12	=	Conversion constant from tons to kBtu/hour
Heating EFLH	=	Equivalent full-load heating hours
Baseline HSPF	=	HSPF value of the baseline system
Installed HSPF	=	HSPF value of the installed system

Table 21 shows variable values that the team used to estimate savings in PY17.

Table 21. Ductless ASHP PY17 Savings Assumptions

Parameter	Ameren Missouri Catalog Name	PY17 Value	Source
Metered kWh Cooling	Ductless ASHP Early Retirement	1,740	PY13 metering study* Updated to 8.3 SEER Baseline
	Ductless ASHP Early Retirement Electric Resistance	1,740	PY13 metering study* Updated to 8.3 SEER Baseline
	Ductless ASHP Replace at Fail Electric Resistance	334	PY13 metering study* updated with new federal standard
	Ductless ASHP Replace at Fail	334	PY13 metering study* updated with new federal standard
Metered SEER Cooling	All Ductless ASHP	15.2	PY13 metering study*
Metered Tons Cooling	All Ductless ASHP	3.1	PY13 metering study*
Heating EFLH	All Ductless ASHP	1,496	Assuming the same full load hours as ASHP**
Baseline HSPF	Ductless ASHP Early Retirement	6.58	Estimated based on early retirement SEER. Cadmus data: HSPF = 0.2675 * SEER + 4.3475
	Ductless ASHP Early Retirement Electric Resistance	3.41	Electric resistance heating efficiency (COP = 1)
	Ductless ASHP Replace at Fail Electric Resistance	3.41	Electric resistance heating efficiency (COP = 1)
	Ductless ASHP Replace at Fail	8.2	Federal standard

* The Cadmus Group and Nexant. *Ameren Missouri CoolSavers Impact and Process Evaluation: Program Year 2013*. pp. 40. May 15, 2014. Available online: <https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewdocument.asp?DocId=935842419>

Geothermal Heat Pumps

Cadmus estimated GSHP per-unit savings using the following algorithm:

$$\Delta kWh = Installed\ Tons \times \left(\frac{Metered\ kWh\ Savings\ Cooling \times Installed\ EER}{Metered\ SEER\ Cooling \times Metered\ Tons\ Cooling} + 12 \times Heating\ EFLH \times \left(\frac{1}{Baseline\ HSPF} - \frac{1}{Installed\ HSPF} \right) \right)$$

Where:

- Installed Tons = Output capacity of installed ASHP (tons)
- Metered kWh Savings Cooling = Average cooling savings from PY13 metering (kWh)
- Installed EER = EER rating of the installed GSHP (Btu/Wh)
- Metered SEER Cooling = SEER rating of the PY13 metered cooling systems (Btu/Wh)
- Metered Tons Cooling = Output capacity of the PY13 metered cooling systems (tons)
- 12 = Conversion constant from tons to kBtu/hour

- Heating EFLH = Equivalent full-load heating hours
- Baseline HSPF = Coefficient of performance (COP) value of the baseline system converted to HSPF (COP/3.412)
- Installed HSPF = COP value of the installed system converted to HSPF (COP*3.412)

Table 22 shows variable values that the team used to estimate savings in PY17.

Table 22. GSHP PY17 Savings Assumptions

Parameter	Ameren Missouri Catalog Name	PY17	Source
Metered kWh Savings Cooling	GSHP - 23 EER Early Retirement	1,740	PY13 metering study* Updated to 8.3 SEER Baseline
	GSHP - 23 EER Replace at Fail	334	PY13 metering study* updated with new federal standard
	GSHP SEER 14+ Early Retirement ASHP with GSHP Electric Resistance	1,740	PY13 metering study* Updated to 8.3 SEER Baseline
	GSHP SEER 14+ Electric Resistance Furnace Early Retirement	1,740	PY13 metering study* Updated to 8.3 SEER Baseline
	GSHP SEER 14+ Replace at Fail Electric Resistance Furnace	334	PY13 metering study* updated with new federal standard
Metered SEER Cooling	All GSHP	15.2	PY13 metering study*
Metered Tons Cooling	All GSHP	3.1	PY13 metering study*
Heating EFLH	All GSHP	2,009	ENERGY STAR calculator for Saint Louis
Baseline HSPF	GSHP - 23 EER Early Retirement	9.55	ICF*** research on installed system types and typical baseline of removed and failed GSHP. Assuming ground loop heat exchange.
	GSHP - 23 EER Replace at Fail	10.58	ICF*** research on installed system types and typical baseline of removed and failed GSHP. Assuming ground loop heat exchange.
	GSHP SEER 14+ Early Retirement ASHP with GSHP Electric Resistance	6.58	ICF*** research on installed system types and typical baseline of removed and failed GSHP. Assuming ground loop heat exchange.
	GSHP SEER 14+ Electric Resistance Furnace Early Retirement	3.41	Electric resistance heating efficiency (COP = 1)
	GSHP SEER 14+ Replace at Fail Electric Resistance Furnace	3.41	Electric resistance heating efficiency (COP = 1)

Tune Up Measures

Cadmus estimated tune up measures using EER improvements found from the previous program evaluations and reported tune up activates conducted. Of 1,250 customers, 168 received tune ups on more than one system (up to three systems). *Ex ante* savings reported by the program included multiple

measures per customer, including HVAC Maintenance and Tune Ups, outdoor coil cleaning, refrigerant charge, and indoor coil cleaning. Contractors also reported measures for which no savings were tracked such as air flow adjustments, air filter replacements, and blower compartment cleaning. Cadmus relied in PY13 and PY15 analysis data to estimate savings for several measure combinations since energy savings for these activities are not strictly additive. Additional details on calculations for tune up measures are in Appendix C.

Table 22 shows variable values that the team used to estimate savings in PY17.

Table 23. Tune Up Savings Summary

Measure	<i>Ex Ante</i> Gross Savings (kWh/Year)	<i>Ex Post</i> Gross Savings (kWh/Year)	Number of Reported Measures	Number of Unique Systems Receiving Tune Ups	<i>Ex Post</i> Measure Savings (kWh/year)
RCA 10% improvement	146,845	104,794	127	1,431	825
Outdoor Coil Cleaning	280,794	315,460	1,300		243
Indoor Coil Cleaning	27,585	30,160	92		328
HVAC Maintenance and Tune Up SF	3,131	4,340	1,431		3
Totals	458,354	454,754	2,950	1,431	N/A

Summary

The realization rates for nearly all measure differed from 100%. In most cases, the difference is due to measure parameters such as installed system size, SEER, HSPF or measure interactions that result in differences from planning values¹⁰. Installed systems that are smaller and less efficient than planned, in a given measure category, have lower realization rates and those larger or more efficient have higher realization rates. Table 24 through Table 30 lists per-unit *ex ante* and *ex post* gross savings by measure. As shown in Table 24, *ex ante* and *ex post* results for ASHP varied between 78% and 119%. For ASHPs, actual unit sizes and efficiency levels varied from the planning values. For the ASHP SEER 15 Replace at Fail Electric Resistance Furnace (NC) with a realization rate of 69%, *ex ante* savings assumed an average equipment size and efficiency of 2.8 tons, 15.3 SEER and 8.9 HSPF, whereas actuals were 2.9 tons, 15.1 SEER and 8.6 HSPF. For the ASHP SEER 15 Replace at Fail Electric Resistance Furnace with a realization rate of 119%, *ex ante* savings assumed an average equipment size and efficiency of 2.8 tons, 15.3 SEER, and 8.9 HSPF, whereas actuals were 3.06 tons, 15.1 SEER and 8.7 HSPF. The replace at fail units also varied due to the increased federal standard from SEER 13 to SEER 14 for the baseline.

¹⁰ Planning values are based on historical evaluated savings.

Table 24. ASHP Summary: Comparison of *Ex Ante* and *Ex Post* Per-Unit Gross kWh Savings

Measure	Ex Ante (kWh/year)	Ex Post (kWh/yr)	Realization Rate
ASHP ER with ASHP 16+ ER	5,406	4,813	89%
ASHP Replace at Fail with ASHP 16+	1,587	1,239	78%
ASHP SEER 15 ER Elec Resist Furnace ER	10,749	10,633	99%
ASHP SEER 15 Replace at Fail Elect Resist Furnace	8,520	10,098	119%
ASHP SEER 15 Replace at Fail Elect Resist Furnace (NC)	820	563	69%
ASHP ER with ASHP SEER 15 ER	4,221	3,638	86%
ASHP Replace at Fail with ASHP SEER 15	820	748	91%
ASHP SEER 16+ ER Elec Resist Furnace ER	12,449	12,335	99%
ASHP SEER 16+ Replace at Fail Elec Resist Furnace	11,348	12,491	110%
ASHP SEER 16+ Replace at Fail Elec Resist Furnace (NC)	1,587	1,698	107%

As shown in Table 25, realization rates for ductless heat pumps varied between 82% and 111%. For the Ductless ASHP ER with a realization rate of 82%, *ex ante* savings assumed an average equipment size and efficiency of 1.7 tons, 21.2 SEER, and 11.4 HSPF, whereas actuals were 1.5, tons, 21.5 SEER, and 11.2 HSPF. For the Ductless ASHP Replace Electric Resistance ER with a realization rate of 111%, *ex ante* savings assumed an average equipment size and efficiency of 1.4 tons, 22.4 SEER and 11.7 HSPF, whereas actuals were 1.5 tons, 23.7 SEER and 11.3 HSPF. The replace at fail units also varied due to the increased federal standard from SEER 13 to SEER 14 for the baseline.

Table 25. Ductless Heat Pump Summary: Comparison of *Ex Ante* and *Ex Post* Per-Unit Gross kWh Savings

Measure	Ex Ante (kWh/year)	Ex Post (kWh/yr)	Realization Rate
Ductless ASHP ER	3,434	2,814	82%
Ductless ASHP Replace Electric Resistance ER	6,204	6,889	111%
Ductless ASHP ROF	927	926	100%
Ductless ASHP Replace Electric Resistance ROF	5,438	5,628	103%

As shown in Table 26, dual fuel heat pump realization rates varied from 36% to 93%. For the 15 SEER measure with a realization rate of 78%, *ex ante* savings assumed an average equipment size and efficiency of 3.4 tons, 16.2 SEER and 9.2 HSPF, whereas actuals were 3.2 tons, 15.2 SEER and 9.7 HSPF. For the 18+ SEER measure with a realization rate of 36%, *ex ante* savings assumed an average equipment size and efficiency of 3.4 tons, 18.3 SEER and 10.5 HSPF, whereas actuals were 3.0 tons and 18.0 SEER and 9.7 HSPF. The replace at fail units also varied due to the increased federal standard from SEER 13 to SEER 14 for the baseline.

Table 26. DFHP Summary: Comparison of *Ex Ante* and *Ex Post* Per-Unit Gross kWh Savings

Measure	Ex Ante (kWh/year)	Ex Post (kWh/yr)	Realization Rate
DFHP SEER 15_SF	755	589	78%
DFHP SEER 16_SF	987	922	93%
DFHP SEER 17+_SF	1,402	1,305	93%

DFHP SEER 18+_SF	3,270	1,162	36%
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As shown in Table 27, GSHP realization rates varied from 92% to 98%. This is due to only slight variations of size and efficiency from planning values and the updated baseline for the replace at fail measure.

Table 27. GSHP Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings

Measure	Ex Ante (kWh/year)	Ex Post (kWh/yr)	Realization Rate
GSHP SEER 14+ ER ASHP with GSHP ER	12,702	11,692	92%
GSHP SEER 14+ ER Elec Resist Furnace ER	25,346	24,500	97%
GSHP SEER 14+ Replace Elec Resist Furnace	23,251	22,729	98%
GSHP - 23 EER ER	7,953	7,800	98%
GSHP - 23 EER Replace at Fail	3,646	3,431	94%

As shown in Table 28, CAC realization rates varied between 95% and 102%. For CACs, actual unit sizes and efficiency levels only slightly varied from the planning values.

Table 28. CAC Summary: Comparison of Ex Ante and Ex Post Per-Unit Gross kWh Savings

Measure	Ex Ante (kWh/year)	Ex Post (kWh/yr)	Realization Rate
CAC SEER 14 ER	1,633	1,551	95%
CAC SEER 14 Replace at Fail	323	320	99%
CAC SEER 15 ER	1,923	1,829	95%
CAC SEER 15 Replace at Fail	342	348	102%
CAC SEER 16+ ER	1,922	1,836	96%
CAC SEER 16+ Replace at Fail	368	361	98%

As shown in Table 29, ECM realization rates varied between 27% and 101%. ECM savings vary from planned values based on the proportion of HP vs CAC in use with the fan and the fan setting of either automatic or continuous mode.

The efficiency level of high efficiency heat pumps already account for ECM fan savings during heating operation, therefore fewer savings are counted from ECM fans when installed with an air source heat pump.

Assuming consistent operation between the old and the new system, continuously operating ECM fans save more energy compared to standard fans than the automatic setting, which only operates while the system is heating or cooling. Contractors note on the application whether the new system is set to operate continuously or automatically. For PY17, Cadmus updated its assumption that automatic fans operated continuously at least a 10% of the time, and used the contractor noted operation instead.

Table 29. ECM Summary: Comparison of *Ex Ante* and *Ex Post* Per-Unit Gross kWh Savings

Measure	Ex Ante (kWh/year)	Ex Post (kWh/yr)	Realization Rate
Concept 3 Installations Continuous Fan ER_50	3,292	3,258	99%
Concept 3 Installations Continuous Fan ER_100	3,466	3,408	98%
Concept 3 Continuous Fan Replace at Fail_50	3,246	3,153	97%
Concept 3 Continuous Fan Replace at Fail_100	3,332	3,380	101%
Concept 3 Installations Auto Fan ER_50	614	292	48%
Concept 3 Installations Auto Fan ER_100	807	467	58%
Concept 3 Installations Auto Fan Replace at Fail_50	458	125	27%
Concept 3 Installations Auto Fan Replace at Fail_100	793	484	61%

As shown in Table 30, tune up measure realization rates varied between 2% and 280%. The overall tune up realization rate was 99% however, and variations among the measures occurred based on individual measure tracking. ICF tracked the HVAC maintenance and tune up measure for every home, but assigned ex ante savings for that measure if it were the only measure installed. Cadmus followed this methodology and allocated ex post savings similarly. Additionally, all homes that received an indoor coil cleaning also received an outdoor coil cleaning. Cadmus allocated all savings for those homes to the less common indoor coil cleaning measure which inflated the apparent savings for that measure. The resulting “average” systems tune up realization rate is 99%.

Table 30. Tune Up Summary: Comparison of *Ex Ante* and *Ex Post* Per-Unit Gross kWh Savings

Measure	Ex Ante (kWh/year)	Ex Post (kWh/yr)	Realization Rate
HVAC Maintenance and Tune Up SF	174	3	2%
Indoor Coil Cleaning	117	328	280%
Outdoor Coil Cleaning	258	243	94%
RCA 10% Improvement SF	856	825	96%
“Average Tune Up”	320	317	99%

Table 31 lists per-unit *ex ante* and *ex post* gross demand reduction by measure. Reasons for differences between ex ante and ex post values are the same as those provided above for per unit energy savings for each measure.

Table 31. PY17 Summary: Comparison of *Ex Ante* and *Ex Post* Per-Unit Gross Demand Reduction

Measure	Ex Ante kW	Ex Post kW	Realization Rate
Air-Source Heat Pump			
ASHP ER with ASHP 16+ ER	2.5	2.2	89%
ASHP Replace at Fail with ASHP 16+	0.7	0.6	78%
ASHP SEER 15 ER Elec Resist Furnace ER	5.0	5.0	99%
ASHP SEER 15 Replace at Fail Elect Resist Furnace	4.0	4.7	119%
ASHP SEER 15 Replace at Fail Elect Resist Furnace (NC)	0.4	0.3	69%
ASHP ER with ASHP SEER 15 ER	2.0	1.7	86%

ASHP Replace at Fail with ASHP SEER 15	0.4	0.3	92%
ASHP SEER 16+ ER Elec Resist Furnace ER	5.8	5.7	99%
ASHP SEER 16+ Replace at Fail Elec Resist Furnace	5.3	5.8	110%
ASHP SEER 16+ Replace at Fail Elec Resist Furnace (NC)	0.7	0.8	107%
Ductless Air-Source Heat Pump			
Ductless ASHP ER	1.6	1.3	82%
Ductless ASHP Replace Electric Resistance ER	2.9	3.2	111%
Ductless ASHP ROF	0.4	0.4	100%
Ductless ASHP Replace Electric Resistance ROF	2.5	2.6	104%
Dual Fuel Heat Pump			
DFHP SEER 15_SF	0.4	0.3	78%
DFHP SEER 16_SF	0.5	0.4	93%
DFHP SEER 17+_SF	0.7	0.6	94%
DFHP SEER 18+_SF	1.5	0.5	36%
Ground Source Heat Pump			
GSHP SEER 14+ ER ASHP with GSHP ER	5.9	5.4	92%
GSHP SEER 14+ ER Elec Resist Furnace ER	11.8	11.4	97%
GSHP SEER 14+ Replace Elec Resist Furnace	10.8	10.6	98%
GSHP - 23 EER ER	3.7	3.6	98%
GSHP - 23 EER Replace at Fail	1.7	1.6	94%
Central Air Conditioner			
CAC SEER 14 ER	1.6	1.5	95%
CAC SEER 14 Replace at Fail	0.3	0.3	98%
CAC SEER 15 ER	1.8	1.7	95%
CAC SEER 15 Replace at Fail	0.3	0.3	103%
CAC SEER 16+ ER	1.8	1.7	96%
CAC SEER 16+ Replace at Fail	0.4	0.3	98%
Electronically Commutated Motor (ECM)			
Concept 3 Installations Continuous Fan ER_50	1.5	1.5	99%
Concept 3 Installations Continuous Fan ER_100	1.6	1.6	98%
Concept 3 Continuous Fan Replace at Fail_50	1.5	1.5	97%
Concept 3 Continuous Fan Replace at Fail_100	1.6	1.6	102%
Concept 3 Installations Auto Fan ER_50	0.3	0.1	47%
Concept 3 Installations Auto Fan ER_100	0.4	0.2	57%
Concept 3 Installations Auto Fan Replace at Fail_50	0.2	0.1	28%
Concept 3 Installations Auto Fan Replace at Fail_100	0.4	0.2	61%
Tune Ups			
HVAC Maintenance and Tune Up SF	0.0	0.0	9%
Indoor Coil Cleaning	0.1	0.2	278%
Outdoor Coil Cleaning	0.1	0.1	94%
RCA 10% Improvement SF 2023	0.4	0.4	96%

To estimate the program’s total gross energy savings, the team applied per-unit values shown in Table 24 to Heating and Cooling PY17 participation rates, as shown in Table 32.

Table 32. PY17 Summary: Ex Post Program Gross Savings Accounting for Installation Rates

Measure	PY17 Participation	Per-Unit Ex Post Savings (kWh/yr)	Percent Installed and Operating	Total Ex Post Savings (MWh/yr)
Air-Source Heat Pump				
ASHP ER with ASHP 16+ ER	261	4,813	108%	1,353
ASHP Replace at Fail with ASHP 16+	41	1,239	107%	55
ASHP SEER 15 ER Elec Resist Furnace ER	475	10,633	95%	4,796
ASHP SEER 15 Replace at Fail Elect Resist Furnace	53	10,098	94%	505
ASHP SEER 15 Replace at Fail Elect Resist Furnace (NC)	59	563	100%	33
ASHP ER with ASHP SEER 15 ER	240	3,638	110%	960
ASHP Replace at Fail with ASHP SEER 15	28	748	111%	23
ASHP SEER 16+ ER Elec Resist Furnace ER	401	12,335	95%	4,700
ASHP SEER 16+ Replace at Fail Elec Resist Furnace	51	12,491	94%	600
ASHP SEER 16+ Replace at Fail Elec Resist Furnace (NC)	43	1,698	100%	73
Ductless Air-Source Heat Pump				
Ductless ASHP ER	9	2,814	100%	25
Ductless ASHP Replace Electric Resistance ER	51	6,889	100%	351
Ductless ASHP ROF	4	926	100%	4
Ductless ASHP Replace Electric Resistance ROF	174	5,628	100%	979
Dual Fuel Heat Pump				
DFHP SEER 15_SF	18	589	100%	11
DFHP SEER 16_SF	14	922	100%	13
DFHP SEER 17+_SF	20	1305	100%	26
DFHP SEER 18+_SF	3	1162	100%	3
Ground Source Heat Pump				
GSHP SEER 14+ ER ASHP with GSHP ER	8	11,692	100%	94
GSHP SEER 14+ ER Elec Resist Furnace ER	20	24,500	100%	490
GSHP SEER 14+ Replace Elec Resist Furnace	92	22,729	100%	2,091
GSHP - 23 EER ER	28	7,800	100%	218
GSHP - 23 EER Replace at Fail	10	3,431	100%	34
Central Air Conditioner				
CAC SEER 14 ER	4,762	1,551	87%	6,427
CAC SEER 14 Replace at Fail	135	320	559%	241
CAC SEER 15 ER	2,258	1,829	87%	3,593
CAC SEER 15 Replace at Fail	73	348	503%	128
CAC SEER 16+ ER	6,154	1,836	87%	9,832
CAC SEER 16+ Replace at Fail	87	361	1020%	320

Electronically Commutated Motor (ECM)				
Concept 3 Installations Continuous Fan ER_50	719	3,258	100%	2,343
Concept 3 Installations Continuous Fan ER_100	50	3,408	100%	170
Concept 3 Continuous Fan Replace at Fail_50	53	3,153	100%	167
Concept 3 Continuous Fan Replace at Fail_100	2	3,380	100%	7
Concept 3 Installations Auto Fan ER_50	8,976	292	100%	2,622
Concept 3 Installations Auto Fan ER_100	646	467	100%	302
Concept 3 Installations Auto Fan Replace at Fail_50	320	125	100%	40
Concept 3 Installations Auto Fan Replace at Fail_100	11	484	100%	5
Tune Ups				
HVAC Maintenance and Tune Up SF	1,431	3	100%	4
Indoor Coil Cleaning	92	328	100%	30
Outdoor Coil Cleaning	1,300	243	100%	315
RCA 10% Improvement SF	127	825	100%	105
Total**	29,299		100.00%	44,089

Net Impact Evaluation Results

Cadmus determined total program net impacts by calculating total gross savings by measure group and then by applying the following:

- Participant Free Ridership
- Participant Spillover
- HVAC NPSO
- NPSO

Cadmus estimated participant free ridership and spillover ratios using participant surveys completed during PY17.

Free ridership equals the percentage of savings that would likely have occurred in a program’s absence. As free rider measures incur program costs but provide none of its benefits, they decrease a program’s net savings.

Participant spillover equals savings that occur when program participants undertake additional energy-efficiency measures or perform energy-efficient activities without receiving financial assistance from the program. Unlike free ridership, spillover savings do not generate program costs; rather, they generate energy-saving benefits which increase net savings.

Similarly, NPSO is a result of program or general energy-efficiency marketing and education that caused nonparticipating customers to undertake additional energy-efficiency measures or perform energy-efficient activities without financial assistance. Cadmus conducted a survey with 2,373 nonparticipating Ameren Missouri customers (from Ameren Missouri’s residential customer database) to assess the

influence of the program on their decision to purchase or implement energy-efficient measures without a program incentive.

To determine nonparticipant spillover specifically attributable to the presence of the Heating and Cooling program (HVAC NPSO), Cadmus surveyed and collected data from HVAC contractors and distributors to compare recent and historical sales data.

To calculate the Heating and Cooling program's NTG, the team used the following formula:

$$NTG = 1 - \text{Freeridership} + \text{Participant Spillover} + \text{HVAC NPSO}$$

Cadmus applied the resulting NTG ratio to the *ex post* gross savings for each program measure to calculate net savings for the program measures, then added the Heating and Cooling program-generated NPSO savings to arrive at total net program savings. Because NPSO is of significant size and does not have the same load shape as the program, we did not include NPSO in the NTG ratio associated with the program, but rather added the net energy and demand impacts separately.

Table 33 presents our estimates of the PY17 program’s net impacts.

Table 33. PY17 Net Impact Results Summary

Measure Group	Ex Post Gross Savings (MWh/yr)	Free Ridership	Participant Spillover	HVAC NPSO	NTG	Net Savings (MWh/yr)**
Air-Source Heat Pump	13,097	13%	0%	0%	87%	11,394
Ductless Air-Source Heat Pump	1360	12%	3%	0%	91%	1,240
Dual Fuel Heat Pump*	53	1%	0%	0%	99%	53
Ground Source Heat Pump*	2,927	6%	1%	0%	95%	2,769
Central Air Conditioner	20,541	22%	0%	0%	78%	16,022
Electronically Commutated Motor*	5,656	7%	1%	0%	94%	5,306
Tune Up	455	32%	0%	0%	68%	309
Nonparticipant Spillover	-	-	-	-	-	5,547
Program Total	44,089	16%	0%	0%	97%	42,640**

*PY16 results used for free ridership and spillover due to low response rate. One ground source heat pump participant, two dual fuel heat pump participants and three ductless heat pump participants completed a survey.

**May not sum due to rounding

***Net savings may not match NTG multiplied by the *ex post* gross savings due to the rounding of NTG estimates.

Free Ridership Results

Equipment

Cadmus used a participant self-report approach to determine free ridership ratios for 467 surveyed participants who chose to install a central air conditioner or air source heat pump program measure. This approach relied on a standard battery of questions focusing on the following key areas:

- Would the participant have installed a high-efficiency replacement without the program incentive?
- How soon would the participant have taken the action with the program rebate?
- Did the program rebate cause the participant to purchase a system with a higher efficiency rating than would have been purchased without the program?
- How important was the program rebate in the participant’s decision to purchase and install a high-efficiency system?
- How important was the advice from the contractor in the participant’s decision to purchase and install the high-efficiency system?

Cadmus applied a free ridership score ranging from 0% to 100% to individual participants based on their cumulative responses to the set of survey questions. Cadmus then averaged individual free ridership scores (weighted by evaluated gross energy savings) to arrive at measure category level free ridership estimates for the program.

Cadmus used the following process for determining a participant’s free ridership score:

- We categorized customers as 0% free riders if:
 - They had no plans to install the measure in the absence of the program’s incentives and would not have installed the measure within one year in the program’s absence;
 - They considered installing the measure before learning about the program, but would not have done so without program incentives; or
 - In the absence of program incentives, they would have purchased or installed less-efficient equipment.
- We categorized customers as 100% free-riders if they had installed the measure before learning about the program, or if they would have installed the same measure at the same time without the program and if they confirmed the program rebate was “not at all important” in their decision to purchase the high efficiency equipment.¹¹
- We assigned a partial free ridership score (ranging from 12.5% to 75%) to customers who already had plans to install the measure, but who said their decisions about which product to purchase or when they would purchase it was influenced by the program. For customers highly likely to install the energy-efficient equipment right away and for whom the program had less influence over their decisions, we assigned a higher free ridership percentage than for those whom the program may not have had as large an influence (or whose purchases may have occurred later in the program’s absence).¹²
- Cadmus applied a 25% reduction to the participant’s free ridership estimate for each “don’t know” response to the key free ridership questions. The free ridership scoring methodology treated “don’t know” responses not as *fully* indicative of free ridership but as *partially* indicative of free ridership.¹³ This is consistent with the State and Local Energy Efficiency Action Network’s Energy Efficiency Program Impact Evaluation Guide, dated December 2012¹⁴ which states that “A participant is a total free rider if he or she would have absolutely installed the same project at the exact same time, at the same price, even if the program did not exist – and they know that”. Accordingly, someone that “doesn’t know” is not a total free rider. If a participant

¹¹ When respondents reported that a contractor was involved in the customer’s purchasing decision a separate free ridership question was asked of participants to rate the importance of the advice from the contractor on their purchasing decision.

¹² The PY16 free ridership analysis applied a 25% decrement to a participant’s free ridership estimate if they answered that the program rebate or the advice from their contractor were “not very important” in their decision to purchase and install the high-efficiency system, while in the PY17 free ridership analysis, Cadmus did not apply a decrement to a participant’s free ridership estimate.

¹³ Applying a 0% reduction for a “don’t know” response does not meet the definition of free ridership, as it clearly does not have as strong an association with free ridership as a response such as “installed to same level efficiency” or “installed around the same time.”

¹⁴ https://www4.eere.energy.gov/seeaction/system/files/documents/emv_ee_program_impact_guide_0.pdf

responded with “don’t know” to four or more of the free ridership questions Cadmus dropped the participant from the free ridership analysis.

After translating survey responses into each participant’s free ridership score, Cadmus calculated an average free ridership estimate, weighted by evaluated savings, for each equipment measure. (Free Ridership Scoring Tables Table 47, shows the conversion of each raw survey-response option into free ridership scoring matrix values, and the free ridership score combinations and scoring legend the team used to categorize customer survey responses for incentive-based measures.)

The team calculated early retirement customers’ free ridership scores using the incremental savings for early retirement multiplied by their early retirement free ridership score. Partial free ridership was not used for the early retirement portion of measure savings. Customers were classified as free riders of early retirement using a decision matrix in Appendix B. The decision matrix classifies customers who were likely to have replaced their system around the same time without influence from the program.

Tune Up

Cadmus modified its free ridership questions for tune up measures because customers are choosing to service existing equipment rather than installing new equipment. Cadmus used the participant self-report approach to determine free ridership ratios for 36 tune up participants. This approach was based on a set of questions that defined whether the participant:

- Already scheduled the tune up before learning about the Ameren Missouri discount.
- Would have purchased a tune up without the \$75 discount.
- Would have purchased a tune up at the same time as they did when they went through the Heating and Cooling program.

We then applied a free ridership score, ranging from 0% to 100%, to all participants individually based on their collective responses to the set of survey questions. Cadmus used the following process for determining a participant’s free ridership score:

- We categorized customers as 0% free riders in the following instances:
 - They did not plan to purchase the tune up in the absence of program incentives, and would not have had the tune up performed within one year, in the program’s absence;
 - In the absence of program incentives, they would have had a tune up performed that did not include a test and report that identifies efficiency of their system and maintenance or replacement conditions; or
 - They would not have had a comparable tune up performed within the same year without the discount.
- We categorized customers as 100% free riders if we determined no differences occurred between the Heating and Cooling Program tune up and the tune up they would have had performed in absence of the Heat and Cooling program, and if they would have purchased a comparable tune up without the discount at the same time.

- We assigned a partial free ridership score (ranging from 12.5% to 75%) to customers saying they already had planned to have a tune up performed, but the program influenced their decision to have the tune up. For customers highly likely to have a comparable tune up performed right away and for whom the program discount had less effect on their decision to schedule a tune up, we assigned a higher free ridership percentage than those whose tune up purchases may have occurred later, in the absence of the Heating and Cooling program discount.

After translating survey responses into each participant’s free ridership score, Cadmus calculated an average free ridership estimate, weighted by evaluated savings, for the tune up measure.

(Free Ridership Scoring Tables, Table 48, shows the conversion of each raw survey-response option into free ridership scoring matrix values, and the free ridership score combinations and scoring legend the team used to categorize customer survey responses for incentive-based measures.)

Free Ridership Results

Table 34 provides PY17 free ridership estimates by measure group.

Table 34. PY17 Heating and Cooling Free Ridership Results

Measure Group	n	Total Weighted Free Ridership Estimate*
Central Air Conditioner	385	22%
Air-Source Heat Pump	82	12%
Tune Up	36	32%

*Estimates are weighted by *ex post* gross program savings.

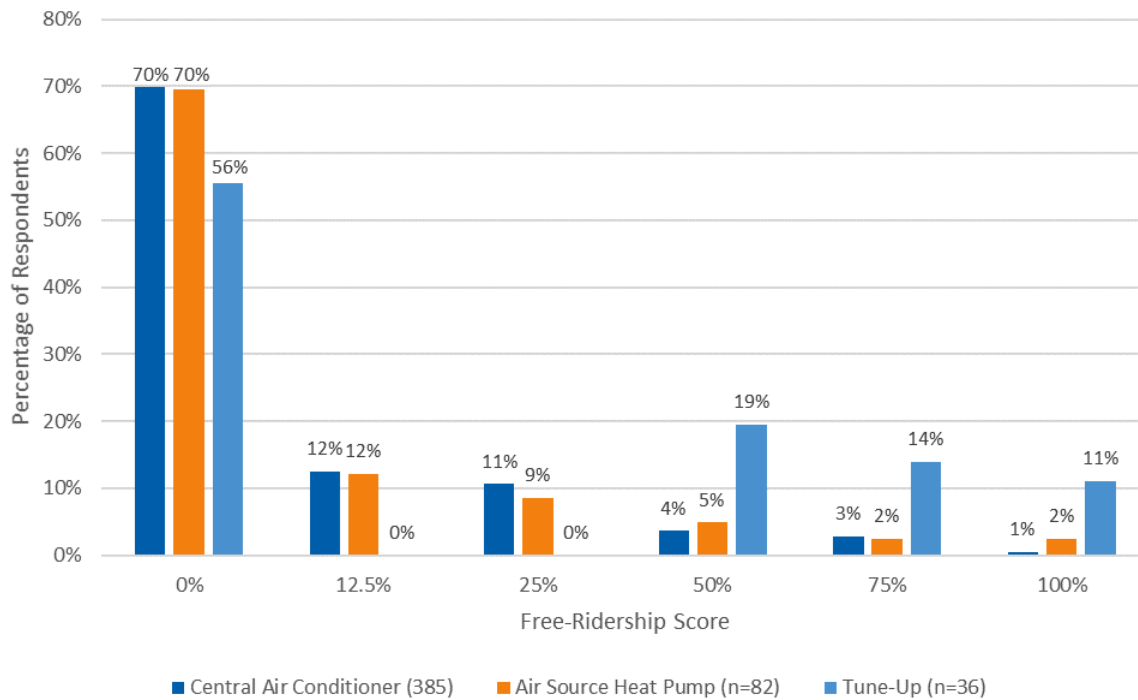
Free Ridership Scoring

Free Ridership Scoring Tables Table 49 to Table 51, contains the full set of free ridership responses for the HVAC measures; free ridership survey response combinations; the free ridership score assigned to each combination; and the number of responses. Responses of “yes,” “no,” or “partial” relate to whether the specific response indicates free ridership.

Distribution of Free Ridership Scores

Figure 4 shows the distribution of assigned free ridership scores by measure. Out of the three measures analyzed in PY17, tune up participants had the lowest percentage (56%) of respondents estimated as 0% free riders and the highest percentage (11%) of respondents estimated as 100% free riders. The central air conditioner and air source heat pump measures had the highest percentage (70%) of respondents estimated as 0% free riders and the central air conditioner measure had the lowest percentage (1%) of respondents estimated as 100% free riders.

Figure 4. Overall Distribution of Free Ridership Scores by Measure



Participant Spillover Results

Cadmus asked respondents whether they had undertaken additional energy-efficient actions since participating in the program. To calculate spillover, we asked them to rate the importance of the following factors on their decisions to purchase additional energy-efficient equipment:

- Receiving funding through Ameren Missouri’s Heating and Cooling program
- Information they heard from Ameren Missouri or their HVAC contractor about the benefits of installing the additional equipment

Six survey respondents reported installing an additional energy-efficient measures after participating in the Heating and Cooling program and said their experience in the program was “very important” to the subsequent decision to purchase high-efficiency equipment rather than a standard-efficiency model.

We estimated energy savings for the participants’ spillover responses, and then divided the total Heating and Cooling program survey sample spillover savings for each program measure group by the survey sample Heating and Cooling program gross program savings, drawn from the survey sample, as described in the following equation:

$$Spillover \% = \frac{\sum[Spillover kWh savings for all program measure group respondents]}{\sum[Program kWh savings for all program measure group respondents]}$$

Table 35 presents the spillover details by program measure group.¹⁵

Table 35. Participant Spillover

Measure Group	Spillover Measure	Participant Spillover kWh/year Savings*	Total Survey Sample Program kWh/year Savings	Spillover %††
Central Air Conditioning	ENERGY STAR Refrigerator	18.5*	140,182	0%
	ENERGY STAR Refrigerator	18.5*		
	ENERGY STAR Refrigerator	18.5*		
	ENERGY STAR Refrigerator	18.5*		
	ENERGY STAR Clothes Washer	17.2**		
	ENERGY STAR Clothes Washer	60.0***		
	Efficient Showerhead	338.4†		

* Deemed savings for ENERGY STAR Refrigerator from the Illinois TRM Version 5.0 Volume 3. Reduced by one half due to high market shares of ENERGY STAR refrigerators.

** Deemed savings for gas water heating and unknown dryer fuel, from the Illinois TRM Version 5.0 Volume 3. Reduced by one half due to high market shares of ENERGY STAR clothes washers.

*** Deemed savings for electric water heating and unknown dryer fuel, from the Illinois TRM Version 5.0 Volume 3. Reduced by one half due to high market shares of ENERGY STAR clothes washers.

† Based on savings calculated for the PY17 Energy Efficient Kits program.

†† Cadmus rounded all participant spillover estimates to the nearest whole percentage for application to net program savings. True value is 0.3%.

Nonparticipant Spillover

Effective program marketing and outreach generates program participation *and* increases general energy-efficiency awareness among customers. Sustained utility program and general marketing can affect customers’ perceptions of their energy usage, and, in some cases, motivate them to take efficiency actions outside of the utility’s program. The energy savings caused by—but not rebated through—a utility’s demand-side management activities are referred to as nonparticipant spillover (NPSO).

During PY17, Ameren Missouri spent \$344,759 to market individual residential efficiency programs (excluding Low Income and Home Energy Report).¹⁶ To understand whether Ameren Missouri’s program-specific marketing efforts generated energy-efficiency improvements outside of the incentive programs, Cadmus implemented a large online survey of PY17 nonparticipating residential customers. While this survey has been implemented annually since PY13, the PY17 version garnered the greatest number of respondents. Moreover, the PY17 version updated the questions asking why respondents took efficiency actions to include several predefined responses for respondents to select, such as “to

¹⁵ No spillover activity was attributed to Ameren by air source heat pump or tune-up respondents, and participant spillover estimates for the measure groups are 0%.

¹⁶ The Home Energy Report program is evaluated using billing analysis, which accounts for both program savings and spillover savings. Thus, it is excluded from this NPSO analysis.

save money,” or “like the style.” Compared with the PY16 version, which asked respondents to provide open-ended responses, the PY17 version reduces uncertainty around the interpretation of responses.

Methodology

Survey Sampling and Disposition

As a departure from the phone surveys conducted during previous program years, Cadmus and Ameren Missouri agreed to administer an online survey (see Appendix D) to most efficiently increase the number of survey completes. Sample design relied on analysis of the PY16 survey results to determine the sample size necessary to achieve 90/10 confidence/precision in PY17.

Out of 198 survey respondents in PY16, six (or 3%) reported like measures that qualified for NPSO. Based on this result, Cadmus estimated that 3% of all nonparticipants in the population adopted like measures with $\pm 2\%$ absolute precision at 90% confidence. We also analyzed confidence/precision around NPSO savings for each type of like measure. Individual measures’ absolute precision values varied from $\pm 31\%$ to $\pm 41\%$. Based on stakeholders’ desire for higher precision at the measure level for nonparticipant spillover, Cadmus estimated a sample size of approximately 2,244 needed to achieve more-reliable precision values for NPSO overall and, to the extent predictable, for individual measures. It is hard to determine precision predictions for individual measures before conducting the survey.

From Ameren Missouri’s entire residential customer base, Cadmus selected customers who did not participate in any Ameren Missouri programs in PY17 (including the Home Energy Report program); these 731,725 customers served as the nonparticipant survey population.¹⁷ From this population, the evaluation team randomly selected 62,500 customers for the sample, assuming a conservative response rate (about 4%) would achieve the quota of completes. The team mailed postcard invitations, asking customers to enter a web address that would take them to the online survey administered through Qualtrics (an online survey software vendor). To thank customers for completing the survey, the team entered them into a drawing for one of five \$100 Visa gift cards. If customers expressed interest in completing the survey but did not have access to a computer linked with the Internet, the team arranged for them to complete the survey over the phone with a Cadmus employee. Within a three-week fielding period, Cadmus achieved the target quota with 2,373 online and 58 phone completes.¹⁸

Like NPSO Measures

The survey asked respondents if they adopted any of 13 energy-efficiency measures offered through Ameren Missouri programs (i.e., the “like” measures shown in Table 36). We excluded all products in the

¹⁷ Cadmus removed invalid or duplicate phone numbers from the sample frame as well as Home Energy Report participants.

¹⁸ About 7% of respondents completing the survey (n=187) self-reported that they participated in an Ameren Missouri program in PY17; so were not counted as part of the 2,431 nonparticipant completes.

Lighting program and most products in the Heating and Cooling program to avoid double-counting NPSO savings captured through those programs’ like NPSO analyses (described in those programs’ reports).

Table 36. PY17 Like Measures

Like Measure
Room Air Conditioner
Room Air Purifier
Pool Pump
Showerhead
Kitchen Faucet Aerator
Bathroom Faucet Aerator
Hot Water Pipe Insulation for your Hot Water Heater
Furnace Fan with ECM (Electronically Commutated Motor)
Filter Whistle
Heat Pump Water Heater
Learning or “Smart” Thermostat
Air Conditioner Tune Up
Heat Pump Tune Up

Customers also could adopt energy-efficiency measures or perform energy-saving actions outside of Ameren Missouri’s PY17 program offerings (i.e., “non-like” NPSO). These were not considered as part of the NPSO estimate.¹⁹

NPSO Qualification Criteria

To confirm a relationship between Ameren Missouri’s energy efficiency programs and measures adopted by nonparticipants, Cadmus created a set of selection criteria and operationalized these into survey questions. To qualify for NPSO savings, respondents had to meet all following criteria (see Appendix E for the NPSO qualification flow charts):

- a) Familiarity with at least one Ameren Missouri program, rebate, or discount.
- b) At least one element of Ameren Missouri’s program marketing and outreach motivated them to adopt the measure.
- c) They had a valid reason for considering the adopted measure energy-efficient.
- d) They had not received a rebate from Ameren Missouri, had not tried to receive a rebate from Ameren Missouri, and stated a valid reason for not applying for an Ameren Missouri measure rebate.
- e) They had a valid reason for deciding to install the measure.

¹⁹ In PY16, the team estimated that non-like NPSO savings equated to 15.1% of the total portfolio evaluated savings. However, in subsequent discussions with stakeholders, Ameren Missouri agreed not to count these savings toward overall spillover estimates in PY17 or future years.

- f) The adopted measure generated electric savings, not gas savings.

For criterion a, respondents had to have seen or heard of Ameren Missouri’s energy efficiency programs, or be aware that Ameren Missouri offered rebates and discounts for energy-saving equipment in customers’ homes.

For criterion b, the team asked respondents to rate the importance of several Ameren Missouri program marketing and outreach elements (shown in Table 37) in motivating them to adopt the spillover measure, rating these “very important,” “important,” “not important,” or “not important at all.” For like measures, the measure in question met criterion b if the respondent found at least one element “very important” or “important” in deciding to adopt the measure.

Table 37. Ameren Missouri Marketing and Outreach Elements for Criterion B

Statement
Information about energy savings from Ameren Missouri’s marketing or bill-inserts
Ameren Missouri’s marketing information from a contractor or retailer
Information from colleagues or friends who installed energy-efficient equipment and received a rebate from Ameren Missouri
If applicable, past participation in an Ameren Missouri rebate program
If applicable, information from a home energy assessment conducted through Ameren Missouri

Criterion c helped ensure that like measures actually generated energy savings. For all measures except air conditioning and heat pump tune ups, the team asked respondents how they knew their product was energy-efficient. Responses passing criterion c included: “It’s ENERGY STAR rated” or “the retailer/dealer/contractor told me it was.” Responses such as “common sense” or “my son” did not pass the criterion.

The team asked whether respondents received a rebate from Ameren Missouri (to double-check that respondents truly did not participate in the program). The team then asked why respondents or their contractor did not apply for a rebate through Ameren Missouri. If respondents reported that they applied for a rebate but did not receive it or that their product or tune up did not qualify, their adopted measure did not pass criterion d. Responses such as “was not aware of rebate” or “Just forgot about it” passed the criterion.

For criterion e, the team asked respondents why they decided to adopt the measure. If the response did not relate to saving energy or saving money, the measure did not pass criterion e. For example, one respondent reported installing a “learning or ‘smart’ thermostat” because it was a “cool gadget.” As this response did not relate to energy efficiency, the measure did not qualify as NPSO.

As the PY17 evaluation covered only electric savings generated by Ameren Missouri’s programs, the team asked respondents for their water heater and heating system fuel types. Reported like measures with water heating and heating end uses satisfied criterion f if the measures had a corresponding electric water heater or electric heat.

Results

Of 2,431 verified nonparticipant respondents, 77 respondents adopted a total of 109 like measures that were not incentivized and passed all six NPSO criteria (see Appendix E). None of these 77 respondents received an incentive from Ameren Missouri for any measure. They were influenced by Ameren Missouri program marketing and outreach, and adopted NPSO measures on their own.

Like NPSO Measures

Table 38 shows like measures and gross evaluated kWh savings attributed to Ameren Missouri, achieving average savings of 189 kWh per like measure (Variable A).

Table 38. PY17 Like NPSO Response Summary

Individual Reported Like Measures	Importance of Ameren Missouri Influence on Adoption	Measure Savings (kWh)*	Allocated Savings	Quantity	Total Allocated kWh Savings	Avg kWh Per Spillover Measure
Heat pump water heater	Somewhat	2,526	50%	1	1,263	Variable A
Hot water pipe insulation for your hot water heater	Very	3	100%	19	48	
Hot water pipe insulation for your hot water heater	Somewhat	3	50%	12	15	
Kitchen faucet aerator	Very	41	100%	4	163	
Kitchen faucet aerator	Somewhat	41	50%	1	20	
Pool pump	Very	1,800	100%	1	1,800	
Room air conditioner	Very	50	100%	1	50	
Room air conditioner	Somewhat	50	50%	1	25	
Room air purifier	Very	578	100%	2	1,156	
Showerhead	Very	59	100%	3	178	
Showerhead	Somewhat	59	50%	1	30	
Air conditioner Tune Up	Very	318	100%	36	11,440	
Air conditioner Tune Up	Somewhat	318	50%	26	4,131	
Heat pump Tune Up	Very	318	100%	1	318	
Total (n=109)					20,637	

*Based on savings calculated for PY17 programs.

Like NPSO Confidence Precision Analysis

As shown in Table 39, the absolute precision—with 90% confidence—for each of nine qualified like measure types was within $\pm 10\%$. For some measure types where the percentage of respondents adopting the measure was 3% or less, Cadmus could not accurately estimate the incidence of these measures within the population. However, we are confident with the proportion of nonparticipants reporting some type of like measure (3% or 77/2,431), which has an absolute precision of $\pm 0.58\%$ with 90% confidence.

Table 39. PY17 Confidence/Precision Results for Like Measures

Like Measure	Number of respondents	Percentage of respondents	Absolute Precision with 90% confidence
Heat pump water heater	1	1%	2%
Hot water pipe insulation for your hot water heater	6	8%	5%
Kitchen faucet aerator	5	6%	5%
Pool pump	1	1%	2%
Room air conditioner	2	3%	3%
Room air purifier	2	3%	3%
Showerhead	3	4%	4%
Air conditioner Tune Up	62	81%	8%
Heat pump Tune Up	1	1%	2%
Total of Respondents Who Reported like Measures	77	3%*	0.58%

*Note that 3% is the proportion of all survey respondents (n = 2,431) who reported like measures, whereas the Proportions for the measure types are out of the respondents who reported like measures (n = 77).

Like NPSO Extrapolation to Nonparticipant Population

To determine total like NPSO generated by Ameren Missouri’s marketing in PY17, Cadmus extrapolated like NPSO savings per like measure (Table 38) to the entire PY17 residential nonparticipant population. Table 40 presents the like NPSO analysis, resulting in like NPSO total evaluated savings of 6,212 MWh portfolio level.

Table 40. PY17 Like NPSO Analysis

Variable	Metric	Value	Source
A	Average kWh Savings per Like Measure	189	Survey Data; PY17 Impact Evaluation
B	Number of Like Measures	109	Survey Data
C	Number of Nonparticipant Respondents	2,431	Survey Disposition
D	Total Residential Population Minus PY17 Participants	731,725	Customer Database
E	Total Like NPSO MWh Savings Applied to Population	6,212	$((B \div C) \times A) \times D / 1000$

Like NPSO savings in PY17 (6,212 MWh) are greater than savings reported in PY16 (5,050 MWh). This is due to two direct factors: the average kWh savings per like measure increased from 176 kWh in PY16 to 189 kWh in PY17, and the average like measure per nonparticipant increased from 0.035 in PY16 to 0.045 in PY17.

Spillover Allocation to Individual Programs

The observed 6,212 MWh of like NPSO equates to 7.6% of the total portfolio evaluated savings. As in previous years, the team allocated the NPSO based on marketing budget and savings for each program. This approach remained consistent with the theory that NPSO resulted from the cumulative effects of program-specific marketing and program activity over a period—not necessarily by a single, program-specific marketing effort. In addition, while NPSO was most commonly associated with mass media marketing campaigns, the scale of program activity also counted as a factor.

For example, even without a significant marketing campaign, a program’s size can drive NPSO through word-of-mouth and in-store program messaging. The team found this approach accurately reflected and attributed NSPO to programs, ensuring those total costs (including marketing) and total benefits (net savings including NPSO) were properly accounted for when assessing overall program cost-effectiveness.

Other alternatives for allocating the observed like NPSO to individual programs included the following:

- **Even Allocation:** The most straightforward approach allocated NPSO evenly across the residential programs (i.e., made a 7.6% adjustment to each program’s NTG). This equaled applying NPSO at the portfolio-level, and, therefore, assumed all programs contributed equally to generating NPSO.
- **“Like” Programs:** Another approach allocated NSPO savings to specific programs, based on the measure that the nonparticipant respondent installed. For example, if a respondent reported installing a smart thermostat, motivated by Ameren Missouri’s marketing. Using this approach, the team assigned NPSO savings associated with the installation to the Efficient Products program.

While this approach established a clear connection between a reported spillover measure and Ameren Missouri’s program (which promoted that measure), the research found this direct measure-program relationship did not prove as straightforward as it appeared. For example, although all 20 respondents reporting like NPSO equipment measures knew of Ameren Missouri programs, only a fifth of them were familiar with the specific program corresponding to the measure they installed.²⁰ This indicated that Ameren Missouri generated NPSO through the cumulative effects of various program-specific marketing efforts, and mapping spillover measures solely to the program offering the specific measure could undervalue the overall impact of cumulative and sustained energy-efficiency messaging.

The allocation approach is based on the combined savings and marketing budget and illustrated in Table 41.

Table 41. PY17 Combined Savings and Marketing Allocation

Program	Program Ex Post Gross Savings (MWh)	Percentage of Portfolio Savings	Program Marketing	Percentage of Total Marketing	Combined Savings & Marketing (AxB)	Percentage of Combined Savings & Marketing
Lighting	22,733	27.7%	\$33,729	9.8%	2.7%	6.9%
Efficient Products	4,732	5.8%	\$50,634	14.7%	0.8%	2.2%
Heating and Cooling	44,089	53.7%	\$225,424	65.4%	35.1%	89.3%
Smart Thermostats	5,224	6.4%	\$27,564	8.0%	0.5%	1.3%
EE Kits	5,367	6.5%	\$7,408	2.1%	0.1%	0.4%
Total	82,144	100%	\$344,759	100%	39%	100%

²⁰ C5 “Are you familiar with the following programs?”

Using the allocation method based on marketing budget and program size, the team distributed the portfolio-level result of 6,212 MWh NPSO to each of Ameren Missouri’s residential programs. As shown in Table 42, the results of this approach reflected each program’s impact on the nonparticipant population, proxied by the combined effect of marketing expenditures and program savings. The Heating and Cooling program achieved 89.3% of the total NPSO, at 5,547 MWh.

Table 42. PY17 NPSO by Program

Program	Program Gross Savings (MWh)	Total NPSO (MWh)	Percentage of Combined Savings/ Marketing	Program-Specific NPSO (MWh)
Lighting	22,733	6,212	6.9%	428
Efficient Products	4,732		2.2%	134
Heating and Cooling	44,089		89.3%	5,547
Smart Thermostats	5,224		1.3%	80
EE Kits	5,367		0.4%	22
Total	82,144		100%	6,212

Heating and Cooling Program-Specific Nonparticipant “Like” Spillover

To understand whether Ameren Missouri’s Heating and Cooling program influenced energy-efficiency heating and cooling equipment market sales (in addition to units sold through the Heating and Cooling program), the team applied the PY13, PY15, PY16, and PY17 distributors’ sales data to estimate overall market shares of energy-efficient HVAC equipment. Additionally, the team interviewed 10 participating PY17 residential Heating and Cooling contractors, seeking to estimate the program’s influence on energy-efficient HVAC equipment sales in 2017.

PY17 Distributor Data

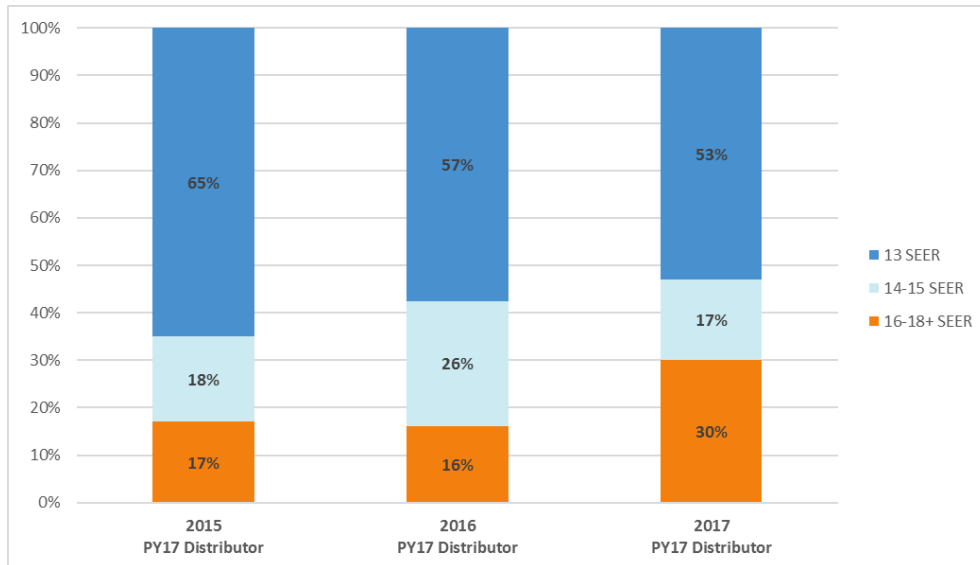
In February 2017, the team collected high-level sales data from four distributors.²¹ As shown in Table 43 and Figure 5, distributor sales data indicated that 13 SEER units’ shares decreased from 65% of overall sales in 2015 to 53% in 2017, while sales of SEER 16 to 18+ increased from 17% in 2015 to 30% in 2017. Between 2016 and 2017, the share of units with SEER ratings from 16 to 18+ increased by 88% (from 16% to 30%).

²¹ The distributors who provided data in PY17 may not overlap with distributors who provided data in PY16. Therefore, the results shown here for 2015 and 2016 may differ from results shown in the *Ameren Missouri HVAC Program Impact and Process Evaluation: Program Year 2016*.

Table 43. Distributor Sales by SEER Level and Year from PY17

SEER	2015 PY17 Distributor	2016 PY17 Distributor	2017 PY17 Distributor
13	65% (n=18,379)	57% (n=16,599)	53% (n=16,305)
14–15	18% (n=5,038)	26% (n=7,629)	17% (n=5,230)
16–18+	17% (n=4,687)	16% (n=4,667)	30% (n=9,421)
Total Yearly HVAC (split ACs and HPs)	100% (n=28,104)	100% (n=28,895)	100% (n=30,956)

Figure 5. Distributor Sales by SEER Level and Year from PY17



Combined Distributor Data (PY13, PY15, PY16, PY17)

For each evaluation in PY13, PY15, PY16, and PY17, Cadmus asked distributors for a few years of historical sales data and for the next year’s sales projections. For example, the PY17 data covers sales from years 2015 to 2017 and projected sales for year 2018. To the extent possible, Cadmus used data collected from all program years’ evaluations to capture year-on-year trends in sales distributions by SEER levels.²² Figure 6 illustrates combined panel data and reveals the following:

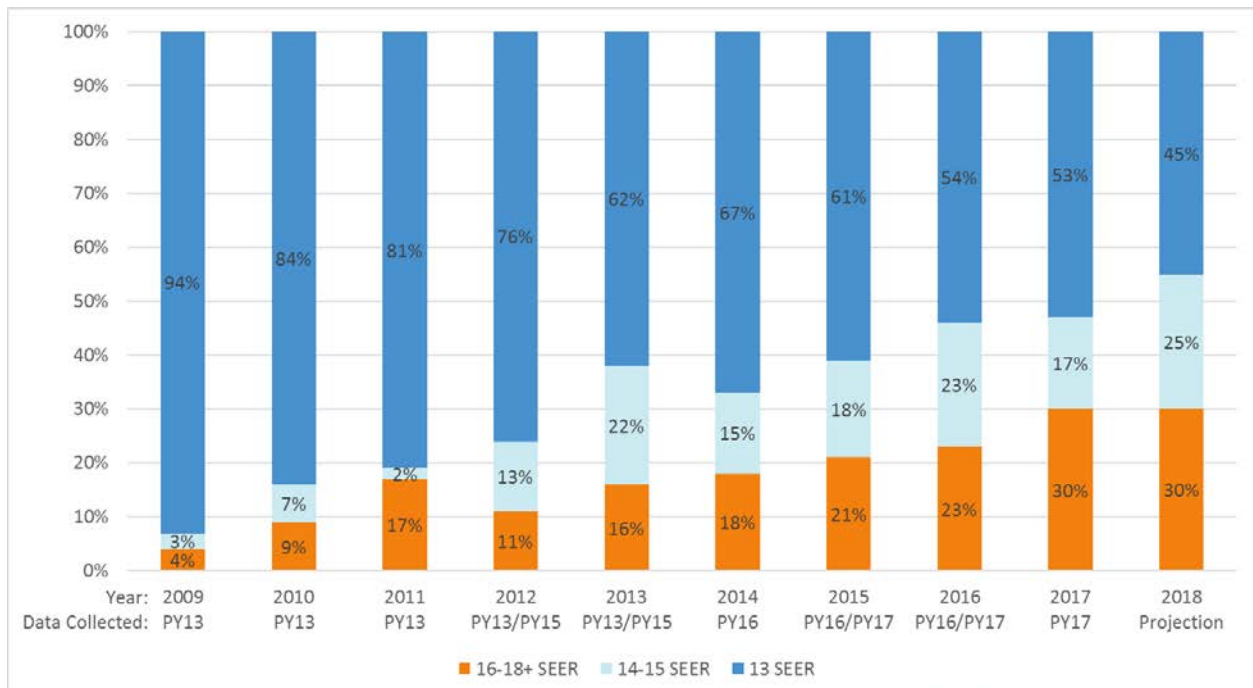
- Sales distribution by SEER level from 2009 through 2017
- Sales distribution by SEER level for 2018, from a linear projection of sales distribution by SEER level from 2009 to 2017²³

²² Cadmus did not include some collected data in the combined panel data. Cadmus did not include distributor-provided projected sales from previous program years. As the distributors providing data in PY15 also provided data in PY16, Cadmus did not use PY15 data for year 2016 to avoid double-counting.

²³ Cadmus received incomplete data from distributors on 2018’s sales projections. As a result, we decided to estimate sales distribution by SEER level for 2018 using the historical combined panel data.

The combined data show the percentage of 13 SEER units decreasing year-over-year, with the maximum 94% market share for 13 SEER units occurring in 2009 and the minimum 53% market share for 13 SEER units occurring in 2016. While the team only used 2017 market shares for PY17 HVAC nonparticipant like spillover (discussed below), results from 2009 through 2017 showed consistent trends, reflecting a slowdown in 2012, when the program was not offered, and increasing program effects for each year that the program continued.

Figure 6. Combined Distributor Data from PY13, PY15, PY16, and PY17 by SEER Level and Year*



*This derives from combining sales data collected in PY13 (n=4,439) from one distributor; in PY15 (n=41,577) from four distributors; in PY16 (n=84,283) from five distributors; and in PY17 (n=122,363) from four distributors. The data cannot be considered representative of Ameren Missouri’s service territory, all distributor types or systems, or all makes and models.

Contractor Data

Cadmus asked contractors to rate the importance of different factors in influencing efficient AC and HP (program and non-program) sales in Ameren Missouri’s service territory. The team asked contractors to assign this importance (on a scale of zero to 100%) for product availability, contractor training, customer education, market, pricing, and any other factors volunteered by the contractor.²⁴ The combined percentages, attributed to all factors, equaled 100% of sales. Factors were defined as follows:

- **Product Availability:** contractors’ ability to order efficient products to sell to their customers.
- **Contractor Training:** efforts to educate technicians and contractors about efficient CACs and HPs to ensure they can assist customers with their residential HVAC purchases.

²⁴ Interviewees did not report any other factors.

- **Customer Education:** efforts—whether local, national, in-person, or via some other channel—to specifically educate consumers about benefits from efficient residential HVAC purchases.
- **Market Factor:** efforts—local or national—aimed at promoting energy-efficient ACs or HPs, such as changes to codes and standard requirements or energy legislation.
- **Pricing Factor:** the effect of efficient equipment prices, relative to lower-efficiency products’ prices.

The team then asked contractors to estimate as a percentage (between zero and 100%) Ameren Missouri’s Heating and Cooling program’s influence on each factor. For example, a contractor might rate the impact of customer education efforts on their energy-efficient AC and HP sales within Ameren Missouri’s service territory at 5% (of 100%) compared to other factors, while the Heating and Cooling program may be responsible for 100% of the customer education within Ameren Missouri’s service territory.

To guide each contractor’s estimation, the team provided contractors with detailed information about Ameren Missouri’s efforts to influence each factor, summarized as follows:

- **Product Availability:** Ameren Missouri’s discounts on energy-efficient residential HVAC equipment, which could cause contractors to request more of these products from distributors (who may, in turn, keep more energy-efficient products in stock).
- **Contractor Training:** Ameren Missouri’s mandatory training to contractors about program processes each year and providing additional voluntary technical training (i.e., AHRI) for contractors throughout the year.
- **Customer Education:** Ameren Missouri’s activities designed to provide customers with a program overview, along with specific available rebates.
- **Market Factor:** Ameren Missouri activities designed to raise awareness of the Residential Heating and Cooling program and of its rebates and tax credits.
- **Pricing Factor:** rebates Ameren Missouri provided to reduce the cost differential between high-efficiency AC and HP equipment and lower-efficiency products.

For each contractor, the team multiplied the relative importance of each factor by the rated program influence, summing the results for each factor to reach an attribution percentage for each contractor. The team then weighted the 10 contractor attribution percentages by their total program sales.

Findings

Cadmus used the same methodology as in PY16 to calculate Heating and Cooling nonparticipant spillover while also varying and updating specific assumptions as discussed further below. Using Ameren Missouri’s total residential customer count and the CAC/HP saturation percentage, Cadmus estimated the market for CAC and HP units replaced annually (assuming burnout occurs linearly throughout the effective useful life [EUL] of all units). As shown in Table 44, the team estimated the PY17 market size for CACs and HPs as approximately 53,691 units. With 15,334 program-incentivized units in 2017, the Heating and Cooling program affected approximately 28% of the overall market for new CACs and HPs.

Table 44. PY17 CAC and HP Market

Line	Input	Value	Source
1	Residential Customers	1,053,593	Provided by Ameren Missouri - November 2017
2	CAC/HP Saturation	91%	GDS Associates. <i>Ameren Missouri Demand-Side Management Market Potential Study</i> . December 30, 2016. Table 8-6.
3	EUL	18	<i>The Missouri Technical Reference Manual Volume 3: Residential Measures</i> . March 31, 2017. p.83.
4	1/EUL (i.e., number of units that die each year)	6%	1/Line 3 (EUL)
5	"Replaceable" Units/Year	53,691	Line 1 * Line 2 * Line 4

To estimate Heating and Cooling nonparticipant like spillover percentage, the team estimated non-program sales of energy-efficient CAC and HP units above 13 SEER. The team also applied contractor interviews’ attribution results to differentiate naturally occurring non-program sales to those influenced by the program. We also calculated estimates based on two scenarios: accounting for the estimated customer shares that have multiple systems (which increases market size), and incorporating the new ASHP federal standard baseline, which decreases the shares of equipment above baseline values. We found that depending on these scenarios the estimated Heating and Cooling nonparticipant spillover hovered around zero, from -1.0% to 0.3%, which is a small range compared to the uncertainty in many of the assumptions. As such, we determined that Heating and Cooling nonparticipant spillover in PY17 is approximately zero.

Benchmarking

Cadmus conducted benchmarking in PY17 to research other program requirements for early retirement and to compare them to Ameren Missouri’s requirement that a temperature drop must be observable across the coil, for a system to qualify as repairable. Other researched program requirements include the following:

- Kansas City Power and Light (KCP&L) - systems in “operating condition and at least 5 years old” and systems with a “maximum nominal SEER for operational rebate is 10”
- Xcel Energy - System must be operating or a repair cost estimate of \$1,500 or less
- Ameren Illinois - System must be operable and have an existing SEER of 10 or less

Key Progress Indicators

Cadmus tracks the following key progress indicators for the Heating and Cooling program:

- Program electric savings
- Number of contractors registered
- Satisfaction with the Heating and Cooling program

- Satisfaction with Ameren Missouri

Table 45 shows the Heating and Cooling program’s key progress metrics for PY16 and PY17. While savings declined slightly in PY17 from PY16, the number of customers participating in the program increased. Also, according to ICF, the number of contractors registered in the program remained similar to PY16²⁵. Participant satisfaction with the program and with Ameren Missouri also remained consistent.

Table 45. Key Progress Indicators

Metric	PY16	PY17
Gross Evaluated Electric Savings (MWh)	44,661	44,089
Number of Contractors registered	456	457
Percentage of participants expressing that they are “very satisfied” with the Heating and Cooling program	88%	88%
Percentage of participants expressing that they are “very satisfied” with Ameren Missouri	72%	73%

Cost-Effectiveness

Ameren Missouri assessed cost-effectiveness using the following five tests, as defined by the California Standard Practice Manual:²⁶

- Total Resource Cost (TRC) Test
- Utility Cost Test (UCT)
- Ratepayer Impact Measure Test (RIM)
- Participant Test (PART)
- Societal Cost Test (SCT)

DSMore takes hourly prices and hourly energy savings from specific measures installed through the Heating and Cooling program, and correlates prices and savings to 33 years of historic weather data. Using long-term weather ensures that the model captures low-probability, high-consequence weather events, and appropriately values these. As a result, the model produces an accurate evaluation of the demand-side efficiency measure relative to other alternative supply options.

Key assumptions include the following:

- Discount Rate = 6.46%
- Line Losses = 5.72%
- Summer Peak would occur during the 16th hour of a July weekday, on average

²⁵ Cadmus can verify the number of contractors who completed at least one application in the program year by reviewing program tracking data. In PY16 Cadmus determined that 398 unique contractors completed at least one project and in PY17 404 contractors completed at least one project.

²⁶ *California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects*. October 2001.

- Avoided Electric costs from the 2014 Integrated Resource Plan (IRP) filing were used for measures delivered between March 1, 2017 and September 28, 2017. Avoided costs from the 2017 IRP that was filed October 1, 2017 were used for all measures delivered on or after October 1, 2017
- Escalation rates for different costs occur at the component level, with separate escalation rates for fuel, capacity, generation, T&D, and customer rates carried out over 25 years

Ameren Missouri used evaluation results as model inputs (e.g., PY17-specific Heating and Cooling program participation counts, per-unit gross savings, NTG, NPSO).

Particularly, measure load shapes drove model assumptions, as indicated when the model should apply savings during the day. This ensured that the load shape for an end use matched the system peak impacts of that end use, and provided the correct summer coincident savings. Ameren Missouri used measure lifetime assumptions and incremental costs based on the program database, the Ameren Missouri TRM, or the original Batch Tool.

A key step in the analysis process required PY17 Ameren Missouri program-spending data: actual spending, broken down into contractor administration, incentives, and marketing costs. Ameren Missouri applied these costs at the program level. Other costs—including R&D, EM&V, Educational Outreach, Portfolio Administration, Potential Study, and Data Tracking—were allocated to programs based upon program benefits. DSMore reports results in 2016 dollars and any inputs and outputs reported by DSMore are discounted from the 2017 spending inputs.

Table 46 summarizes cost-effectiveness findings by test. Any benefit-cost score above 1.0 passed the test as cost-effective. As shown, the Heating and Cooling program passed the UCT, TRC, Societal, and PART tests.

Table 46. Cost-Effectiveness Results (PY17)

Program	UCT	TRC	RIM	SCT	PART
Heating and Cooling	5.11	3.09	0.81	4.09	4.46

Appendix A. End-Use Load Shapes and Coincidence Factors

Appendix E

End-Use Category Energy Load Shapes
 % Energy by Month

Month	Residential End-Use Category Load Shape								
	Building Shell	Cooling	Freezer	HVAC	Lighting	Miscellaneous	Pool Spa	Refrigeration	Water Heating
January	11.1297%	0.1200%	7.9579%	11.1297%	10.1182%	8.4893%	8.6451%	7.7053%	10.3527%
February	9.3077%	0.1100%	7.2518%	9.3077%	8.8441%	7.7366%	7.1145%	7.2169%	9.0720%
March	7.0042%	0.3130%	8.1080%	7.0042%	9.2879%	8.4863%	8.6052%	8.0272%	9.5543%
April	3.7116%	1.5047%	7.9918%	3.7116%	8.4645%	8.2144%	8.0702%	7.8752%	8.4799%
May	4.0888%	6.5410%	8.4083%	4.0888%	7.9393%	8.4847%	8.6052%	8.5646%	8.3600%
June	10.3973%	21.0823%	8.5730%	10.3973%	6.8508%	8.2122%	8.0702%	8.9112%	7.7065%
July	14.0100%	28.4780%	9.6095%	14.0100%	6.7864%	8.4883%	8.6451%	9.4239%	6.7712%
August	13.3207%	27.0766%	9.6095%	13.3207%	7.0565%	8.4840%	8.5653%	9.4212%	6.3688%
September	6.6759%	12.6605%	8.4277%	6.6759%	7.3792%	8.2136%	8.3032%	8.4971%	6.9373%
October	3.7011%	1.8472%	8.2582%	3.7011%	8.4539%	8.4869%	8.6052%	8.5653%	7.9644%
November	5.9593%	0.1444%	7.8465%	5.9593%	8.9880%	8.2122%	8.1088%	7.8717%	8.4752%
December	10.6937%	0.1222%	7.9579%	10.6937%	9.8312%	8.4915%	8.6619%	7.9204%	9.9577%

End-Use Category Energy to Coincident Peak Demand Factors

	Building Shell	Cooling	Freezer	HVAC	Lighting	Miscellaneous	Pool Spa	Refrigeration	Water Heating
	0.0004660805	0.0009474181	0.0001685722	0.0004660805	0.0001492529	0.0001148238	0.0002354459	0.0001285253	0.0000887318

Source: Ameren Missouri 2016-2018 Energy Efficiency Plan. MPSC file number EO-2015-0055
 Appendix E to evaluated energy savings.

Appendix B. Free Ridership Scoring Tables

Table 47 illustrates how initial survey responses are translated into whether the response is “yes,” “no,” or “partially” indicative of free ridership (in parentheses). The value in brackets is the scoring decrement associated with each response option. Each participant free ridership score starts with 100%, which we decrement based on their responses to the eight questions, as show in Table 47. The number of “Don’t know” responses is listed after each freeridership question.

Table 47. Raw Survey Responses Translation to Free Ridership Scoring Matrix Terminology – Equipment Measures

F26. Before you knew about the incentive from Ameren Missouri, were you already planning to install a high-efficiency heat pump this year? (38 Don't Know Responses)	F27. You installed a [MEASUREEFFICIENCY] heat pump. Why did you choose to install this particular system? (0 Don't Know Responses)	F28. Without Ameren Missouri's rebate, would you have installed a high-efficiency heat pump system...? (87 Don't Know Responses)	F29. [IF F28= 1, 2, 98, 99] Would you have installed the same high-efficiency heat pump without the rebate from Ameren Missouri? (74 Don't Know Responses)	F30. [IF F29= 2, 98, 99] Would you have installed a different high-efficiency heat pump without the Ameren Missouri rebate or would you have decided to not purchase one at all? (70 Don't Know Responses)	F31. [IF F30= 1] Without Ameren Missouri's rebate, would you have installed a lower efficiency system, the same efficiency system, or a higher efficiency system? (6 Don't Know Responses)	F32. How important was the Ameren Missouri rebate on your decision to purchase and install the high-efficiency heat pump? (4 Don't Know Responses)	F33. How important was the advice from the contractor in your decision to purchase and install the high-efficiency heat pump? Would you say...? (2 Don't Know Responses)
Yes (Yes) [-0%]	I wanted the cheapest option available (Yes) [-0%]	Around the same time (Yes) [-0%]	Yes (Yes) [-0%]	I would have installed a different high-efficiency air conditioning system (Yes) [-0%]	Lower efficiency (No) [-100%]	Very important (No) [-50%]	Very important (No) [-50%]
No (No) [-50%]	I wanted the most efficient option possible (Yes) [-0%]	Later in the same year (Partial) [-25%]	No (No) [-0%]	I would have decided not to purchase a high-efficiency air conditioning system at all (No) [-100%]	Same efficiency (Yes) [-0%]	Somewhat important (Partial) [-25%]	Somewhat important (Partial) [-25%]
Don't Know (Partial) [-25%]	I researched my options and decided this was the right balance of efficiency and cost (Yes) [-0%]	In one or two years (No) [-100%]	Don't Know (Partial) [-0%]	Don't Know (Partial) [-25%]	Higher efficiency (Yes) [-0%]	Not very important (Yes) [-0%]	Not very important (Yes) [-0%]

F26. Before you knew about the incentive from Ameren Missouri, were you already planning to install a high-efficiency heat pump this year? (38 Don't Know Responses)	F27. You installed a [MEASUREEFFICIENCY] heat pump. Why did you choose to install this particular system? (0 Don't Know Responses)	F28. Without Ameren Missouri's rebate, would you have installed a high-efficiency heat pump system...? (87 Don't Know Responses)	F29. [IF F28= 1, 2, 98, 99] Would you have installed the same high-efficiency heat pump without the rebate from Ameren Missouri? (74 Don't Know Responses)	F30. [IF F29= 2, 98, 99] Would you have installed a different high-efficiency heat pump without the Ameren Missouri rebate or would you have decided to not purchase one at all? (70 Don't Know Responses)	F31. [IF F30= 1] Without Ameren Missouri's rebate, would you have installed a lower efficiency system, the same efficiency system, or a higher efficiency system? (6 Don't Know Responses)	F32. How important was the Ameren Missouri rebate on your decision to purchase and install the high-efficiency heat pump? (4 Don't Know Responses)	F33. How important was the advice from the contractor in your decision to purchase and install the high-efficiency heat pump? Would you say...? (2 Don't Know Responses)
	My contractor convinced me this was the right balance of efficiency and cost (No) [-50%]	After more than three years (No) [-100%]			Don't Know (Partial) [-25%]	Not at all important (Yes) [-0%]	Not at all important (Yes) [-0%]
	I heard Ameren Missouri provided an incentive for this efficiency (No) [-50%]	Don't Know (Partial) [-25%]				Don't Know (Partial) [-25%]	Don't Know (Partial) [-25%]
	It's the same efficiency as my old unit (Yes) [-0%]						
	I wanted something more efficient than my old unit (Yes) [-0%]						
	Don't Know (Partial) [-25%]						

Table 48 illustrates how initial survey responses are translated into whether the response is “yes,” “no,” or “partially” indicative of free ridership (in parentheses). The value in brackets is the scoring decrement associated with each response option. Each participant free ridership score starts with 100%, which we decrement based on their responses to the eight questions, as show in Table 47. The number of “Don’t know” responses is listed after each freeridership question.

Table 48. Raw Survey Responses Translation to Free Ridership Scoring Matrix Terminology – Tune Up Measures

I16. When you first heard of the Ameren Missouri rebate, had you already scheduled your tune up or annual check-up? <i>(1 Don't Know Responses)</i>	I17. [ASK IF I16= 1] To confirm, you scheduled the tune up or check-up and then found out about the Ameren Missouri discount, is that correct? <i>(0 Don't Know Responses)</i>	I18. Did your contractor explain what was different about Ameren Missouri's TEA [Tune Up Plus Efficiency Analysis] from their standard tune up? <i>(10 Don't Know Responses)</i>	I19. [IF I18=1] What did the contractor say was different? (check all that apply) <i>(0 Don't Know Responses)</i>	I20. If the \$75 rebate provided by Ameren Missouri had not been available, what would you have done? <i>(6 Don't Know Responses)</i>	I21. Without the rebate, when would you have had a tune up performed? <i>(3 Don't Know Responses)</i>
Yes (Yes) [-0%]	Yes (Yes) [100% FR]	Yes (Yes) [-0%]	Checked airflow (Yes) [-0%]	Purchased a tune up at full cost (Yes) [-0%]	At the same time (Yes) [-0%]
No (No) [-0%]	No (No) [-0%]	No (Partial) [-0%]	Checked/adjusted refrigerant charge (Yes) [-0%]	Purchased a less in-depth, less expensive tune up (No) [-50%]	Later in the same year (Partial) [-25%]
Don't Know (No) [-0%]	Don't Know (No) [-0%]	Explained there was no difference (No) [-0%]	Cleaned indoor coil (Yes) [-0%]	Don't Know (Partial) [-25%]	In one to two years (No) [-100%]
		Don't Know (No) [-0%]	Cleaned outdoor coil (Yes) [-0%]		More than two years (No) [-100%]
			Includes a test and report that identifies the efficiency of my system and maintenance or replacement recommendations (No) [-100%]		Would not have done at all (No) [-100%]
			It was a more in-depth check of the system (Yes) [-0%]		Don't Know (Partial) [-25%]
			Don't Know (Partial) [-25%]		

Below, we illustrate the unique response combinations from air-source heat pump participants answering the Ameren Missouri Heating and Cooling program free ridership survey questions (actual responses mapped to “yes,” “no,” or “partial,” as indicative of free ridership); the free ridership score assigned to each combination; and the number of responses (see Table 49).

Table 49. Frequency of ASHP Free Ridership Scoring Combinations

FR1. Before you knew about the incentive from Ameren Missouri, were you already planning to install a new [MEASURE] this year?	FR2. You installed a [MEASUREEFFICIENCY] Why did you choose to install this particular unit?	FR3. Without Ameren Missouri's rebate, were you planning to install a [MEASURE] ...?	FR4. [IF FR3 = 1, 2, 98, 99] Were you planning to install the same [MEASURE] without the rebate from Ameren Missouri?	FR5. [IF FR4= 2, 98, 99] Would you have installed a different [MEASURE] without the Ameren Missouri rebate or would you have decided to not purchase one at all?	FR6. [IF FR6= 1] Without Ameren's rebate, would you have installed a lower efficiency system, or a higher efficiency system than the one you installed...?	FR7. How important was the Ameren Missouri incentive on your decision to purchase the [MEASURE]? Would you say...?	FR8. How important was the advice from the contractor in your decision to purchase the [MEASURE]?	FR Score	Count
Yes	Yes	Yes	Yes	x	x	Yes	Yes	100%	2
Yes	Yes	Yes	Yes	x	x	Yes	Partial	75%	2
Yes	Yes	Yes	Yes	x	x	Yes	No	50%	1
Yes	Yes	Yes	Yes	x	x	Partial	Partial	50%	2
Yes	Yes	Yes	Yes	x	x	Partial	No	25%	7
Yes	Yes	Yes	Yes	x	x	No	No	12.5%	1
Yes	Yes	Yes	Partial	Yes	Yes	Yes	No	50%	1
Yes	Yes	Yes	No	Yes	No	x	x	0%	2
Yes	Yes	Partial	Yes	x	x	Partial	No	12.5%	1
Yes	Yes	Partial	Yes	x	x	No	No	0%	1
Yes	Yes	Partial	Partial	Partial	x	No	Partial	0%	1
Yes	Yes	No	x	x	x	x	x	0%	1
Yes	No	Yes	Yes	x	x	Yes	No	12.5%	3
Yes	No	Yes	Yes	x	x	Partial	Partial	12.5%	3
Yes	No	Yes	Yes	x	x	Partial	No	0%	9
Yes	No	Yes	Yes	x	x	No	No	0%	1
Yes	No	Yes	Partial	Yes	Yes	Partial	Partial	12.5%	1
Yes	No	Yes	Partial	Yes	Partial	Partial	No	0%	1
Yes	No	Yes	No	Yes	Yes	No	No	0%	1
Yes	No	Partial	Yes	x	x	Partial	Partial	0%	2
Yes	No	Partial	Yes	x	x	Partial	No	0%	1
Yes	No	Partial	Yes	x	x	No	No	0%	1
Yes	No	Partial	Partial	Partial	x	Partial	No	0%	1
Yes	No	No	x	x	x	x	x	0%	1
Partial	Yes	Yes	Partial	Partial	x	No	No	0%	1
Partial	Yes	No	x	x	x	x	x	0%	1
Partial	No	Yes	Yes	x	x	Partial	No	0%	2
Partial	No	Yes	Partial	Partial	x	Partial	No	0%	1
Partial	No	Yes	No	Yes	No	x	x	0%	1
Partial	No	Partial	Partial	Yes	Yes	Partial	No	0%	1
Partial	No	Partial	No	Yes	No	x	x	0%	1
No	Yes	Yes	Yes	x	x	Partial	Partial	12.5%	1
No	Yes	Yes	Yes	x	x	Partial	No	0%	1
No	Yes	Yes	Partial	Yes	No	x	x	0%	1
No	Yes	Yes	Partial	Partial	x	Partial	Partial	0%	1
No	Yes	Partial	Yes	x	x	Partial	No	0%	1
No	Yes	Partial	Partial	Yes	Partial	No	No	0%	1
No	Yes	Partial	Partial	Partial	x	Partial	No	0%	1
No	Yes	Partial	Partial	Partial	x	No	No	0%	2
No	Yes	Partial	No	No	x	x	x	0%	1
No	Yes	No	x	x	x	x	x	0%	2
No	No	Yes	Yes	x	x	Partial	No	0%	2
No	No	Yes	Yes	x	x	No	Partial	0%	1
No	No	Yes	No	Yes	Yes	No	No	0%	1
No	No	Yes	No	Yes	No	x	x	0%	1
No	No	Yes	No	Yes	No	x	x	0%	1
No	No	Yes	No	Partial	x	No	No	0%	1
No	No	Partial	Yes	x	x	Partial	No	0%	1
No	No	Partial	Partial	Partial	x	Partial	No	0%	1
No	No	No	x	x	x	x	x	0%	7

Below, we illustrate the unique response combinations from central air conditioner participants answering the Ameren Missouri Heating and Cooling program free ridership survey questions (actual responses mapped to “yes,” “no,” or “partial,” as indicative of free ridership); the free ridership score assigned to each combination; and the number of responses (see Table 50).

Table 50. Frequency of CAC Free Ridership Scoring Combinations

FR1. Before you knew about the incentive from Ameren Missouri, were you already planning to install a new [MEASURE] this year?	FR2. You installed a [MEASUREEFFICIENCY] [MEASURE]. Why did you choose to install this particular unit?	FR3. Without Ameren Missouri's rebate, were you planning to install a [MEASURE] ...?	FR4. [IF FR3 = 1, 2, 98, 99] Were you planning to install the same [MEASURE] without the rebate from Ameren Missouri?	FR5. [IF FR4= 2, 98, 99] Would you have installed a different [MEASURE] without the Ameren Missouri rebate or would you have decided to not purchase one at all?	FR6. [IF FR6= 1] Without Ameren's rebate, would you have installed a lower efficiency system, the same efficiency system, or a higher efficiency system than the one you installed...?	FR7. How important was the Ameren Missouri incentive on your decision to purchase the [MEASURE]? Would you say...?	FR8. How important was the advice from the contractor in your decision to purchase the [MEASURE]?	FR Score	Count
Yes	Yes	Yes	Yes	x	x	Yes	Yes	100%	2
Yes	Yes	Yes	Yes	x	x	Yes	Partial	75%	10
Yes	Yes	Yes	Yes	x	x	Yes	No	50%	3
Yes	Yes	Yes	Yes	x	x	Partial	Yes	75%	1
Yes	Yes	Yes	Yes	x	x	Partial	Partial	50%	10
Yes	Yes	Yes	Yes	x	x	Partial	No	25%	21
Yes	Yes	Yes	Yes	x	x	No	Partial	25%	2
Yes	Yes	Yes	Yes	x	x	No	No	12.5%	8
Yes	Yes	Yes	Partial	Yes	Yes	Partial	Partial	50%	1
Yes	Yes	Yes	Partial	Yes	Partial	Partial	No	12.5%	1
Yes	Yes	Yes	Partial	Partial	x	Partial	Partial	25%	3
Yes	Yes	Yes	Partial	No	x	x	x	0%	1
Yes	Yes	Yes	No	Yes	Yes	Partial	No	25%	1
Yes	Yes	Yes	No	Yes	No	x	x	0%	2
Yes	Yes	Yes	No	Partial	x	Partial	No	12.5%	1
Yes	Yes	Yes	No	Partial	x	No	No	0%	3
Yes	Yes	Partial	Yes	x	x	Partial	Partial	25%	2
Yes	Yes	Partial	Yes	x	x	Partial	No	12.5%	3
Yes	Yes	Partial	Yes	x	x	No	No	0%	2
Yes	Yes	Partial	No	Partial	x	Partial	Partial	12.5%	1
Yes	Yes	Partial	No	Partial	x	Partial	No	0%	1
Yes	Yes	Partial	No	Partial	x	No	Partial	0%	1
Yes	Yes	No	x	x	x	x	x	0%	7
Yes	No	Yes	Yes	x	x	Yes	Partial	25%	6
Yes	No	Yes	Yes	x	x	Yes	No	12.5%	14
Yes	No	Yes	Yes	x	x	Partial	Yes	25%	1
Yes	No	Yes	Yes	x	x	Partial	Partial	12.5%	16
Yes	No	Yes	Yes	x	x	Partial	No	0%	29
Yes	No	Yes	Yes	x	x	No	No	0%	19
Yes	No	Yes	Partial	Yes	Yes	Partial	No	0%	1
Yes	No	Yes	Partial	Yes	Partial	Partial	Partial	0%	1
Yes	No	Yes	Partial	Yes	No	x	x	0%	1
Yes	No	Yes	Partial	Partial	x	Partial	Partial	0%	4
Yes	No	Yes	Partial	Partial	x	Partial	No	0%	4
Yes	No	Yes	Partial	Partial	x	No	No	0%	3
Yes	No	Yes	No	Yes	Yes	Yes	Partial	25%	1
Yes	No	Yes	No	Yes	Yes	Partial	No	0%	2
Yes	No	Yes	No	Yes	No	x	x	0%	2
Yes	No	Yes	No	Partial	x	Partial	No	0%	1
Yes	No	Yes	No	No	x	x	x	0%	1
Yes	No	Partial	Yes	x	x	Yes	No	0%	3
Yes	No	Partial	Yes	x	x	Partial	Partial	0%	2
Yes	No	Partial	Yes	x	x	No	No	0%	3
Yes	No	Partial	Yes	x	x	No	No	0%	4
Yes	No	Partial	Partial	Yes	Yes	No	No	0%	1
Yes	No	Partial	Partial	Partial	x	Partial	No	0%	2
Yes	No	Partial	Partial	Partial	x	No	No	0%	1
Yes	No	Partial	No	Yes	No	x	x	0%	1
Yes	No	Partial	No	No	x	x	x	0%	1
Yes	No	No	x	x	x	x	x	0%	21
Partial	Yes	Yes	Yes	x	x	Partial	Partial	25%	1
Partial	Yes	Yes	Partial	Partial	x	Partial	Partial	12.5%	1
Partial	Yes	Yes	No	Partial	x	Partial	No	0%	1
Partial	Yes	Partial	Yes	x	x	No	Partial	0%	1
Partial	Yes	Partial	Partial	Yes	Yes	Yes	No	12.5%	1
Partial	Yes	Partial	Partial	Yes	Yes	Partial	No	0%	1
Partial	Yes	No	x	x	x	x	x	0%	2
Partial	No	Yes	Yes	x	x	Partial	Partial	0%	1
Partial	No	Yes	Yes	x	x	Partial	No	0%	2
Partial	No	Yes	Partial	Yes	Yes	Partial	Partial	0%	1
Partial	No	Yes	Partial	Partial	x	Partial	Partial	0%	1
Partial	No	Yes	Partial	Partial	x	Partial	Partial	0%	1
Partial	No	Yes	Partial	Partial	x	Partial	Partial	0%	1
Partial	No	Yes	Partial	Partial	x	No	Partial	0%	1
Partial	No	Partial	Yes	x	x	No	No	0%	1
Partial	No	Partial	Partial	Partial	x	Partial	No	0%	1

Table 50. Frequency of CAC Free Ridership Scoring Combinations (continued)

FR1. Before you knew about the incentive from Ameren Missouri, were you already planning to install a new [MEASURE] this year?	FR2. You installed a [MEASUREEFFICIENCY] [MEASURE]. Why did you choose to install this particular unit?	FR3. Without Ameren Missouri's rebate, were you planning to install a [MEASURE] ...?	FR4. [IF FR3 = 1, 2, 98, 99] Were you planning to install the same [MEASURE] without the rebate from Ameren Missouri?	FR5. [IF FR4= 2, 98, 99] Would you have installed a different [MEASURE] without the Ameren Missouri rebate or would you have decided to not purchase one at all?	FR6. [IF FR6= 1] Without Ameren's rebate, would you have installed a lower efficiency system, the same efficiency system, or a higher efficiency system than the one you installed...?	FR7. How important was the Ameren Missouri incentive on your decision to purchase the [MEASURE]? Would you say...?	FR8. How important was the advice from the contractor in your decision to purchase the [MEASURE]?	FR Score	Count
Partial	No	Partial	No	Yes	No	x	x	0%	1
Partial	No	Partial	No	Partial	x	No	Partial	0%	1
Partial	No	Partial	No	Partial	x	No	No	0%	1
Partial	No	No	x	x	x	x	x	0%	11
No	Yes	Yes	Yes	x	x	Yes	Partial	25%	1
No	Yes	Yes	Yes	x	x	Yes	No	12.5%	1
No	Yes	Partial	Yes	x	x	Yes	Yes	25%	2
No	Yes	Partial	Yes	x	x	Yes	No	0%	1
No	Yes	Partial	Yes	x	x	Partial	Partial	0%	2
No	Yes	Partial	Yes	x	x	Partial	No	0%	1
No	Yes	Partial	Yes	x	x	No	No	0%	1
No	Yes	Partial	Partial	Yes	Yes	Yes	Partial	12.5%	1
No	Yes	Partial	Partial	Yes	Yes	Partial	Partial	0%	1
No	Yes	Partial	Partial	Yes	Yes	Partial	No	0%	1
No	Yes	Partial	Partial	Partial	x	Partial	Partial	0%	1
No	Yes	Partial	Partial	Partial	x	Partial	No	0%	2
No	Yes	Partial	No	Yes	No	x	x	0%	1
No	Yes	Partial	No	Partial	x	No	No	0%	1
No	Yes	No	x	x	x	x	x	0%	8
No	No	Yes	Yes	x	x	Yes	Partial	0%	1
No	No	Yes	Yes	x	x	Partial	Partial	0%	2
No	No	Yes	Yes	x	x	Partial	No	0%	9
No	No	Yes	Yes	x	x	No	Partial	0%	1
No	No	Yes	Yes	x	x	No	No	0%	4
No	No	Yes	Partial	Yes	Yes	No	No	0%	1
No	No	Yes	Partial	Yes	No	x	x	0%	2
No	No	Yes	Partial	Yes	x	Partial	Partial	0%	1
No	No	Yes	Partial	Partial	x	Partial	No	0%	3
No	No	Yes	No	Yes	Partial	No	No	0%	1
No	No	Yes	No	Yes	No	x	x	0%	1
No	No	Yes	No	Partial	x	No	No	0%	1
No	No	Yes	No	No	x	x	x	0%	2
No	No	Partial	Yes	x	x	Yes	No	0%	3
No	No	Partial	Yes	x	x	Partial	Partial	0%	3
No	No	Partial	Yes	x	x	Partial	No	0%	6
No	No	Partial	Yes	x	x	No	No	0%	2
No	No	Partial	Partial	Yes	Yes	Partial	No	0%	2
No	No	Partial	Partial	Yes	Partial	Yes	No	0%	1
No	No	Partial	Partial	Partial	x	Yes	Yes	0%	1
No	No	Partial	Partial	Partial	x	Yes	No	0%	1
No	No	Partial	Partial	Partial	x	Partial	Partial	0%	3
No	No	Partial	Partial	Partial	x	Partial	No	0%	3
No	No	Partial	Partial	Partial	x	No	Partial	0%	1
No	No	Partial	Partial	Partial	x	No	No	0%	3
No	No	Partial	No	Partial	x	Yes	No	0%	1
No	No	Partial	No	Partial	x	Partial	No	0%	2
No	No	Partial	No	Partial	x	No	No	0%	3
No	No	Partial	No	No	x	x	x	0%	1
No	No	No	x	x	x	x	x	0%	32

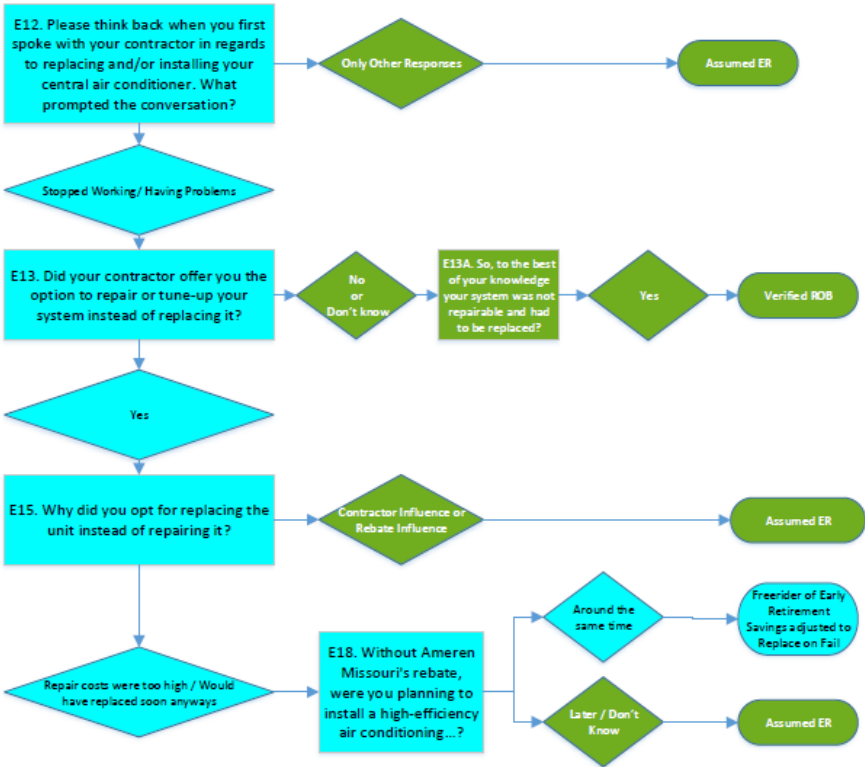
Below, we illustrate the unique response combinations from tune up participants answering the Ameren Missouri Heating and Cooling program free ridership survey questions (actual responses mapped to “yes,” “no,” or “partial,” as indicative of free ridership); the free ridership score assigned to each combination; and the number of responses (see Table 51).

Table 51. Frequency of Tune Up Free Ridership Scoring Combinations

I17. [ASK IF I16= 1]							
I16. When you first heard of the Ameren Missouri rebate, had you already scheduled your tune-up or annual check-up?	To confirm, you scheduled the tune-up or check-up and then found out about the Ameren Missouri discount, is that correct?	I18. Did your contractor explain what was different about Ameren Missouri's TEA [Tune-Up Plus Efficiency Analysis] from their standard tune-up?	I19. [IF I18=1] What did the contractor say was different? (check all that apply)	I20. If the \$75 rebate provided by Ameren Missouri had not been available, what would you have done?	I21. Without the rebate, when would you have had a tune-up performed?	FR Score	Count
Yes	No	Yes	Yes	Yes	Yes	100%	1
Yes	No	Yes	Yes	Partial	Partial	50%	1
Yes	No	Yes	No	Partial	Yes	0%	1
Yes	No	No	x	Yes	Yes	100%	1
Yes	No	No	x	Partial	Yes	75%	1
No	x	Yes	Yes	Yes	Yes	100%	1
No	x	Yes	Yes	Partial	Partial	50%	1
No	x	Yes	No	Yes	Yes	0%	1
No	x	Yes	No	Yes	No	0%	1
No	x	Yes	No	Partial	Partial	0%	1
No	x	No	x	Yes	Yes	100%	2
No	x	No	x	Yes	Partial	75%	1
No	x	No	x	Partial	Yes	75%	2
No	x	No	x	Partial	Partial	50%	5
No	x	No	x	Partial	No	0%	3
No	x	No	x	No	Partial	0%	1
No	x	No	x	No	No	0%	12

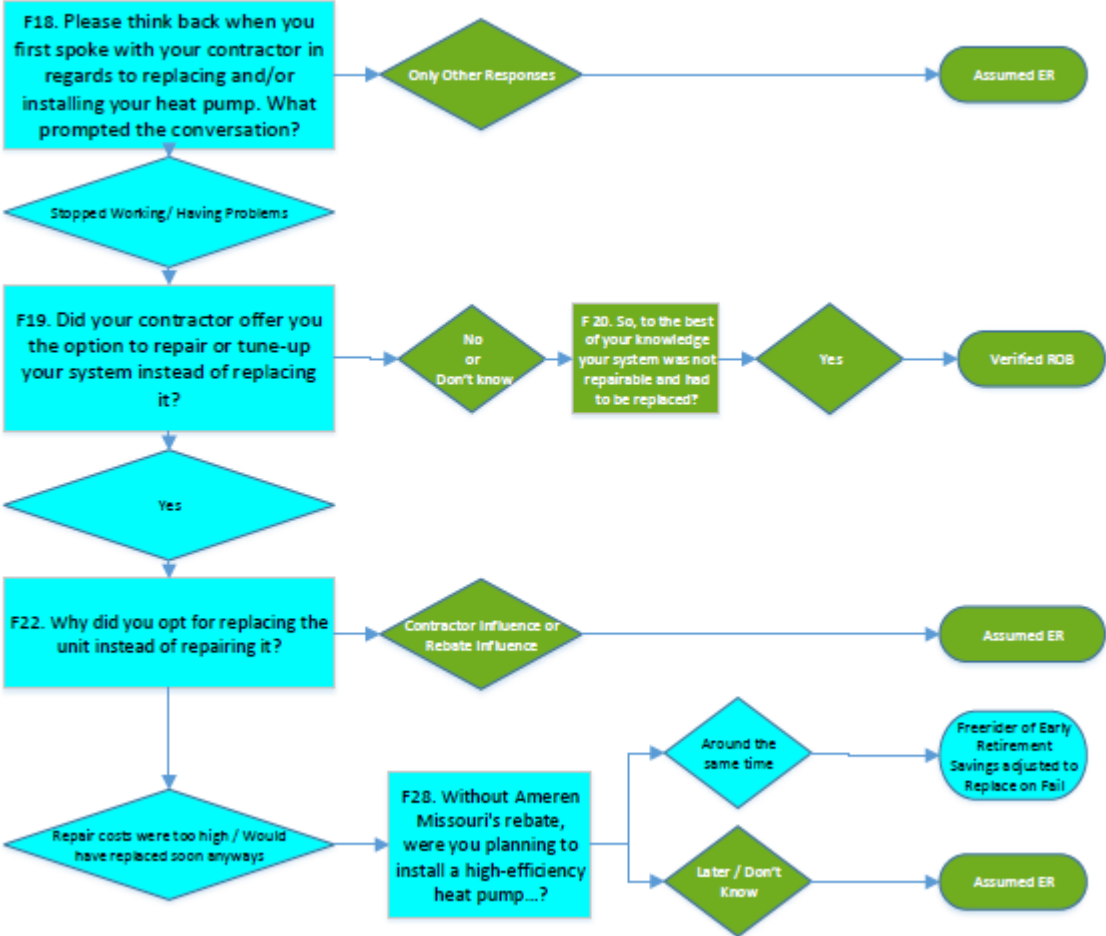
Below illustrates Cadmus categorization of customers who are freeriders of the early retirement incentive for CAC's. Surveyed customers who followed the highlighted path were classified as freeriders and received a decrement equal to the incremental savings over the replace on burnout criteria. Cadmus found 64 customers are freeriders of early retirement.

Figure 7. CAC Early Retirement Free Ridership Decision Matrix



Below illustrates Cadmus categorization of customers who are freeriders of the early retirement incentive for ASHP’s. The same questions were asked of ASHP’s customers as CAC customers. Surveyed customers who followed the highlighted path were classified as freeriders and received a decrement equal to the incremental savings over the replace on fail criteria. Cadmus found 16 ASHP customers are freeriders of early retirement.

Figure 8. ASHP Early Retirement Free Ridership Decision Matrix



Appendix C. Detailed Engineering Data and Development

Early Retirement Baseline Efficiency

The Heating and Cooling program tracking database includes SEER ratings of the replaced unit for new HVAC installation early retirement measures. In past years the database included system age, however this data was not tracked in 2017. Our savings methodology calculates savings from meter data at one-minute time intervals. We required a function that estimates EER at variable outdoor temperature.²⁷ Manufacturer data does not reflect the actual performance of an existing, older unit so the team developed a new estimate of SEER²⁸ to calculate early retirement savings.

The following methodology was developed in the 2013 Heating and Cooling program evaluation and updated in this evaluation.

Step 1: Develop a Performance Curve for Early Retirement Systems

A baseline EER versus temperature curve was developed from Cadmus field study that metered the actual EER versus outdoor temperature of 27 central ACs that were functionally operational and eligible for retirement. We used the following independent methods to determine the steady-state cooling capacity of each unit at one-minute intervals:

- Refrigerant diagnostics and compressor mapping
- Evaporator coil enthalpy differential

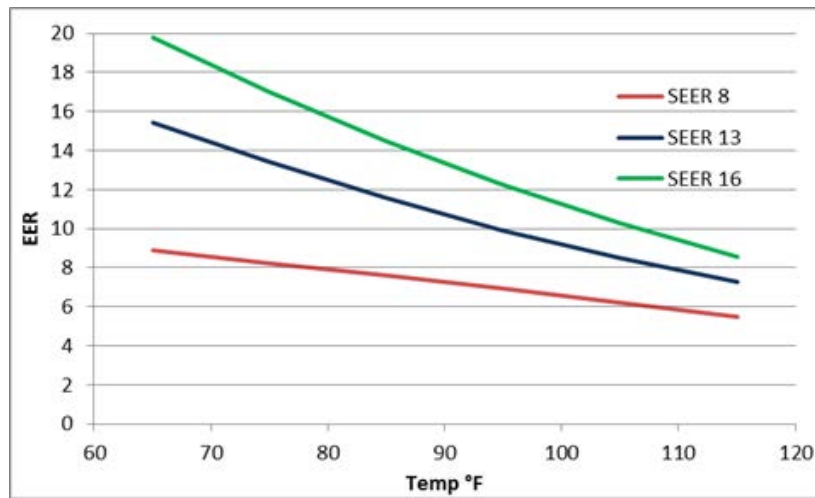
Cadmus plotted the EER of the metered HVAC systems versus outdoor temperature. The resulting curve is more linear than the EER versus temperature curves of high-efficiency systems.²⁹ Figure 9 shows two examples of manufacturer's curves and another example of an average SEER 8 curve from Cadmus' metering study.

²⁷ EER is a measure of system efficiency in cooling output per watt consumed. Standard rated EER is measured at 95F however EER is the standard measure of cooling efficiency at any temperature.

²⁸ SEER is a weighted average EER at multiple test point to estimate the typical cooling efficiency.

²⁹ The Proctor Engineering Group thoroughly reviewed our methods and agreed with the results.

Figure 9. Efficiency Curve Examples



Step 2: Determine the SEER Value of HVAC Systems Replaced

Contractors reported SEER values of the units they replaced. We reviewed the reported SEER values to ensure we were using nameplate SEER ratings. We believed some reported SEER values were estimates that included an assumed degradation; others were guesses or were simply erroneous. We used the following rationale to adjust the reported SEER ratings:

- Prior to 1992 the consensus is the average is around 6 SEER.³⁰ Some contractors reported 10 SEER and we looked at these units specifically (there were only ~20) and changed the value to 6 SEER.
- In 1992 the minimum required SEER rating was set to 10. Therefore, the nameplate SEER rating of units sold from 1992 to 2006 should be no lower than 10. If a value in this range was less than 10 SEER we changed it to 10. If it was above 10 it was left unchanged based on the knowledge that units above the then federal minimum were sold.
- In 2006 the minimum required SEER rating was set to 13. Therefore any rating below 13 SEER for a unit sold after 2006 was set to 13. If it was above 13 it was left unchanged based on the knowledge that units above the then federal minimum were sold.

The average nameplate efficiency rating of all replaced units in the 2017 Heating and Cooling program, as reported by contractors, was 9.7 SEER.

Step 3. Adjust the Performance Curve so it Represents the Replaced HVAC Systems

We determined a degradation of efficiency for estimated age. The CheckMe program verified initial (pre-tune up) efficiency by testing the EER of the unit and correcting it to ARI conditions. The program data also included original (nameplate) efficiency, and equipment age for 3,900 units. These data allow

³⁰ http://www.consumerenergycenter.org/residential/heating_cooling/heating_cooling.html

us to calculate a degradation factor that includes age and maintenance-related degradation. We correlated the nameplate EER (also at ARI conditions) to test-in EER to determine efficiency degradation using the equation:

$$\text{efficiency degradation \%} = \frac{EER_{\text{test-in}}}{EER_{\text{nameplate}}}$$

HVAC systems tested in the CheckMe program averaged degradation of 1.44% per year. Other sources report similar or higher efficiency degradation rates³¹. To ensure the degradation factor was reasonable and conservative, we imposed an empirically-determined limit to the degradation factor for any individual system. Efficiency degradation is typically³² due to reduced capacity. As a system loses capacity (ability to cool) it must run for more hours than an equivalent unit with no degradation. The increase in runtime is inversely proportional to the decrease in capacity (and degradation). We conducted bin temperature analysis of meter data and determined a unit would not operate more than about two-times more than it would if operating at nameplate efficiency. For example, a unit with degradation of 50% that normally operates for 1,000 hours would operate for no more than 2,000 hours.

The 2017 Heating and Cooling program included multiple tune up measures. Neither the tune up nor the early retirement measure precluded participation from units that already have some type of ongoing tune up or maintenance. Any participant who ultimately replaced their system would have been eligible for a tune up incentive. However, if a participant chose to first receive a tune up, but ultimately replaced their system, the program did not claim savings for the tune up. For this reason, the existing operating efficiency is an appropriate baseline.

To calculate early retirement baseline SEER values reported in the 2017 Heating and Cooling program we made the following assumptions:

- The % degradation of nameplate EER also represents the % degradation of nameplate SEER
- HVAC systems in the Heating and Cooling program have equivalent efficiency degradation per year of operation in Ameren Missouri's service territory
- The age of replaced systems follows the same trend as the Check Me program. The Check Me program average system age was 18.7 years is very close to the early retirement reported system age of 18.8 years.

Cadmus applied the degradation factor to the portion of systems by age from the Check Me program to calculate the operating SEER. We calculated the estimated baseline SEER (in Figure 10) as the operating

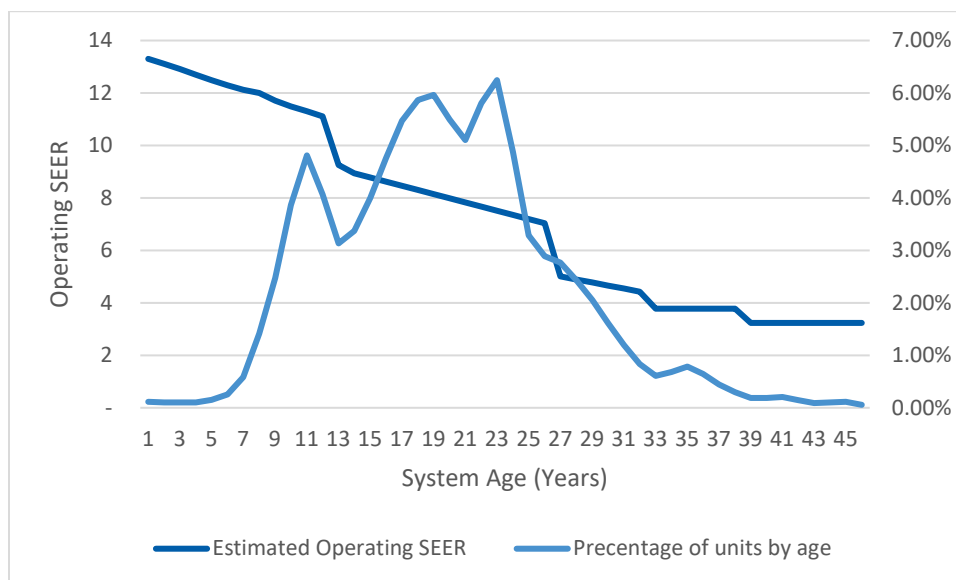
³¹ 1-3%: <https://www.nrel.gov/docs/fy06osti/38238.pdf>

1.1%: <http://www.lincusenergy.com/blog/2012/01/hvac-cooling-and-heating-efficiency-degradation/>

³² Another factor is refrigerant charge. Overcharging can increase power; undercharging can decrease power; both issues can decrease capacity.

SEER weighted by portion of systems. Using these factors, the average early retirement efficiency is 8.33 SEER.

Figure 10. Early Retirement SEER by Age



Step 4. Calculate Savings

In 2013, Cadmus collected meter data from 80 newly installed units. We also developed unit-specific performance functions from manufacturer’s performance data and used the following approach to estimate savings for each metered interval:

$$kWh_i \text{ saved} = \text{metered } kWh_i \times \frac{EER_{efficient}(T)}{EER_{base}(T)} - \text{metered } kWh_i$$

For the units metered, average SEER was 15.1 and cooling capacity was 3.1 tons (37.2 kBtu/h). We found these units consumed 1,892 kWh annually and if replacing an existing system, saved 1,805 kWh per year.

We calculated savings relative to a federal minimum efficiency baseline system (13 SEER) and found 360 kWh. By substituting all known values into the standard cooling savings algorithm:

$$kWh \text{ saved} = FLH_{cool} \times \frac{kBtu}{hr} \times \left(\frac{1}{SEER_{base}} - \frac{1}{SEER_{ee}} \right)$$

we solved for the only unknown variable in the equation (full load cooling hour) and find an EFLH value of 869 hours. Using this full load cooling hour value, we calculate the energy savings of these systems compared to the monitored systems:

$$kWh \text{ saved} = 869 \times 37.2 \frac{kBtu}{hr} \times \left(\frac{1}{8.33} - \frac{1}{15.1} \right) = 1,740 \text{ kWh}$$

To calculate savings for the program systems installed in PY17, Cadmus adjusted the savings value by the ratio of the metered values (e.g. 3.1 tons, 15.1 SEER) to the measure reported parameter values.

Tune Up Measure Savings

Tune Up measures involved multiple tune up activates reported by contractors. The program collects data on these activates;

- Cleaned Condenser
- Cleaned Evaporator Coil
- Cleaned Blower
- Adjusted Airflow
- Replaced Air Filter
- Adjusted Refrigerant Charge

The contractors also record and report the parameters of system performance after the system has received a tune up including outdoor temperature, coil temperature conditions and power draw of the system. The contractor provided data is sufficient to calculate the EER of the system during the test. As a first step in the evaluation Cadmus validated the reported contractor test data to determine this EER value. The program implementer checked the data to flag unreasonable values for program QC purposes. Cadmus checked for additional data entry errors, testing errors and conditions not suitable to verify the efficiency of the tuned up system. Summarized below includes both program implementer and Cadmus validation;

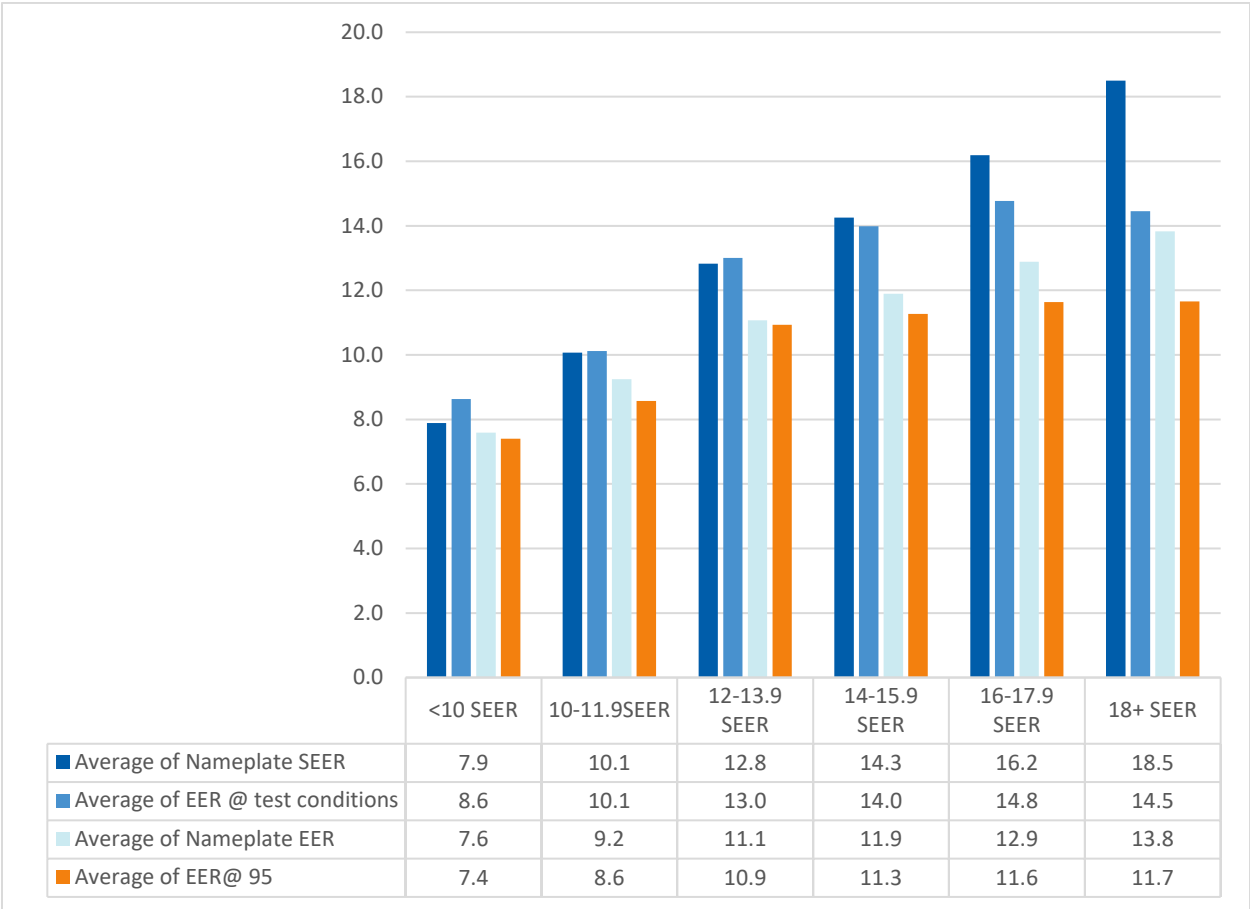
- Is the system recorded fan parameters reasonable?
 - Does the reported airflow fall within the industry standard of 400 CFM/ton?
 - 8% of reported systems were more than 200 CFM/ton from this standard. Due to the installation conditions of the system it may be impossible to reach this standard with a tune up.
 - Is the recorded fan power more than 700W or less than 150W³³ per 1000 CFM?
 - 27% of reported system were outside of this range.
- Are coil conditioners reasonable?
 - Is the reported system cooling capacity within 50% of nameplate capacity?
 - 18% of systems were outside of this range. Since this calculation is sensitive to multiple measurements before and after the coil and precisely calibrated equipment variance is expected.
 - Are reported conditions of the coil possible for an operating system?

³³ Fan Watt Draw and Airflow, Wilcox, Proctor, Chitwood, Nittler 2006
http://www.energy.ca.gov/title24/2008standards/prerulemaking/documents/2006-07-12_workshop/reviewdocs/FAN_WATT_DRAW_AND_AIR_FLOW.pdf

- 13% of system showed impossible humidity or temperature conditions at the condenser coil indicating measurement or input error because the humidity conditions were either too low for an operating system or more than 100% humidity.
- Were the conditions of the test reasonable to estimate operating efficiency?
 - 8% of tests were conducted below 65F or recorded an outdoor temperature above 120F. This does not impact the validity of the tune up, however the outdoor temperature must be above 65F for Cadmus to reliably estimate efficiency.

Cadmus rejected 49% of system tests as invalid as they failed the above data-check. The remaining tests were used to estimate operating EER for those system. We calculated EER during the test and used synthetic EER curves to estimate the EER of systems during the standard test condition of 95F. Since the typical system was tested at conditions cooler than standard test conditions the tested EER was higher than nameplate EER. Extrapolating those tests using the synthetic EER curves shows the test-out EER was slightly lower than nameplate EER. This effect is most noticeable in higher SEER rated systems with 18+ SEER systems operating 15% less efficient than nameplate EER. Figure 11 outlines average nameplate SEER accepted test EER, nameplate EER and extrapolated EER at 95F.

Figure 11. Test out EER comparison



The post tune up data shows systems are operating near their nameplate values. There are some discrepancies among the higher SEER rated systems, however this is expected because high SEER systems achieve their performance through modulating controls not accounted for with single point EER testing.

Savings for tune ups leveraged previous PY13 evaluation data conducted in PY15 to determine % improvements from combinations of tune up activities. Cadmus estimated the EER improvement when contractors cleaned the condenser coil, cleaned the indoor coil, adjusted the refrigerant charge and performed general maintenance (including blower cleaning, airflow adjustments, filter changes). Since tune up activities can have a lower combined interactive effect on each other, the sum of individual activities does not equal total savings. Cadmus binned customers (shown in Table 52) based on predominant tune up activities and the percentage improvements estimated from the evaluation data were applied to calculate savings.

Table 52. EER improvement by Customer

Tune Up Actives	Number of Systems	% EER Improvement
Condenser Coil Cleaning Only	1061	9.3%
Condenser Coil Cleaning and Refrigerant Charge Adjustment plus some general maintenance	113	28%
Condenser Coil Cleaning Plus Indoor Coil Cleaning plus some general maintenance	58	15%
Condenser Coil Cleaning Plus General Maintenance (Cleaned Blower, Adjusted Airflow, Replaced Air Filter)	84	11%
General Maintenance only (Cleaned Blower, Adjusted Airflow, Replaced Air Filter)	72	4.2%
No Tune Up Qualifying Measures Performed (Tested system did not need tuning up)	43	0.0%
Total	1431	10.6%

We used EER improvements to calculate energy savings for individual tune up measure tracked in the program savings database. As the program assigned measure savings in an additive approach, Cadmus summed customer savings and weighted measure savings based on the Ameren Missouri reported tune up measures.

$$kWh \text{ Tune Up} = EER \text{ Improvement} * (2836kWh * \frac{Participant \text{ Tonnage}}{3.1} + \%Heat \text{ Pumps} * \frac{12kBTU/ton * 1496EFLH}{6.3HSPF})$$

Appendix D. 1. Stakeholder Interview Guide, 2. Contractor Interview Guide, 3. Immediate Participant Survey, 4. Follow-up Participant, 5. General Population Survey

Appendix E. Nonparticipant Spillover Qualification Flow Chart

Appendix F. Nonparticipant Spillover Data

Appendix G. Participant Survey Responses

Appendix H. Participant Survey

Appendix D1

Ameren Missouri Heating and Cooling Program Stakeholder Interview Guide (PY17)

Respondent name: _____

Respondent phone: _____

Interview date: _____ Interviewer initials: _____

In PY17 Cadmus will interview both Ameren and ICF Heating and Cooling program managers. The interview will focus on changes to the program design. The interview will also assess the program identify recommendations for improving the program in subsequent years.

Introduction

1. Has anything changed about your roles or responsibilities regarding the management/implementation of the Heating and Cooling Program this year?
 - a. For IFC: Can you please describe the IFC team that helps to implement the program?
[Probe: roles of staff, number people involved, etc.]
2. The PY17 program added tune-ups? Are you seeing the response you expected?
3. Have there been any other significant changes to the eligible measures or how the program is implemented this year? If so, what are these changes, and why were they introduced?

Program Goals

5. Appendix B¹ showed that you anticipated installation of 24,406 measures and an estimated annual savings 22,320 MWh and 20.0 MW. These goals are lower this year than for last year, despite the re-introduction of tune up. Is there a reason for the lowering in savings goals and how does it impact the implementation of the of the Heating and Cooling program?
 - a. Do you anticipate any issues with oversubscription, given the low participation targets and corresponding budget?
 - b. Have you developed or are you looking to develop additional performance goals and metrics (other than savings, participation, and satisfaction)?

Program Design and Implementation

6. Does the program operate the contractor advisory council this year? If so, what have been the most significant issues that have been raised in the meetings this year? (If not, why was it discontinued?)
 - a. Has the program received any other feedback on the program this year from contractors or distributors? If so, what was the feedback?
7. What, if any, changes have taken place this year in regarding contractor training?
 - a. What training did contractors receive regarding the tune-up measure?
 - b. The ICF QA/QC report mentioned that the program updated the “refresher training” to clarify program rules? Can you elaborate on this change and do you feel like it has had an effect?
 - c. Has the program made any adjustment to contractor training procedures regarding the qualification of early-retirement classification of customer’s equipment?
8. Have there been any changes to how the program engages with distributors this year?
 - a. Does the program track any metrics regarding its engagement with distributors? If so, what are they?
9. Last year the program introduced the PowerRebate App to allow contractors to submit applications more efficiently. What has been the uptake of this app and have you received contractor feedback about this app?
 - a. What have been the results of the app’s introduction?
 - b. Does the program track which applications are submitted via the app? If so, have you noted any noteworthy patterns?

¹ State of Missouri. “In the Matter of Union Electric Company d/b/a Ameren Missouri’s 2nd Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as Allowed by MEEIA.” File No. EO-2015-0055. February 5, 2016. Refer to Appendix B.

Quality Control

15. We understand that ICF conducts surveys with customers installing ASHPs and having been identified as previously having electric heat to verify the correct baseline equipment. How does ICF apply the results of the surveys? [Probe: Are adjustments tracked? If so, how?]
 - a. Does ICF have similar protocols to verify correct classification of baseline equipment disposition (ROB vs. ER)? If so, what are they and what is done with the results of these QA/QC procedures?
 - b. Does the program have additional QA/QC procedures? If so, what are they?
 - c. Are you anticipating any changes to QA/QC processes?
16. We understand that the program can penalize contractors for incorrectly classifying equipment – either by removing them from the website listing, or by removing them from the program? Has this program taken such actions this year? If so, how many contractors did this effect?

Marketing Efforts

17. What kind of marketing have you done in PY17? [Probe: Distributor, contractor, customer]
 - a. In the PY16 report we recommended highlighting the benefits of energy efficient equipment in marketing messages (such as energy savings). Did the program adjust its marketing messages this year?
 - b. Are there any (other) changes to how marketing was conducted this year?

Successes, Challenges, Suggestions for Improvement

18. In your opinion, how has the program performed in PY17 (in terms of both process and savings/participation goals)?
 - a. Are you satisfied with the way that tune-ups were re-introduced this year?
 - b. What are the biggest challenges of the program?
19. There has been some discussion about changing the early replacement incentive to match the replace on burnout incentive. What other changes are being planned or considered for PY18?
 - a. Why are these changes being considered?
 - b. How, if at all, are you anticipating the program to change in the long-term future for the next cycle?
20. Overall, do you have any suggestions for how to improve the program?
21. What issues would you like to see the evaluation help you solve?

- a. What would you most like to see addressed or presented in the evaluation?
- b. Do you have any feedback on last year's evaluation? [Probe: what would you like to be different]

Introduction

Contractor/Manufacturer

Contact Name

Date of Interview

Hello, my name is _____ and I'm calling from Cadmus, an independent evaluator for Ameren Missouri's residential Heating and Cooling program. We are evaluating the program to identify what has or has not worked well to date. We would appreciate your perspective on the program and as a thank you for your time, we will send you a \$50 Visa gift card. This survey will take about 25 minutes. It includes questions about your experience with the residential Heating and Cooling program, the residential HVAC market, and about equipment sales. Are you the right person to talk to or is there someone else you'd recommend us speaking with? Would you be willing to talk to us now, or may I set up a time to call you?
[After they say YES] Thank you. [If needed: Anything you say is confidential and we will combine it with responses to similar questions provided by other participating contractors.]

Program Delivery: Process and Satisfaction

One of the purposes of the program is to increase customer demand for energy-efficient equipment. Do you feel the program is accomplishing this? Why do you say that?

Are your customers more or less interested in purchasing energy-efficient options today than they were before 2013?

A) (More) (Why do you say this?)

B) (Less) (Why do you say this?)

How would you rate your satisfaction with your participation in the Heating and Cooling program? Are you [read]:

A. Very satisfied

B. Somewhat satisfied

C. Not too satisfied

D. Not satisfied at all

[IF C OR D] Why do you say you are [INSERT ANSWER]?

How do you typically stay informed about the Program throughout the year? (probe for most "effective" form of program communication.)

What do you think worked particularly well about the Program?

Is there anything about the program that didn't work well?

Do you have any suggestions for improving the Program?

Estimate of Program Influence on Sales

<p>Introduce factors</p>	<p>For the next part of the interview, I want to review some factors that we believe may have an impact on contractors ability and/or willingness to sell energy efficient ACs and heat pumps. These factors, which I'll explain in more detail, include product availability, contractor training, customer education, market factors, and pricing.</p> <p>First, the <u>Product Availability</u> Factor refers to contractor's ability to order efficient products to then sell to their customers.</p> <p>The <u>Contractor Training</u> Factor refers to any efforts to educate technicians and contractors about efficient ACs and heat pumps, to ensure they are able to assist customers with their residential HVAC purchases.</p> <p>The <u>Customer Education</u> Factor refers to any efforts, whether local or national, or in-person or via some other channel, to specifically educate consumers about the benefits of efficient residential HVAC equipment.</p> <p>The <u>Market Factor</u> refers to any effort , whether local or national, aimed at promoting energy efficient ACs or heat pumps, such as changes to codes and standard requirements or energy legislation.</p> <p>And finally, the <u>Pricing Factor</u> refers to the effect of efficient equipment price relative to the price of lower efficiency products.</p>
<p>Ask for other factors</p>	<ol style="list-style-type: none"> 1. "Can you think of any other key factors we should add to this list so that we are capturing all of the factors that impact contractor's ability to sell energy efficient equipment?" 2. If they say "yes", add these factors and then confirm. "Thank you, now that we have added "xyz" as a factor, would you say that we have captured all of the factors that impact energy efficient sales?" 3. If "no" to #1 or if they confirm the "xyz" factor captures all the factors, follow up with, "Great, now that we have identified all of the factors that impact a contractors ability to sell energy efficient equipment, let's move on to Task 1.
<p>Task 1</p>	<p>For this task, we would like you to help us estimate the influence of each of these market factors on the annual sales of efficient AC and heat pump units (both program and non-program) in the Ameren Missouri program area. This is intended as a conceptual exercise to quantify your opinion of how influential each factor is on annual sales of efficient equipment- it is not expected to be an objective measure. So for each of the factors we just discussed I'll read following sentence: "[Factor] is responsible for about X% of annual sales volume." The total percentage for all the factors combined should add up to 100%. This row displays the total.</p> <hr/> <p>Product Availability Factor</p> <hr/> <p>Contractor Training Factor</p> <hr/> <p>Customer Education Factor</p> <hr/> <p>Market Factor</p> <hr/> <p>Pricing Factor</p>
<p>Task 2</p>	<p>The next step will be to review how Ameren Missouri's Heating and Cooling program impacts these same factors. I will provide a brief summary of Ameren Missouri's efforts and ask you to estimate Ameren's influence on this factor in the form of a %. The percentages you estimate in this Task do not need to sum to 100%, but no individual entry should exceed 100%.</p>
<p>Product Availability Factor</p>	<p>[IF CONTRACTOR INDICATED THIS FACTOR >0%] Ameren Missouri tries to influence the Product Availability factor by offering discounts on energy efficient residential HVAC equipment. These discounts may cause contractors to request more of these products from distributors, who may, in turn, keep more energy efficient products in stock. You'd indicated the Product Availability factor does affect energy efficient sales. Thinking about all the entities or market actors that may influence this factor, about what portion (or percentage) of the total influence would you attribute to Ameren Missouri's Residential Heating and Cooling program? What if the program was not available?</p>

<p><i>Contractor Training Factor</i></p>	<p><i>[IF CONTRACTOR INDICATED THIS FACTOR >0%] Ameren Missouri tries to influence the Contractor Training factor by providing mandatory training to contractors about program processes each year, and provides additional voluntary technical training (AHR) for contractors throughout the year. About what portion (or percentage) of the total contractor training factor influence would you attribute to Ameren Missouri's Residential Heating and Cooling program? Why do you say that?</i></p>
<p><i>Customer Education Factor</i></p>	<p><i>[IF CONTRACTOR INDICATED THIS FACTOR >0%] Ameren Missouri tries to influence the Customer Education factor by providing customers with a program overview and information about specific rebates that are available, and does not get deeply into the details of general "energy education". About what portion (or percentage) of the total customer education factor influence would you attribute to Ameren Missouri's Residential Heating and Cooling program? Why do you say that?</i></p>
<p><i>Market Factor</i></p>	<p><i>[IF CONTRACTOR INDICATED THIS FACTOR >0%] Ameren Missouri tries to influence the Market factor by marketing the program via contractors (to whom it provides program materials and co-branding opportunities), internet banner advertising, radio advertising, television advertising, and direct/targeted mailing. Marketing materials are focused on rebates and tax credits, as well as general program information. Marketing materials drive customers to the Ameren Residential Heating and Cooling website (AmerenMissouri.com/hvac). The website highlights measure rebates, provides a list of participating contractors, and a Program overview. About what portion (or percentage) of the total market factor influence would you attribute to Ameren Missouri's Residential Heating and Cooling program? Why do you say that?</i></p>
<p><i>Pricing Factor</i></p>	<p><i>[IF CONTRACTOR INDICATED THIS FACTOR >0%] Now consider pricing. Ameren Missouri tries to influence this factor by offering discounts on select high-ACs and Heat Pumps. Discounts (including a seasonal incentive on the high end of the range) range as follows: Air-source heat pump: \$500 to \$900 Central air-conditioners: \$250 to \$500 Ductless heat pump: \$300 to \$500 Dual-fuel heat pump: \$175 to \$200 Ground-source heat pump: \$800 to \$2,000</i></p> <p><i>About what portion (or percentage) of the total Pricing Factor influence would you attribute to Ameren Missouri's Residential Heating and Cooling program? Why do you say that?</i></p>
<p><i>Closing</i></p>	<p>That concludes our interview. Please save the worksheet with your inputs, and email it back to me. Thank you for participating today. Your feedback is critical to helping Ameren Missouri optimize the Heating and Cooling Program's influence on the market for energy efficient HVAC systems.</p>

Appendix D3.

Ameren Missouri 2017 Immediate Online HVAC Survey

Research Topics	Survey Question Mapping
Program Processes, how participants learn about the HVAC program	A9
Program processes, product purchase decisions	B1-B2
Program processes, participant engagement with contractors	C1-C7
Participant satisfaction, program processes and products?	D1-D11
Program processes, central air-conditioner installation decision-making and baseline equipment	E1-E11
Free ridership, central air-conditioners	E12-E23
Program processes, heat pump installation decisions and baseline equipment	F1-F17
Free Ridership, Heat Pumps	F18-F33
Program processes, ECM installation decisions, baseline and usage	Error! Reference source not found.-G14
Free Ridership, ECM	G15-G20
Program processes, smart thermostat installation decisions and baseline equipment	Error! Reference source not found.-H13
Program processes, smart thermostat use	H14-H23
Free Ridership, smart thermostats	H24-H32
Program processes, tune-ups	I1-I12
Free Ridership, tune-ups	I13-I21
Participant satisfaction, Ameren	J1-J3

Red text = programming instructions (not visible to respondents)

[Measuretype] = measure name imported from panel data

Green text = open-ended responses

(Skipped) responses are not visible (99 = code for nothing selected / skipped question)

Catalogue ID - From Tracking Data Base	[MEASURENAME] - For Initial Measure Verification	[MEASURETYPE] - As Appears in Most Survey Questions	[MEASUREEFFICIENCY] - For Selected Free ridership Question	Category - Determines Applicability of Survey Sections
ASHP ER with ASHP 16+ ER	air source heat pump (16+ SEER)	air source heat pump	16+ SEER	Heat Pump
ASHP ER with ASHP SEER 15 ER	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP Replace at Fail with ASHP 16+	air source heat pump (16+ SEER)	air source heat pump	16+ SEER	Heat Pump
ASHP Replace at Fail with ASHP SEER 15	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP SEER 15 ER Elec Resist Furnace ER	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP SEER 15 Replace at Fail Elect Resist Furnace	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP SEER 15 Replace at Fail Elect Resist Furnace (NC)	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP SEER 16+ ER Elec Resist Furnace ER	air source heat pump (16+ SEER)	air source heat pump	16+ SEER	Heat Pump
ASHP SEER 16+ Replace at Fail Elec Resist Furnace	air source heat pump (16+ SEER)	air source heat pump	16+ SEER	Heat Pump
CAC SEER 14 ER	central air conditioner (14 SEER)	central air conditioner	14 SEER	Central Air Conditioner
CAC SEER 14 Replace at Fail	central air conditioner (15 SEER)	central air conditioner	15 SEER	Central Air Conditioner
CAC SEER 15 ER	central air conditioner (15 SEER)	central air conditioner	15 SEER	Central Air Conditioner
CAC SEER 15 Replace at Fail	central air conditioner (15 SEER)	central air conditioner	15 SEER	Central Air Conditioner

CAC SEER 16+ ER	central air conditioner (16+ SEER)	central air conditioner	16+ SEER	Central Air Conditioner
CAC SEER 16+ Replace at Fail	central air conditioner (16+ SEER)	central air conditioner	16+ SEER	Central Air Conditioner
Concept 3 Continuous Fan Replace at Fail_50	furnace fan	furnace fan		ECM
Concept 3 Installations Auto Fan ER_100	furnace fan	furnace fan		ECM
Concept 3 Installations Auto Fan ER_50	furnace fan	furnace fan		ECM
Concept 3 Installations Auto Fan Replace at Fail_100	furnace fan	furnace fan		ECM
Concept 3 Installations Auto Fan Replace at Fail_50	furnace fan	furnace fan		ECM
Concept 3 Installations Continuous Fan ER_100	furnace fan	furnace fan		ECM
Concept 3 Installations Continuous Fan ER_50	furnace fan	furnace fan		ECM
DFHP SEER 15_SF	dual-fuel heat pump (15 SEER)	dual-fuel heat pump	15 SEER	Heat Pump
DFHP SEER 16_SF	dual-fuel heat pump (16 SEER)	dual-fuel heat pump	16 SEER	Heat Pump
DFHP SEER 17+_SF	dual-fuel heat pump (17+ SEER)	dual-fuel heat pump	17+ SEER	Heat Pump
DFHP SEER 18+_SF	dual-fuel heat pump (18+ SEER)	dual-fuel heat pump	18+ SEER	Heat Pump
Ductless ASHP ER	dual-fuel heat pump	dual-fuel heat pump	high efficiency	Heat Pump
Ductless ASHP Replace Electric Resistance ER	ductless heat pump	ductless heat pump	high efficiency	Heat Pump
Ductless ASHP Replace Electric Resistance ROF	ductless heat pump	ductless heat pump	high efficiency	Heat Pump
Ductless ASHP ROF	ductless heat pump	ductless heat pump	high efficiency	Heat Pump
GSHP - 23 EER ER	ground source heat pump (23 EER)	ground source heat pump	23 EER	Heat Pump
GSHP - 23 EER Replace at Fail	ground source heat pump (23 EER)	ground source heat pump	23 EER	Heat Pump
GSHP SEER 14+ ER ASHP with GSHP ER	ground source heat pump (14+ SEER)	ground source heat pump	14+ SEER	Heat Pump
GSHP SEER 14+ ER Elec Resist Furnace ER	ground source heat pump (14+ SEER)	ground source heat pump	14+ SEER	Heat Pump
GSHP SEER 14+ Replace Elec Resist Furnace	ground source heat pump (14+ SEER)	ground source heat pump	14+ SEER	Heat Pump
HVAC Maintenance and Tune-up_SF	Tune-Up	Tune-Up		Tune-Up

A. All HVAC Measures – Verification and Program Awareness

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED.

INTRO: Thank you for participating in Ameren Missouri’s Heating and Cooling Program. We would like to know more about your experience with the program. Instructions for participating in the prize drawing are provided at the end of this survey.

- A1. Our records indicate that you received a rebate for **[ASK IF MEASURETYPE ≠ TUNE-UP]** installing a new high efficiency **[MEASURENAME]** **[AND SMART THERMOSTAT(S) IF APPLICABLE]** **[ASK IF MEASURETYPE = TUNE-UP]** an equipment tune-up. Is this correct? **[FORCED RESPONSE (NO SKIP)]**
1. Yes
 2. No, I did not receive a rebate
 3. **[IF SMART THERMOSTAT]** No, I only received a rebate for the **[MEASURETYPE]**
 4. **[IF SMART THERMOSTAT]** No, I only received a rebate for the **[SMART THERMOSTAT](s)**
- A2. **[IF ERROR! REFERENCE SOURCE NOT FOUND.=2 OR 4]** Why did you not receive a rebate?
1. I did not participate in the Ameren Missouri Heating and Cooling Program **[TERMINATE]**
 2. I participated in the Ameren Missouri Heating and Cooling Program, but my rebate has not arrived yet **[TERMINATE]**
 3. Some other reason, please specify: **[SPECIFY: _____]** **[TERMINATE]**
 98. Don’t Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**
- A3. **[ASK IF MEASURETYPE = FURNACE FAN]** Did you install your new furnace fan with a new furnace, or did you install it with an existing furnace?
1. I installed it with a new furnace
 2. I installed it with an existing furnace
 98. Don’t Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**

- A4. **[ASK IF A2=1]** Do you have a central air conditioner or heat pump?
1. Yes
 2. No **[TERMINATE]**
 98. Don't Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**
- A5. **[ASK IF A4 = 1]** Did you install the air-conditioner or heat pump when you installed the furnace?
1. Yes
 2. No **[TERMINATE]**
 98. Don't Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**
- A6. **[ASK IF A5 = 1]** Why did you not get a rebate for the air conditioner or heat pump?
1. I did get a rebate from Ameren **[TERMINATE]**
 2. Because my contractor said it did not qualify **[TERMINATE]**
 3. The efficiency was too low **[TERMINATE]**
 4. Because I did not get a new indoor cooling coil to my install didn't qualify **[TERMINATE]**
 5. Because I was unable to get a valid AHRI certificate, thus did not qualify for a rebate **[TERMINATE]**
 6. **[SPECIFY: _____]** **[TERMINATE]**
 98. Don't Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**
- A7. Are you or any members of your household employed by Ameren Missouri or by a company that sells, installs, or services heating and cooling equipment? **[FORCED RESPONSE (NO SKIP OR DK)]**
1. Yes, I or someone in my household works for Ameren Missouri **[TERMINATE]**
 2. Yes, I or someone in my household works for a company that sells, installs or services heating and cooling equipment **[TERMINATE]**
 3. No one in my household works for the companies listed above
- A8. Prior to this survey, were you aware that the rebate you received after **[ASK IF MEASURETYPE ≠ TUNE-UP]** installing your new high efficiency **[MEASURETYPE]** **[AND SMART THERMOSTAT]** **[ASK IF MEASURETYPE = TUNE-UP]** your tune up was provided by Ameren Missouri?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

A9. How did you hear about Ameren Missouri’s Heating and Cooling Program? **[RANDOMIZE ORDER – CHECK ALL THAT APPLY]**

1. From my contractor or installer
2. Visited Ameren’s Web site
3. Other Web site, which site? **[SPECIFY:_____]**
4. On my Monthly Energy Statement/Bill
5. Information that I received by mail from Ameren
6. Information that I received by mail from a contractor
7. A brochure from Ameren that I did not receive by mail
Where did you find the brochure that informed you about the program, or who gave it to you? **[SPECIFY:_____]**
8. When my rebate check arrived
9. Door hanger
10. Family, friend or co-worker
11. Newspaper
12. Radio
13. Ameren Missouri representative
14. Television advertisement
15. Ameren Missouri Home Energy Report
16. Signs or displays in a store
17. Store representative or salesperson
18. Social Media (Facebook, Twitter)
19. Some other way **[SPECIFY:_____]**
98. Don’t Know
99. (Skipped)

B. All HVAC Measures - Purchase Patterns and Decision-making

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED. MEASURE-SPECIFIC PURCHASE PATTERN AND DECISION-MAKING QUESTIONS WILL BE ADDRESSED IN EACH MEASURE’S SECTION

- B1. **[ASK IF MEASURETYPE ≠ TUNE-UP]** What was the primary reason you purchased a new **[MEASURETYPE]**? **[SELECT ONE RESPONSE]**
1. To replace broken equipment
 2. To replace aging equipment
 3. To improve the comfort of my home
 4. To improve the safety of my home
 5. The purchase was part of a larger home renovation
 6. The equipment is for a newly constructed home
 7. To save money on energy costs
 8. To help the environment
 9. Some other reason, please specify: **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- B2. **[ASK IF MEASURETYPE = TUNE-UP]** What motivated you to purchase the tune-up service? **[RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW; ALLOW MULTIPLE RESPONSES]**
1. My air conditioner stopped working (i.e., unit failed)
 2. My air conditioner was working, but was having problems (i.e., wasn't cooling properly or was making a noise)
 3. Was included in my maintenance contract or part of a regularly scheduled check up
 4. To take advantage of the rebate
 5. It was time for a tune-up
 6. To ensure that it lasts longer
 7. To find out if it needs any repairs
 8. To keep my air conditioner running efficiently
 9. To save energy
 10. To lower energy bill, save money on bills
 11. It didn't cost much
 12. Reminded by Ameren Missouri advertising
 13. Reminded by advertising other than Ameren Missouri
 14. Recommended by a family or friend
 15. Other **[SPECIFY: _____]**
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)

C. *ALL HVAC Measures - Participation Process – Contractors*

ASK ALL PARTICIPANTS

- C1. **[ASK IF MEASURETYPE ≠ TUNE-UP]** How did you select the contractor who installed your system?
[ASK IF MEASURETYPE = TUNE-UP] How did you select the contractor who conducted your tune-up? **[RANDOMIZE ORDER EXCEPT FOR OTHER & DON'T KNOW, CHECK ALL THAT APPLY]**
1. I have used this contractor before
 2. The contractor approached me directly
 3. Ameren website
 4. The contractor was referred to me by a family member, friend, or colleague
 5. Online advertisement
 6. I saw contractor's marketing materials
 7. I saw contractor's newspaper/TV/radio advertisement
 8. Through business owners in my neighborhood or network
 9. Yellow pages
 10. Angie's List or similar consumer information source
 11. Better Business Bureau
 12. Some other way, please specify **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- C2. **[ASK IF C1 = 8, 9, 10, 11, 12] [ASK IF MEASURETYPE ≠ TUNE-UP]** Did you specifically seek out a contractor who participated in the program in order to receive a rebate for your equipment? **[ASK IF MEASURETYPE = TUNE-UP]** Did you specifically seek out a contractor who participated in the program in order to receive a rebate for your tune-up?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)
- C3. **[ASK IF Error! Reference source not found.=1]** How difficult was it to find a contractor that participated in the program?
1. Not difficult at all
 2. Not too difficult
 3. Somewhat difficult
 4. Very difficult
 98. Don't know
 99. (Skipped)

- C4. **[ASK IF MEASURETYPE ≠ TUNE-UP]**Please check any options listed below that your contractor discussed with you prior to installing your **[MEASURETYPE]**. Please note, options listed below may or may not have been applicable to your situation. **[RANDOMIZE ORDER EXCEPT FOR NONE OF THE ABOVE & DON'T KNOW, CHECK ALL THAT APPLY]**
1. Rebates from Ameren Missouri for high efficiency equipment
 2. Contractor or manufacturer rebates
 3. State or federal tax credits or rebates
 4. Additional energy-efficient equipment or home improvements
 5. Energy saving tips
 6. None of the above **[EXCLUSIVE RESPONSE]**
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- C5. **[ASK IF C4 = 2]** How much was the rebate you received from the contractor or manufacturer?
1. **[RECORD RESPONSE: _____]**
 2. I did not receive a rebate from the contractor or manufacturer
 98. Don't Know
 99. (Skipped)
- C6. **[ASK IF C4 = 3]** How much was the tax credit you received (or will receive)?
1. **[RECORD RESPONSE: _____]**
 2. I did not receive a tax credit from the contractor or manufacturer
 98. Don't Know
 99. (Skipped)
- C7. **[ASK IF MEASURETYPE = TUNE-UP]** What was the cost of your tune-up (not including the rebate from Ameren Missouri)?
1. **[RECORD RESPONSE: _____]**
 98. Don't Know
 99. (Skipped)

D. All HVAC Measures – Participant Satisfaction

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED.

D1. How satisfied are you with the contractor you worked with?

1. Very satisfied
2. Somewhat satisfied
3. Not too satisfied
4. Not satisfied at all
98. Don't Know
99. (Skipped)

D2. **[ASK IF D1 = 1, 2, 3 OR 4] Why are you [RATING FROM D1] with the contractor? [ALLOW MULTIPLE RESPONSES, SHOW ALL RESPONSE OPTIONS IF D1=2 OR 3, SHOW RESPONSE OPTIONS 1-8 & 14, 98 IF D1=1, SHOW RESPONSES OPTIONS 9-14 & 98 IF D1=4. RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW**

1. Satisfied with the efficiency of the contractor
2. Satisfied with the reliability of the contractor
3. Satisfied with the quality of work
4. Satisfied with the cleanliness of the job site
5. Satisfied with customer care
6. Satisfied with the cost/warranty of the equipment
7. Long-standing relationship with the contractor
8. Satisfied with the equipment the contractor installed
9. Dissatisfied with the quality of work
10. Dissatisfied with the level of communication from the contractor
11. Dissatisfied with the with the installation of the equipment
12. Dissatisfied with the contractor's ability to resolve a problem
13. Dissatisfied with delays in stalling equipment
14. Other **[SPECIFY: _____]**
98. Don't Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

D3. How satisfied are you with the time it took to receive your rebate in the mail?

1. Very satisfied
2. Somewhat satisfied
3. Not too satisfied
4. Not satisfied at all
98. Don't Know
99. (Skipped)

- D4. **[ASK IF MEASURETYPE ≠ TUNE-UP]**How satisfied are you with the performance of your new **[MEASURETYPE]**?
1. Very satisfied
 2. Somewhat satisfied
 3. Not too satisfied
 4. Not satisfied at all
 98. Don't Know
 99. (Skipped)
- D5. **[ASK IF D4 = 1, 2, 3 OR 4]** Why are you **[RATING FROM D4]** with the performance of your new **[MEASURETYPE]**? **[ALLOW MULTIPLE RESONSES; SHOW ALL RESPONSE OPTIONS IF D4=2 OR 3, SHOW RESPONSE OPTIONS 1-6 & 13, 98 IF D4=1, SHOW RESPONES OPTIONS 7-13 & 98 IF D4=4. RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW]**
1. Satisfied with Energy/cost savings experienced after installation
 2. Satisfactory overall operation and performance of the unit
 3. Unit provides effective cooling
 4. Unit is quieter than the previous one
 5. **[SHOW ONLY IF MEASURE CATEGORY= HEAT PUMP]** Unit provides effective heating
 6. **[SHOW ONLY IF MEASURE TYPE=DUCTLESS HEAT PUMP]** Unit works without ducts
 7. Unit is noisier than the previous unit
 8. Did not notice energy/cost savings after installation
 9. Poor performance of unit (including insufficient cooling, temperature fluctuations, and condensation)
 10. Installation problems (including under-sizing or oversizing units)
 11. High cost of unit
 12. Unit did not provide a satisfactory return on investment
 13. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- D6. **[ASK IF SMART THERMOSTAT]** How satisfied are you with the performance of your new smart thermostat(s)?
1. Very satisfied
 2. Somewhat satisfied
 3. Not too satisfied
 4. Not satisfied at all
 98. Don't Know
 99. (Skipped)

D7. **[ASK IF D6= 1, 2, 3 OR 4]** Why are you **[INSERT RATING FROM D6]** with the performance of your new smart thermostat(s)?

[RECORD RESPONSE: _____]

D8. Thinking about your overall satisfaction with Ameren Missouri’s Heating and Cooling Program, would you say you are:

1. Very satisfied
2. Somewhat satisfied
3. Not too satisfied
4. Not satisfied at all
98. Don’t Know
99. (Skipped)

D9. **[ASK IF 0 = 1, 2, 3 OR 4]** Why are you **[RATING FROM 0]** with Ameren Missouri’s Heating and Cooling Program? **[ALLOW MULTIPLE RESONSES; SHOW ALL RESPONSE OPTIONS IF 0= 2 OR 3, SHOW RESPONSE OPTIONS 1-5 & 9, 98 IF 0 = 2, SHOW RESPONSE OPTIONS 6-9 & 98 IF 0 = 4.**

RANDOMIZE ORDER EXCEPT FOR OTHER AND DON’T KNOW]

1. Satisfied with the rebates
2. Overall positive program experience
3. The program met my expectations
4. Satisfied with the environmental benefits of the program
5. Satisfied with the contractor
6. Dissatisfied with the rebates
7. Dissatisfied with delays in rebate processing
8. Dissatisfied with the contractor
9. Other **[SPECIFY: _____]**
98. Don’t Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

D10. Would you recommend Ameren Missouri’s Heating and Cooling Program to friends or family members?

1. Yes
2. No
98. Don’t Know
99. (Skipped)

- D11. What suggestions, if any, do you have for improving the program?
1. Specify suggestions: **[RECORD RESPONSE: _____]**
 2. No suggestions
 99. (Skipped)

E. Central Air Conditioner Questions

ASK QUESTIONS OF PARTICIPANTS THAT HAVE INSTALLED CENTRAL AIR CONDITIONERS

- E1. Did you install your central air conditioner in a newly constructed home or in an existing home?
1. Newly constructed home
 2. Existing home
 99. (Skipped)
- E2. **[ASK IF E1=1 AND SKIP TO E4]** At the time when you purchased / constructed your new home, what type(s) of heating and cooling systems did you consider or were offered by your contractor?
[INDICATE ALL THAT APPLY]
1. Air Source Heat Pump
 2. Ground Source Heat Pump
 3. Ductless Heat Pump
 4. Standard-efficiency air conditioner
 5. High-efficiency gas furnace
 6. Standard-efficiency gas furnace
 7. High-efficiency electric furnace
 8. Standard-efficiency electric furnace
 9. Window air conditioner units
 10. Room air conditioner units
 11. Baseboard electric system
 12. Only considered or was only offered high-efficiency air conditioner
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)

E3. **[ASK IF E1=2]** At the time when you decided to install your new efficient air conditioning system, what other type(s) of cooling systems did you consider or were offered by your contractor?

[INDICATE ALL THAT APPLY]

1. Air Source Heat Pump
2. Ground Source Heat Pump
3. Ductless Heat Pump
4. Standard-efficiency air conditioner
5. Window air conditioner unit(s)
6. Room air conditioner(s)
7. Other **[SPECIFY: _____]**
8. Only considered or was only offered high-efficiency air conditioner
98. Don't Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

E4. Do you have any of the following currently installed in addition to your new efficient air conditioner at your home? **[INDICATE ALL THAT APPLY]**

1. Air Source Heat Pump
2. Window air conditioner unit(s)
3. Ground Source Heat Pump
4. Ductless Heat Pump
5. Standard-efficiency air conditioner
6. Room air conditioner unit(s)
7. Another high-efficiency air conditioner
8. Space heater(s)
9. High-efficiency gas furnace
10. Standard-efficiency gas furnace
11. High-efficiency electric furnace
12. Standard-efficiency electric furnace
13. Baseboard electric system
14. None of the above **[EXCLUSIVE RESPONSE]**
98. Don't Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

E5. At what point did you determine the exact air conditioner you wanted to buy?

1. I knew which model I wanted before calling a contractor
2. I decided after the contractor provided me with option
98. Don't Know
99. (Skipped)

E6. Which factors were important in your decision to purchase the specific equipment you selected?

Please select all that apply. **[CHECK ALL THAT APPLY]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. Other, Please specify: **[SPECIFY: _____]**
98. Don't Know
99. (Skipped)

E7. **[ASK IF MORE THAN ONE RESPONSE IS CHECKED IN E6]** If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific equipment you selected? **[ONLY SHOW RESPONSES CHECKED IN E6; SELECT ONE RESPONSE]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. **[INSERT "OTHER SPECIFY" RESPONSE FROM E6]**
98. Don't Know
99. (Skipped)

E8. **[ASK IF NOT SMART THERMOSTAT CUSTOMER]** What type of thermostat do you use to control your heating and cooling equipment?

1. Manual thermostat
2. Programmable thermostat
3. Smart thermostat (may be called learning thermostat)
98. Don't Know
99. (Skipped)

- E9. **[ASK IF NOT SMART THERMOSTAT CUSTOMER]** Did you install this thermostat when you installed your new air conditioning system?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- E10. **[ASK IF E9=1]** What type of thermostat did you have before installing the new thermostat?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)
- E11. What type of cooling system did you replace and remove when installing your new efficient air conditioning system?
1. Nothing
 2. Window air conditioning unit(s)
 3. Air source heat pump
 4. Room air conditioning unit(s)
 5. Ground source heat pump
 6. Central air-conditioning
 7. Other **[SPECIFY: _____]**
 8. I kept my cooling system
 9. I didn't have a cooling system
 98. Don't Know
 99. (Skipped)

Central Air Conditioning Free Ridership Questions

The next set of questions specifically pertain to the installation of your central air conditioning system.

- E12. **[ASK IF E1=2]** Please think back when you first spoke with your contractor in regards to replacing and/or installing your central air conditioner. What prompted the conversation? **[INDICATE ALL THAT APPLY]**
1. My air conditioner stopped working (i.e., unit failed)
 2. My air conditioner was working, but was having problems (i.e., wasn't cooling properly or was making a noise)
 3. Was included in my maintenance contract or part of a regularly scheduled check up
 4. To take advantage of the rebate
 5. It was time for a tune-up
 6. To ensure that it lasts longer
 7. To find out if it needs any repairs
 8. To keep my air conditioner running efficiently
 9. To save energy
 10. To lower my energy bill, save money on bills
 11. It didn't cost much to discuss upgrading my system with the contractor
 12. Reminded by Ameren Missouri advertising
 13. Reminded by advertising other than Ameren Missouri
 14. Recommended by a family member or friend
 15. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- E13. **[ASK IF E1=1 OR 2]** Did your contractor offer you the option to repair or tune-up your system instead of replacing it?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- E14. **[IF E13 =1]** About how much would the repair have cost?
1. Less than \$200
 2. \$200 - \$500
 3. \$500 - \$1,000
 4. \$1,000 – \$2,500
 5. More than \$2,500
 98. Don't Know
 99. (Skipped)

- E15. **[IF E13 =1]** Why did you opt for replacing the unit instead of repairing it? **[MARK ALL THAT APPLY]**
1. The repair costs were too much; was not worth it
 2. I would have had to replace it soon anyway
 3. The contractor convinced me installing a high-efficiency model was worth it/ would save me money in the long-run
 4. I wanted to take advantage of Ameren Missouri's rebates while available
 5. I wanted to take advantage of manufacturer rebates or tax credits while available
 6. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- E16. Before you knew about the incentive from Ameren Missouri, were you already planning to install a new high-efficiency air conditioning system this year?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- E17. You installed a **[MEASUREEFFICIENCY]** central air conditioner. Why did you choose to install this particular unit?
1. I wanted the cheapest option available
 2. I wanted the most efficient option possible
 3. I researched my options and decided this was the right balance of efficiency and cost
 4. My contractor convinced me this was the right balance of efficiency and cost
 5. I heard Ameren Missouri provided an incentive for this SEER
 6. It's the same efficiency as my old unit
 7. I wanted something more efficient than my old unit
 8. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- E18. Without Ameren Missouri's rebate, were you planning to install a high-efficiency air conditioning system ...?
1. Around the same time
 2. Later in the same year
 3. In one or two years
 4. After more than three years
 98. Don't Know
 99. (Skipped)

- E19. **[IF E18 = 1, 2, 98, 99]** Were you planning to install the same high-efficiency air conditioning system without the rebate from Ameren Missouri?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- E20. **[IF E19 = 2, 98, 99]** Would you have installed a different high-efficiency air conditioning system without the Ameren Missouri rebate or would you have decided to not purchase one at all?
1. I would have installed a different high-efficiency air conditioning system
 2. I would have decided not to purchase a high-efficiency air conditioning system at all
 98. Don't Know
 99. (Skipped)
- E21. **[IF E20 = 1]** Without Ameren's rebate, would you have installed a lower efficiency system, the same efficiency system, or a higher efficiency system than the one you installed...?
1. Lower efficiency
 2. Same efficiency
 3. Higher efficiency
 98. Don't Know
 99. (Skipped)
- E22. How important was the Ameren Missouri incentive on your decision to purchase the high-efficiency air conditioning system? Would you say...?
1. Very important
 2. Somewhat important
 3. Not very important
 4. Not at all important
 98. Don't Know
 99. (Skipped)
- E23. How important was the advice from the contractor in your decision to purchase the high-efficiency air conditioning system?
1. Very important
 2. Somewhat important
 3. Not very important
 4. Not at all important
 98. Don't Know
 99. (Skipped)

F. Heat Pumps**ASK OF PARTICIPANTS WHO HAVE INSTALLED HEAT PUMPS**

- F1. Did you install your heat pump in a newly constructed home or in an existing home?
1. Newly constructed home
 2. Existing home
 99. (Skipped)
- F2. **[IF F1=1 SKIP TO F4]** At the time when you purchased / constructed your new home, what other type(s) of heating and cooling systems did you consider or were offered by your contractor?
[INDICATE ALL THAT APPLY]
1. Air Source Heat Pump
 2. Ground Source Heat Pump
 3. Ductless Heat Pump
 4. Standard-efficiency air conditioner
 5. High-efficiency air conditioner
 6. High-efficiency gas furnace
 7. Standard-efficiency gas furnace
 8. High-efficiency electric furnace
 9. Standard-efficiency electric furnace
 10. Baseboard electric system
 11. Window air conditioner unit(s)
 12. Room air conditioner unit(s)
 13. Only considered or was only offered heat pump
 98. Don't Know
 99. (Skipped)

- F3. **[IF F1=2]** At the time when you purchased your new heat pump, what other type(s) of heating and cooling systems did you consider or were offered by your contractor? **[INDICATE ALL THAT APPLY]**
1. Air Source Heat Pump
 2. Ground Source Heat Pump
 3. Ductless Heat Pump
 4. Standard-efficiency air conditioner
 5. High-efficiency air conditioner
 6. High-efficiency gas furnace
 7. Standard-efficiency gas furnace
 8. High-efficiency electric furnace
 9. Window air conditioner unit(s)
 10. Room air conditioner unit(s)
 11. Standard-efficiency electric furnace
 12. Baseboard electric system
 13. Only considered or was only offered heat pump
 98. Don't Know
 99. (Skipped)
- F4. For what purpose did you install your heat pump?
1. Primarily heating
 2. Primarily cooling
 3. Both heating and cooling
 98. Don't Know
 99. (Skipped)
- F5. What type of heating system did you replace and remove before you installed the heat pump?
1. Electric forced air furnace
 2. Electric baseboard heat
 3. Ground source heat pump
 4. Air Source Heat Pump
 5. Dual Fuel Heat Pump
 6. Gas heating system (boiler, furnace)
 7. Other **[SPECIFY: _____]**
 8. I kept my previous heating system
 9. Nothing – this is new construction
 98. Don't Know
 99. (Skipped)

- F6. What type of cooling system did you replace and remove at the time you installed the heat pump?
1. Window air conditioning unit(s)
 2. Room air conditioning unit(s)
 3. Air Source Heat Pump
 4. Ground Source Heat Pump
 5. Central air conditioning system
 6. Other [SPECIFY: _____]
 7. I kept my previous cooling system
 8. I didn't have a cooling system
 98. Don't Know
 99. (Skipped)
- F7. Do you have any of the following currently installed in addition to your new heat pump at your home? **[INDICATE ALL THAT APPLY]**
1. Air Source Heat Pump
 2. Window air conditioner unit(s)
 3. Ground Source Heat Pump
 4. Ductless Heat Pump
 5. Standard-efficiency air conditioner
 6. Room air conditioner unit(s)
 7. Another high-efficiency air conditioner
 8. Space heater(s)
 9. High-efficiency gas furnace
 10. Standard-efficiency gas furnace
 11. High-efficiency electric furnace
 12. Standard-efficiency electric furnace
 13. Baseboard electric system
 14. None of the above
 98. Don't Know
 99. (Skipped)
- F8. **[ASK IF NOT SMART THERMOSTAT CUSTOMER]** What type of thermostat do you use to control your heating and cooling equipment?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)

- F9. **[ASK IF NOT SMART THERMOSTAT CUSTOMER]** Did you install this thermostat when you installed your new heat pump?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- F10. **[IF F9=1]** What type of thermostat did you have before installing the new thermostat?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)
- F11. **[IF MEASURETYPE=ASHP]** Why did you choose to install an air source heat pump?
1. It's what I had before
 2. I wanted a higher efficiency electric heating system
 3. I wanted a high-efficiency cooling system
 4. It is more "green" than any other heating/cooling options
 5. I wanted to reduce fossil fuel consumption
 6. I wanted to save money on my utility bills
 7. I wanted to take advantage of Ameren's rebate
 8. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- F12. **[IF MEASURETYPE=GSHP]** Before you selected your **[MEASURETYPE]**, did you consider installing an air source heat pump?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

- F13. **[IF MEASURETYPE=GSHP]** Why did you specifically choose to install a ground source heat pump?
1. It is the most efficient possible option
 2. It is more “green” than any other heating/cooling option
 3. To save money on my heating and cooling bills
 4. Our property is ideal for installation of ground well/ground loops
 5. Ground loops were already present on our property
 6. To replace my existing ground-source heat pump
 7. To increase the resale value of my home
 8. It provides more heat at low outdoor temperatures than an air source heat pump
 9. Other **[SPECIFY: _____]**
 98. Don’t Know
 99. (Skipped)
- F14. **[IF MEASURETYPE=DUCTLESS HP]** Why did you specifically choose to install a ductless heat pump?
1. I wanted to install a Heat Pump but I did not have the duct work to install other types of heat pumps
 2. It was the easiest way to install a Heat Pump at my home
 3. To save money on my heating and cooling bills
 4. To increase the resale value of my home
 5. I wanted a higher efficiency electric heating system
 6. I wanted a high-efficiency cooling system
 7. It is more “green” than any other heating/cooling options
 8. Other **[SPECIFY: _____]**
 98. Don’t Know
 99. (Skipped)
- F15. At what point did you determine the exact model and brand of heat pump that you wanted to buy?
1. I knew which model I wanted before calling a contractor
 2. I decided after the contractor provided me with option
 98. Don’t Know
 99. (Skipped)

F16. Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply. **[CHECK ALL THAT APPLY]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. Other, Please specify: **[SPECIFY: _____]**
98. Don't Know
99. (Skipped)

F17. **[ASK IF MORE THAN ONE RESPONSE IS CHECKED IN F16]** If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected? **[ONLY SHOW RESPONSES CHECKED IN F16; SELECT ONE RESPONSE]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. **[INSERT "OTHER SPECIFY" RESPONSE FROM F16]**
98. Don't Know
99. (Skipped)

Heat Pump Free Ridership Questions

- F18. **[IF F1=2]** Please think back when you first spoke with your contractor in regards to replacing and/or installing your heat pump. What prompted the conversation? **[INDICATE ALL THAT APPLY]**
1. My air conditioner or heat pump stopped working (i.e., unit failed)
 2. My air conditioner or heat pump was working, but was having problems (i.e., wasn't cooling properly or was making a noise)
 3. Maintenance contract / Regularly scheduled check up
 4. To take advantage of the rebate
 5. It was time for a tune-up
 6. To ensure that it lasts longer
 7. To find out if it needs any repairs
 8. To keep my heat pump running efficiently
 9. To save energy
 10. To lower my energy bill, save money on bills
 11. It didn't cost much to discuss upgrading my system with the contractor
 12. Reminded by Ameren Missouri advertising
 13. Reminded by advertising other than Ameren Missouri
 14. Recommended by a family or friend
 15. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- F19. **[IF F18=1 OR 2]** Did your contractor offer you the option to repair or tune-up your system instead of replacing it?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- F20. **[IF F19 = 2]** So, to the best of your knowledge your system was not repairable and had to be replaced?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

- F21. **[IF F19 =1]** About how much would the repair have cost?
1. Less than \$200
 2. \$200 - \$500
 3. \$500 - \$1,000
 4. \$1,000 – \$2,500
 5. More than \$2,500
 98. Don't Know
 99. (Skipped)
- F22. **[IF F19 =1]** Why did you opt for replacing the unit instead of repairing it? **[MARK ALL THAT APPLY]**
1. The repair costs were too much; was not worth it
 2. I would have had to replace it soon anyway
 3. The contractor convinced me installing a high-efficiency model was worth it/ would save me money in the long-run
 4. I wanted to take advantage of Ameren Missouri's rebates while available
 5. I wanted to take advantage of manufacturer rebates or tax credits while available
 6. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- F23. Before you knew about the heat pump incentive from Ameren Missouri, were you already considering a heat pump as your replacement system?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- F24. **[IF F23= 1]** Why were you considering a heat pump?
1. It was more efficient
 2. I wanted heating as well
 3. I knew about Ameren's incentive
 4. I already had a heat pump
 5. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)

- F25. **[IF F23= 2]** Why did you decide to install a heat pump?
1. It was more efficient
 2. I wanted heating as well
 3. I found out about Ameren Missouri's incentive
 4. The contractor told me about Ameren's incentive
 5. The contractor told me about the benefits of a heat pump
 6. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- F26. Before you knew about the incentive from Ameren Missouri, were you already planning to install a high-efficiency heat pump this year?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- F27. You installed a **[MEASUREEFFICIENCY]** heat pump. Why did you choose to install this particular system? **[MARK ALL THAT APPLY]**
1. I wanted the cheapest option available
 2. I wanted the most efficient option possible
 3. I researched my options and decided this was the right balance of efficiency and cost
 4. My contractor convinced me this was the right balance of efficiency and cost
 5. I heard Ameren Missouri provided incentive rebate for this system
 6. It's the same efficiency as my old unit
 7. I wanted something more efficient than my old unit
 98. Don't Know
 99. (Skipped)
- F28. Without Ameren Missouri's rebate, would you have installed a high-efficiency heat pump system...?
1. Around the same time
 2. Later in the same year
 3. In one or two years
 4. After more than three years
 98. Don't Know
 99. (Skipped)

- F29. **[IF F28= 1, 2, 98, 99]** Would you have installed the same high-efficiency heat pump without the rebate from Ameren Missouri?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- F30. **[IF F29= 2, 98, 99]** Would you have installed a different high-efficiency heat pump without the Ameren Missouri rebate or would you have decided to not purchase one at all?
1. I would have installed a different high-efficiency heat pump
 2. I would have decided not to purchase a high-efficiency heat pump at all
 98. Don't Know
 99. (Skipped)
- F31. **[IF F30= 1]** Without Ameren Missouri's rebate, would you have installed a lower efficiency system, the same efficiency system, or a higher efficiency system?
1. Lower efficiency
 2. Same efficiency
 3. Higher efficiency
 98. Don't Know
 99. (Skipped)
- F32. How important was the Ameren Missouri rebate on your decision to purchase and install the high-efficiency heat pump?
1. Very important
 2. Somewhat important
 3. Not very important
 4. Not at all important
 98. Don't Know
 99. (Skipped)
- F33. How important was the advice from the contractor in your decision to purchase and install the high-efficiency heat pump? Would you say...?
1. Very important
 2. Somewhat important
 3. Not very important
 4. Not at all important
 98. Don't Know
 99. (Skipped)

G. ECM Questions**ASK OF PARTICIPANTS WHO INSTALLED ONLY ECM MEASURE – NO OTHER MEASURE**

- G1. What type of heating system do you have?
1. Air Source Heat Pump
 2. Electric furnace
 3. Gas furnace
 4. Ground Source Heat Pump
 5. Other [**SPECIFY:**_____]
 99. (Skipped)
- G2. What type of cooling system do you have?
1. Air Source Heat Pump
 2. Ground Source Heat Pump
 3. Central air conditioner
 4. Window air conditioner(s)
 5. Other [**SPECIFY:**_____]
 6. None
 99. (Skipped)
- G3. Your new furnace fan (with a high efficiency variable speed motor for your heating and cooling system) is able to vary speed to change the airflow that your heating and cooling system delivers. Did your previous fan have this ability?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

- G4. Why did you decide to install a new furnace fan? **[INDICATE ALL THAT APPLY]**
1. My previous fan motor stopped working (i.e., unit failed)
 2. My previous fan motor but was having problems
 3. I was unsatisfied with the airflow
 4. To take advantage of the rebate
 5. Maintenance contract / Regularly scheduled check up
 6. To keep my air conditioner running efficiently
 7. To save energy
 8. To lower my energy bill, save money on bills
 9. It didn't cost much
 10. Reminded by Ameren Missouri advertising
 11. Reminded by advertising other than Ameren Missouri
 12. Recommended by a family or friend
 98. Don't Know
 99. (Skipped)
- G5. **[ASK IF NOT SMART THERMOSTAT CUSTOMER, OTHERWISE SKIP TO G8]** What type of thermostat do you use to control your heating and cooling equipment?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)
- G6. Did you install this thermostat when you installed your new furnace fan?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- G7. **[IF G6=1]** What type of thermostat did you have before installing the new thermostat?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)

- G8. Do you operate your fan in “continuous” mode to circulate air?
1. Yes
 2. No
 98. Don’t Know
 99. (Skipped)
- G9. **[IF G8=1]** Can you estimate the average number of hours per day it is set to “continuous” for each season?
1. Spring/fall: ___ [0-24]
 2. Summer: _____ [0-24]
 3. Winter: _____ [0-24]
 98. Don’t Know
 99. (Skipped)
- G10. **[IF G8=1]** Would you say the time you operate your fan in circulation mode has...
1. Increased?
 2. Decreased?
 3. Stayed the same?
 98. Don’t Know
 99. (Skipped)
- G11. **[IF G10=1 OR 2]** Can you estimate the hours of **[INCREASE/DECREASE]** for each season?
1. Spring/fall: **[SPECIFY: _____]** 0-24]
 2. Summer: **[SPECIFY: _____]** 0-24]
 3. Winter: **[SPECIFY: _____]** 0-24]
 98. Don’t Know
 99. (Skipped)
- G12. At what point did you determine the exact model and brand you wanted to buy?
1. I knew which model I wanted before calling a contractor
 2. I decided after the contractor provided me with option
 98. Don’t Know
 99. (Skipped)

G13. Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply. **[CHECK ALL THAT APPLY]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. Other, Please specify: **[SPECIFY: _____]**
98. Don't Know
99. (Skipped)

G14. **[ASK IF MORE THAN ONE RESPONSE IS CHECKED IN G13]** If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected? **[ONLY SHOW RESPONSES CHECKED IN G13; SELECT ONE RESPONSE]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. **[INSERT "OTHER SPECIFY" RESPONSE FROM G13]**
98. Don't Know
99. (Skipped)

ECM Free Ridership Questions

- G15. Before you knew about the furnace fan incentive from Ameren Missouri, were you already considering installing a new fan?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- G16. Without Ameren Missouri's rebate, would you have installed a new furnace fan....?
1. Around the same time
 2. Later in the same year
 3. In one or two years
 4. After more than three years
 98. Don't Know
 99. (Skipped)
- G17. **[IF G16= 1, 2, 98, 99]** Would you have installed the same fan without the rebate from Ameren Missouri?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- G18. **[IF G17= 2, 98, 99]** Would you have installed a different fan without the Ameren Missouri rebate or would you have decided to not purchase one at all?
1. I would have installed a different fan motor
 2. I would have decided not to purchase one at all
 98. Don't Know
 99. (Skipped)
- G19. How important was the Ameren Missouri rebate on your decision to purchase and install the furnace fan?
1. Very important
 2. Somewhat important
 3. Not very important
 4. Not at all important
 98. Don't Know
 99. (Skipped)

- G20. How important was the advice from the contractor in your decision to purchase and install the furnace fan?
1. Very important
 2. Somewhat important
 3. Not very important
 4. Not at all important
 98. Don't Know
 99. (Skipped)

H. *Smart Thermostat*

ASK OF PARTICIPANTS WHO HAVE INSTALLED SMART THERMOSTATS IN THE EFFICIENT PRODUCTS PROGRAM AND ALSO PARTICIAPTED IN THE HVAC PROGRAM

INTRO TEXT: Next, we have a few questions about the smart thermostat(s) that you purchased and installed. The answers to these questions are important because they will help Ameren Missouri determine how much energy is being saved as a direct result of their energy efficiency program.

- H1. **[IF QTY=1]** Is the smart thermostat currently installed in your home? **[IF QTY>1]** Are all of the smart thermostats that you purchased currently installed in your home?
1. Yes
 2. **[INCLUDE OPTION IF QTY> 1]** Only one is installed
 3. **[INCLUDE OPTION IF QTY> 2]** Only two are installed
 4. **[IF QTY= 1]** No **[IF QTY> 1]** None are installed
 98. Don't Know
 99. (Skipped)
- H2. **[IF H1= 4 AND QTY=1]** Was the thermostat installed and then removed, or has it not been installed yet? **[IF H1= 2, 3 / OR IF H1= 4 AND QTY>1]** Were any of these thermostats installed and then removed, or have they not been installed yet?
1. Installed and removed
 2. Not installed yet
 3. Given to someone else / installed at another property
 4. **[OPTION APPEARS IF QTY>1]** Some other situation, please describe: **[RECORD RESPONSE _____]**
 98. Don't Know
 99. (Skipped)

H3. **[IF H2 = 1]** Why did you install and then remove the smart thermostat(s)? **[RANDOMIZE RESPONSE ORDER EXCEPT FOR OTHER AND DON'T KNOW, MARK ALL THAT APPLY]**

1. Too difficult to use
2. Did not adjust temperatures correctly
3. Thermostat broke
4. Did not think it was saving energy
5. I preferred my previous thermostat
6. Other reason (please specify) **[RECORD RESPONSE _____]**
98. Don't Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

H4. **[IF H2 = 2 AND QTY=1]** Why has the smart thermostat not been installed in your home yet? **[IF H2 = 2 AND QTY>1]** Why haven't all the smart thermostats been installed in your home yet?

1. **[SPECIFY: _____]**
98. Don't Know
99. (Skipped)

[IF H1= 4 THEN SKIP TO I1 NOW]

H5. **[ASK IF QTY=1 AND H1= 1 / OR IF H1= 2, 3]** What type of heating and cooling systems is the smart thermostat connected to? **[OR IF QTY>1 AND H1= 1 / OR IF H1= 3]** What types of heating and cooling systems are your smart thermostats connected to? **[MARK ALL THAT APPLY]**

1. High-efficiency central air conditioner
2. Standard-efficiency central air conditioner
3. Air Source Heat Pump
4. Ground Source Heat Pump
5. Ductless Heat Pump
6. High-efficiency gas furnace
7. Standard-efficiency gas furnace
8. High-efficiency electric furnace
9. Standard-efficiency electric furnace
10. Some other heating or cooling system **[SPECIFY: _____]**
98. Don't Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

- H6. **[ASK IF QTY=1 AND H1= 1 / OR IF H1= 2]** What type of thermostat did you replace with the smart thermostat? **[SELECT ONE]** **[OR IF QTY>1 AND H1= 1 / OR IF H1= 3]** What type(s) of thermostat did you replace with the smart thermostats? **[SELECT UP TO 2 IF QTY=2, SELECT UP TO 3 IF QTY=3]**
1. My new smart thermostat(s) are installed in a newly-constructed home
 2. My new smart thermostat(s) replaced other smart thermostat(s) (may also be called “learning” thermostats)
 3. Replaced a programmable thermostat (a thermostat that can be programmed, but is not “smart” or connected to communication devices)
 4. Replaced a traditional/manual thermostat
 98. Don’t Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- H7. **[IF H6 ≠ 1]** Which option best represents how you most often used or interacted with your OLD thermostat? **[RECORD ONE RESPONSE]**
1. Kept thermostat(s) set at a constant temperature throughout each season
 2. **[OPTION APPEARS IF H6 = 2 OR 3]** Relied on the programmed schedule of temperatures, and never manually changed the temperature
 3. **[OPTION APPEARS IF H6 = 2 OR 3]** Relied on the programmed schedule of temperatures, but sometimes manually changed the temperature
 4. Manually adjusted temperature using a regular schedule by changing the temperature for different times of the day or week
 5. Manually adjusted temperature using no regular schedule
 6. Some other way **[SPECIFY: _____]**
 98. Don’t Know
 99. (Skipped)
- H8. **[IF H6 = 2, 3 OR 4]** Why did you replace your existing thermostat? **[RANDOMIZE ORDER EXCEPT FOR OTHER AND DON’T KNOW, MARK ALL THAT APPLY]**
1. To save energy
 2. To save money on my utility bills
 3. The Ameren Missouri rebate
 4. Other rebates or coupons (not from Ameren Missouri)
 5. Part of a “package deal” with other equipment being replaced at the same time
 6. To update my home with the latest technology
 7. To take advantage of the features of the smart thermostat
 8. Some other reason **[SPECIFY: _____]**
 98. Don’t Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)

- H9. Did you purchase the thermostat at a store, or from a contractor? **[SELECT ONE RESPONSE]**
1. Local retail store
 2. Online Store
 3. Contractor
 4. Other, please specify: **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- H10. **[ASK IF H9≠ 4, 98 OR 99]** At what point did you determine the exact model and brand you wanted to buy?
1. I knew which model I wanted before **[IF H9=1 OR 2: "VISITING THE STORE", IF H9=3: "CALLING A CONTRACTOR"]**
 2. **[IF H9=1 OR 2]** I decided at the **[IF H9=1: "STORE", IF H9=2: "ONLINE STORE"]**
 3. **[IF H9=3]** I decided after the contractor provided me with options
 98. Don't Know
 99. (Skipped)
- H11. Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply. **[RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW, CHECK ALL THAT APPLY]**
1. Price
 2. Quality/reputation
 3. Cost savings on energy bills
 4. The store representative recommended it to me
 5. My contractor or installer recommended it to me
 6. It qualified for an Ameren Missouri rebate
 7. It had specific features I was looking for
 8. Impact on the environment
 9. It was available when I needed it
 10. Other, please specify: **[SPECIFY: _____]**
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)

- H12. **[ASK IF MORE THAN ONE RESPONSE IS CHECKED IN H11]** If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected? **[ONLY SHOW RESPONSES CHECKED IN H11; SELECT ONE RESPONSE]**
1. Price
 2. Quality/reputation
 3. Cost savings on energy bills
 4. The store representative recommended it to me
 5. My contractor or installer recommended it to me
 6. It qualified for an Ameren Missouri rebate
 7. It had specific features I was looking for
 8. Impact on the environment
 9. It was available when I needed it
 10. **[INSERT "OTHER SPECIFY" RESPONSE FROM H11]**
 98. Don't Know
 99. (Skipped)

- H13. How did you learn that the thermostat qualified for an Ameren Missouri Rebate?
1. From the contractor
 2. From a representative at the store
 3. Ameren Missouri website
 4. Other, please specify: **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)

Smart Thermostat Usage

- H14. How easy is the smart thermostat to use?
1. Very easy
 2. Somewhat easy
 3. Not too easy
 4. Not at all easy
 98. Don't Know
 99. (Skipped)
- H15. Is the function on your smart thermostat that senses when you are home or away working? (This function is also called "geofencing" or "occupancy sensing.")
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

- H16. Is your smart thermostat connected to the internet?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- H17. What features of your smart thermostat do you like best? **[RANDOMIZE ORDER EXCEPT FOR OTHER, NONE OF THE ABOVE AND DON'T KNOW, CHECK ALL THAT APPLY]**
1. Thermostat design / aesthetic
 2. Thermostat ease of use
 3. Automatically programs itself / automatically adjusts the temperature when you're away
 4. Gives me detailed information about my energy use
 5. Dehumidifying capabilities (When thermostat uses HVAC system to lower indoor humidity level)
 6. Maintenance reminders
 7. Mobile app
 8. Remote monitoring of household temperature and thermostat settings
 9. Ability to check local weather from thermostat and smartphone/tablet app
 10. Other features (please specify) **[SPECIFY _____]**
 11. None of the above **[EXCLUSIVE RESPONSE]**
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- H18. In what ways have you ever accessed your thermostat since it was first installed, to do things such as changing your temperature settings or schedules? **[MARK ALL THAT APPLY]**
1. The thermostat itself
 2. Website on a PC or laptop
 3. Smartphone or tablet app
 4. I have not accessed my thermostat since it was installed **[EXCLUSIVE RESPONSE]**
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- H19. In past 30 days, how have you most often accessed your thermostat? **[SELECT ONE]**
1. The thermostat itself
 2. Website on a PC or laptop
 3. Smartphone or tablet app
 4. I have not accessed my thermostat in the past month **[EXCLUSIVE RESPONSE]**
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)

- H20. How do you currently use your thermostat's interactive capabilities? **[CHECK ALL THAT APPLY]**
1. Check how much energy I have used
 2. Adjust the temperature while at home
 3. Adjust the temperature while away from home
 4. Modify my thermostat schedule while at home
 5. Modify my thermostat schedule while away from home
 6. Check inside or outside temperature
 7. Just checked it out to see what it has to offer
 8. Have not used interactive capabilities
 9. Other (please specify) **[SPECIFY: _____]**
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- H21. Did you or someone in your household set up and program the thermostat, or did the contractor set it up for you?
1. I or someone in my household set up/programmed it
 2. Contractor set up/programmed it
 3. No one set up or programmed the thermostat
 98. Don't Know
 99. (Skipped)
- H22. **[ASK IF H21= 1]** How easy was it to set up your smart thermostat? Would you say it was...?
1. Very easy
 2. Somewhat easy
 3. Not too easy
 4. Not at all easy
 98. Don't Know
 99. (Skipped)
- H23. How is your smart thermostat currently controlled? **[SELECT ONE]**
1. I keep it at a constant temperature throughout the season
 2. I rely on the programmed schedule of temperatures, and never manually change the temperature
 3. I rely on the programmed schedule of temperatures, but sometimes manually change the temperature
 4. I manually adjust the temperature using a regular schedule by changing the temperature for different times of the day or week
 5. I manually adjust the temperature using no regular schedule
 6. Some other way (please specify) **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)

Smart Thermostat Free Ridership Questions

- H24. Did you first find out about the Ameren Missouri rebate before or after you purchased your new thermostat?
1. Learned of rebate before purchase
 2. Learned of rebate after purchase
 98. Don't Know
 99. (Skipped)
- H25. **[ASK IF H24=2]** Please confirm: You purchased your new thermostat and *then* found out it qualified for a rebate from Ameren Missouri afterwards, is that correct?
1. Yes, that is correct **[SKIP TO H31]**
 2. No, that is not correct
 98. Don't Know
 99. (Skipped)
- H26. Before you knew about the rebate from Ameren Missouri, were you already planning to install a smart thermostat this year?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- H27. Without Ameren Missouri's rebate, would you have installed a smart thermostat ...?
1. Around the same time
 2. Later in the same year
 3. In one or two years
 4. After more than three years
 98. Don't Know
 99. (Skipped)
- H28. **[READ IF H27 = 1,2, 98, 99]** Would you have installed the same smart thermostat without the rebate from Ameren Missouri?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

- H29. **[IF H28 = 2, 98, 99]** Would you have installed a different thermostat without the Ameren Missouri rebate or would you have decided to not purchase one at all?
1. I would have installed a different thermostat
 2. I would have decided not to purchase one at all
 98. Don't Know
 99. (Skipped)
- H30. **[IF H29 = 1]** When you say you would have installed a thermostat without the rebate from Ameren Missouri, would you have installed...?
1. A smart thermostat (also called a "learning" thermostat)
 2. A programmable thermostat (a thermostat that can be programmed, but is not "smart" or connected to communication devices)
 3. A manual thermostat
 4. Would not have installed a new thermostat
 98. Don't Know
 99. (Skipped)
- H31. How important was the Ameren Missouri rebate on your decision to purchase and install the smart thermostat?
1. Very important
 2. Somewhat important
 3. Not very important
 4. Not at all important
 98. Don't Know
 99. (Skipped)
- H32. How important was the advice from the contractor in your decision to purchase and install the smart thermostat? Would you say...?
1. Very important
 2. Somewhat important
 3. Not very important
 4. Not at all important
 98. Don't Know
 99. (Skipped)

I. Tune-Up Questions

11. What type of equipment did the contractor tune up? **[ALLOW MULTIPLE RESPONSE]**
1. Air Source Heat Pump
 2. Ground Source Heat Pump
 3. Ductless Heat Pump
 4. Room air conditioner unit(s)
 5. Central air conditioner
 6. Other equipment [SPECIFY: _____]
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
12. What year did you install your **[INSERT RESPONSE FROM I1 – REPEAT FOR EACH EQUIPMENT CHECKED]**?
1. [RECORD YEAR]
 98. Don't Know
 99. (Skipped)
13. Did your contractor provide you with a report identifying your cooling system's efficiency?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)
14. Did your contractor recommend any of the following: **[MARK ALL THAT APPLY]**
1. Replace your air conditioner unit or heat pump with a new high efficiency unit
 2. Make repairs to your duct work
 3. Suggest any other system improvements [SPECIFY: _____]
 4. None **[EXCLUSIVE RESPONSE]**
 98. Don't know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
15. **[ASK IF 1, 2 OR 3 IS CHECKED IN I4]** Have you followed any of their recommendations?
1. **[SHOW IF I4=1]** Yes, I replaced my air conditioner unit or heat pump with a new high efficient unit
 2. **[SHOW IF I4=2]** Yes, I made repairs to my duct work
 3. **[SHOW IF I4=3]** Yes, **[INSERT SPECIFIED TEXT FROM I4 "OTHER"]**
 4. No
 98. Don't know
 99. (Skipped)

16. **[IF I4=1 AND 1 IS NOT CHECKED IN I5]** Why did you choose to tune-up your system rather than replace it? (Check all that apply) **[RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW; ALLOW MULTIPLE RESPONSES]**
1. I expect the system to last for the foreseeable future
 2. The system is still efficient enough
 3. I don't want to invest the money in a new system yet
 4. I never considered that as an option
 5. Other reason **[SPECIFY: _____]**
 98. Don't know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
17. How satisfied are you with the performance of your system since the tune-up? Are you...
1. Very satisfied
 2. Somewhat satisfied
 3. Not too satisfied
 4. Not at all satisfied
 98. Don't know
 99. (Skipped)
18. **[ASK IF I7= 1, 2, 3 OR 4]** Why are you **[RATING FROM D1]** with the tune-up?
[RECORD RESPONSE: _____]
19. Since you received your tune-up have you experienced any benefits? **[RANDOMIZE ORDER EXCEPT OTHER, NONE OF THE ABOVE & DON'T KNOW; ALLOW MORE THAN ONE RESPONSE.]**
1. Increased energy savings/lower electric bill
 2. Increased comfort
 3. Increased convenience or productivity
 4. Lower maintenance costs
 5. Improved air quality in the home
 6. Some other reason **[SPECIFY: _____]**
 7. None of the above **[EXCLUSIVE RESPONSE]**
 98. Don't know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
110. Before the tune-up, was your system able to adequately cool your home on the hottest days of the year?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)

- I11. After the tune-up, was your system able to adequately cool your home on the hottest days of the year?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)

- I12. After the tune-up, how have you changed the temperature settings in your home?
1. I keep my home cooler in the summer now
 2. I keep my home warmer in the summer now
 3. I use the same temperature settings as before
 98. Don't know
 99. (Skipped)

Tune-Up Free Ridership Questions

- I13. Do you currently have a maintenance contract for your HVAC system?
1. Yes
 2. No **[SKIP TO I15]**
 98. Don't know **[SKIP TO I15]**
 99. (Skipped) **[SKIP TO I15]**

- I14. Did you purchase the maintenance agreement when you received the tune-up?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)

- I15. Did your regular maintenance contractor provide the tune-up as part of your maintenance contract or annual check-up?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)

- I16. When you first heard of the Ameren Missouri rebate, had you already scheduled your tune-up or annual check-up?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)

- I17. **[ASK IF I16= 1]** To confirm, you scheduled the tune-up or check-up and then found out about the Ameren Missouri discount, is that correct?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)
- I18. Did your contractor explain what was different about Ameren Missouri's TEA [Tune-Up Plus Efficiency Analysis] from their standard tune-up?
1. Yes
 2. No **[SKIP TO I20]**
 3. Explained that there was no difference **[SKIP TO I20]**
 98. Don't know **[SKIP TO I20]**
 99. (Skipped) **[SKIP TO I20]**
- I19. **[IF I18=1]** What did the contractor say was different? **[ACCEPT MULTIPLE RESPONSES, RANDOMIZE ORDER EXCEPT OTHER & DON'T KNOW]**
1. Checked airflow
 2. Checked/adjusted refrigerant charge
 3. Cleaned indoor coil
 4. Cleaned outdoor coil
 5. Includes a test and report that identifies the efficiency of my system and maintenance or replacement recommendations
 6. It was a more in-depth check of the system
 7. Other **[RECORD:_____]**
 98. Don't know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- I20. If the \$75 rebate provided by Ameren Missouri had not been available, what would you have done?
1. Purchased a tune-up at full cost
 2. Purchased a less in-depth, less expensive tune-up
 3. Done nothing at all
 98. Don't know
 99. (Skipped)

- I21. Without the rebate, when would you have had a tune-up performed?
1. At the same time
 2. Later in the same year
 3. In one to two years
 4. More than two years
 5. Would not have tune-up performed
 98. Don't know
 99. (Skipped)

J. *Satisfaction with Ameren Missouri*

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED.

- J1. Thinking about your overall experiences with Ameren Missouri as your utility, how satisfied would you say you are with Ameren Missouri?
1. Very satisfied
 2. Somewhat satisfied
 3. Not too satisfied
 4. Not satisfied at all
 98. Don't Know
 99. (Skipped)
- J2. **[ASK IF J1= 1, 2, 3 OR 4]** Why are you “[**RATING FROM J1**]” with Ameren Missouri as your utility? (Check all that apply.) **[ALLOW MULTIPLE RESPONSE; show all response options if J1=2 or 3, show response options 1-5 & 10, 98 if J1=1, show response options 6-10 & 98 if J1=4. RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW]**
1. Satisfied with the reliable and dependable service
 2. Satisfied with the customer service
 3. Satisfied with outage response
 4. Satisfied with utility rates
 5. The incentive/rebate for my equipment or tune-up
 6. Dissatisfied with the utility rates
 7. Dissatisfied with the reliability of service
 8. Dissatisfied with infrastructure maintenance
 9. Dissatisfied with customer service
 10. Other [**SPECIFY:** _____]
 98. Don't know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)

- J3. Based on your experience with the Heating and Cooling Program, would you say your satisfaction with Ameren Missouri has:
1. Increased
 2. Stayed about the same, or
 3. Decreased?
 98. Don't Know
 99. (Skipped)

K. All HVAC Participants Customer Demographics

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED.

We are almost finished! There are just a few final questions about your home that will help us with our analysis.

- K1. Is the energy used in your home . . .
1. All electric,
 2. Natural gas and electric,
 3. Some other combination of energy sources?
 98. Don't Know
 99. (Skipped)
- K2. Is your hot water heater electric or gas?
1. Electric
 2. Gas
 98. Don't Know
 99. (Skipped)
- K3. Which of the following best describes your home or residence? **[SELECT ONE RESPONSE]**
1. Single-family home (not a duplex, townhome, or apartment)
 2. Manufactured or modular home
 3. Mobile home
 4. Row house or townhome
 5. Two or three family attached residence
 6. Apartment with four or more units
 7. Condominium
 8. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)

- K4. Do you own or rent this residence?
1. Own
 2. Rent
 98. Don't Know
 99. (Skipped)
- K5. Approximately how many square feet of living space does your home have? Don't include the basement unless it is a space that you consider "lived in".
1. Less than 1,000 square feet
 2. 1,000 to less than 1,500 square feet
 3. 1,500 to less than 2,000 square feet
 4. 2,000 to less than 2,500 square feet
 5. 2,500 to less than 3,000 square feet
 6. 3,000 or more square feet
 98. Don't Know
 99. (Skipped)
- K6. When was your home built?
1. After 2008
 2. 2005-2008
 3. 2001-2004
 4. 1980-2000
 5. Before 1980
 98. Don't Know
 99. (Skipped)
- K7. Counting yourself, how many people normally live in your household on a full-time basis? Please include everyone who lives in your home, whether or not they are related to you, and exclude anyone just visiting or children who may be away at college or in the military.
1. Please enter a number: **[RECORD NUMERIC RESPONSE: _____]**
 2. I prefer not to answer this question
 99. (Skipped)

End of survey message for those who get to last page of the survey (eligible for drawing): Those are all of our questions! Click to the next page to verify your information for the prize drawing. **[CONTINUE TO SWEEPSTAKES VERIFICATION]**

Termination for non-aware or ineligible ECM - without thermostat (eligible for drawing): That is all of our questions. You are eligible to enter the prize drawing. **[CONTINUE TO SWEEPSTAKES VERIFICATION]**

Termination for non-aware or ineligible ECM - with thermostat (eligible for drawing): That is all of our questions at this time. We may email you an invitation to take another survey about your smart

thermostat purchase. You are eligible to enter the prize drawing. **[CONTINUE TO SWEEPSTAKES VERIFICATION]**

Termination for HVAC employee screen (eligible for drawing): We are not surveying households where somebody works with heating and cooling equipment about this program. However, you are still eligible to enter the prize drawing. **[CONTINUE TO SWEEPSTAKES VERIFICATION]**

Termination for Ameren employee screen (not eligible for drawing): We are not surveying Ameren Missouri employee households about this program. We appreciate your participation and thank you for your time. **[TERMINATE]**

- K8. As a token of our appreciation, you are eligible to participate in a random drawing to win one of five \$100 gift cards that we are awarding to Ameren Missouri customers who take this survey (see details below).

No purchase necessary to enter to win. Must be 18 years or older to participate or win. The odds of winning are dependent upon the number of persons participating in the drawing. The drawing starts on June 1, 2017 and ends on February 28, 2018. Winners will be randomly selected on March 15, 2017. Visit Ameren.com/Sweepstakes for official rules, odds of winning and entry details. Sponsor: Ameren Missouri.

How would you like to receive your gift card if you win the drawing?

- 1. Mail the gift card to me:
[PLEASE PROVIDE YOUR NAME AND ADDRESS: _____]
- 2. Send me an “e-card” gift certificate by email:
K9. **[PLEASE PROVIDE YOUR EMAIL ADDRESS: _____]**
- 1. I do not want to participate in the drawing.
- 99. (Skipped)

Closing message for respondents who enter drawing:

We appreciate your participation and thank you for your time.
Prize winners will be randomly selected on March 15, 2018.
Visit Ameren.com/Sweepstakes for official rules, odds of winning and entry details.
Sponsor: Ameren Missouri.

Closing message for respondents who decline to enter drawing:

This completes the survey. We appreciate your participation and thank you for your time.

Appendix D4. Ameren Missouri 2017 Online HVAC Follow-Up Survey

Research Topics	Survey Question Mapping
Program processes, product purchase decisions	B1-B2
Participant satisfaction	C1-C9
Spillover Questions	D1-D17
Program processes, central air-conditioner baseline equipment	E1-E6
Program processes, heat pump installation decisions and baseline equipment	F1-F15
Program processes, ECM installation decisions, baseline and usage	G1-G14
Program processes, Tune-Ups	H1-H8
Participant satisfaction, Ameren	I1-I3
Participant Demographics	J1-J7

Red text = programming instructions (not visible to respondents)

[Measuretype] = measure name imported from panel data

Green text = open-ended responses

(Skipped) responses are not visible (99 = code for nothing selected / skipped question)

Catalogue ID - From Tracking Data Base	[MEASURENAME] - For Initial Measure Verification	[MEASURETYPE] - As Appears in Most Survey Questions	[MEASUREEFFICIENCY] - For Selected Free ridership Question	Category - Determines Applicability of Survey Sections
ASHP ER with ASHP 16+ ER	air source heat pump (16+ SEER)	air source heat pump	16+ SEER	Heat Pump
ASHP ER with ASHP SEER 15 ER	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP Replace at Fail with ASHP 16+	air source heat pump (16+ SEER)	air source heat pump	16+ SEER	Heat Pump

ASHP Replace at Fail with ASHP SEER 15	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP SEER 15 ER Elec Resist Furnace ER	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP SEER 15 Replace at Fail Elect Resist Furnace	air source heat pump (15 SEER)	air source heat pump	15 SEER	Heat Pump
ASHP SEER 16+ ER Elec Resist Furnace ER	air source heat pump (16+ SEER)	air source heat pump	16+ SEER	Heat Pump
ASHP SEER 16+ Replace at Fail Elec Resist Furnace	air source heat pump (16+ SEER)	air source heat pump	16+ SEER	Heat Pump
CAC SEER 14 ER	central air conditioner (14 SEER)	central air conditioner	14 SEER	Central Air Conditioner
CAC SEER 14 Replace at Fail	central air conditioner (15 SEER)	central air conditioner	15 SEER	Central Air Conditioner
CAC SEER 15 ER	central air conditioner (15 SEER)	central air conditioner	15 SEER	Central Air Conditioner
CAC SEER 15 Replace at Fail	central air conditioner (15 SEER)	central air conditioner	15 SEER	Central Air Conditioner
CAC SEER 16+ ER	central air conditioner (16+ SEER)	central air conditioner	16+ SEER	Central Air Conditioner
CAC SEER 16+ Replace at Fail	central air conditioner (16+ SEER)	central air conditioner	16+ SEER	Central Air Conditioner
Concept 3 Continuous Fan Replace at Fail_50	furnace fan	furnace fan		ECM
Concept 3 Installations Auto Fan ER_100	furnace fan	furnace fan		ECM
Concept 3 Installations Auto Fan ER_50	furnace fan	furnace fan		ECM
Concept 3 Installations Auto Fan Replace at Fail_100	furnace fan	furnace fan		ECM
Concept 3 Installations Auto Fan Replace at Fail_50	furnace fan	furnace fan		ECM
Concept 3 Installations Continuous Fan ER_100	furnace fan	furnace fan		ECM
Concept 3 Installations Continuous Fan ER_50	furnace fan	furnace fan		ECM
DFHP SEER 15_SF	dual-fuel heat pump (15 SEER)	dual-fuel heat pump	15 SEER	Heat Pump
DFHP SEER 16_SF	dual-fuel heat pump (16 SEER)	dual-fuel heat pump	16 SEER	Heat Pump

DFHP SEER 17+_SF	dual-fuel heat pump (17+ SEER)	dual-fuel heat pump	17+ SEER	Heat Pump
DFHP SEER 18+_SF	dual-fuel heat pump (18+ SEER)	dual-fuel heat pump	18+ SEER	Heat Pump
Ductless ASHP ER	ductless heat pump	ductless heat pump	high efficiency	Heat Pump
Ductless ASHP Replace Electric Resistance ER	ductless heat pump	ductless heat pump	high efficiency	Heat Pump
Ductless ASHP Replace Electric Resistance ROF	ductless heat pump	ductless heat pump	high efficiency	Heat Pump
Ductless ASHP ROF	ductless heat pump	ductless heat pump	high efficiency	Heat Pump
GSHP - 23 EER ER	ground source heat pump (23 EER)	ground source heat pump	23 EER	Heat Pump
GSHP - 23 EER Replace at Fail	ground source heat pump (23 EER)	ground source heat pump	23 EER	Heat Pump
GSHP SEER 14+ ER ASHP with GSHP ER	ground source heat pump (14+ SEER)	ground source heat pump	14+ SEER	Heat Pump
GSHP SEER 14+ ER Elec Resist Furnace ER	ground source heat pump (14+ SEER)	ground source heat pump	14+ SEER	Heat Pump
GSHP SEER 14+ Replace Elec Resist Furnace	ground source heat pump (14+ SEER)	ground source heat pump	14+ SEER	Heat Pump
HVAC Maintenance and Tune-up_SF	Tune-Up	tune-up	Tune-Up	Tune-Up

A. All HVAC Measures – Verification and Program Awareness

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED.

INTRO: Thank you for participating in Ameren Missouri’s Heating and Cooling Program. We would like to know more about your experience with the program. Instructions for participating in the prize drawing for participating in the survey are provided at the end of these questions.

- A1. Our records indicate that you received a rebate for **[ASK IF MEASURETYPE ≠ TUNE-UP]** installing a new high efficiency **[MEASURENAME]** **[ASK IF MEASURETYPE = TUNE-UP]** an equipment tune-up. Is this correct? **[FORCED RESPONSE (NO SKIP)]**
1. Yes
 2. No, I did not receive a rebate
- A2. **[IF A1=2]** Why did you not receive a rebate?
1. I did not participate in the Ameren Missouri Heating and Cooling Program **[TERMINATE]**
 2. I participated in the Ameren Missouri Heating and Cooling Program, but my rebate has not arrived yet **[TERMINATE]**
 3. Some other reason, please specify: **[SPECIFY: _____]** **[TERMINATE]**
 98. Don’t Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**
- A3. **[ASK IF MEASURETYPE = FURNACE FAN]** Did you install your new furnace fan with a new furnace, or did you install it with an existing furnace?
1. I installed it with a new furnace
 2. I installed it with an existing furnace
 98. Don’t Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**
- A4. **[ASK IF A3=1]** Do you have a central air conditioner or heat pump?
1. Yes
 2. No **[TERMINATE]**
 98. Don’t Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**
- A5. **[ASK IF A3 = 1]** Did you install the air-conditioner or heat pump when you installed the furnace?
1. Yes
 2. No **[TERMINATE]**
 98. Don’t Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**

- A6. **[ASK IF A4 = 1]** Why did you not get a rebate for the air conditioner or heat pump?
1. I did get a rebate from Ameren Missouri **[TERMINATE]**
 2. Because my contractor said it did not qualify **[TERMINATE]**
 3. The efficiency was too low **[TERMINATE]**
 4. Because I did not get a new indoor cooling coil my install didn't qualify **[TERMINATE]**
 5. Because I was unable to get a valid AHRI certificate, thus did not qualify for a rebate **[TERMINATE]**
 6. **[SPECIFY: _____]** **[TERMINATE]**
 98. Don't Know **[TERMINATE]**
 99. (Skipped) **[TERMINATE]**
- A7. Are you or any members of your household employed by Ameren Missouri or by a company that sells, installs, or services heating and cooling equipment? **[FORCED RESPONSE (NO SKIP OR DK)]**
1. Yes, I or someone in my household works for Ameren Missouri **[TERMINATE]**
 2. Yes, I or someone in my household works for a company that sells, installs or services heating and cooling equipment **[TERMINATE]**
 3. No one in my household works for the companies listed above
- A8. Prior to this survey, were you aware that the rebate you received after **[ASK IF MEASURETYPE ≠ TUNE-UP: installing your new high efficiency [MEASURETYPE] [ASK IF MEASURETYPE = TUNE-UP: your tune-up was provided by Ameren Missouri?**
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

B. All HVAC Measures - Purchase Patterns and Decision-making

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED. MEASURE-SPECIFIC PURCHASE PATTERN AND DECISION-MAKING QUESTIONS WILL BE ADDRESSED IN EACH MEASURE'S SECTION

B1. **[ASK IF MEASURETYPE ≠ TUNE-UP]** What was the primary reason you purchased a new **[MEASURETYPE]**? **[RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW, SELECT ONE RESPONSE]**

1. To replace broken equipment
2. To replace aging equipment
3. To improve the comfort of my home
4. To improve the safety of my home
5. The purchase was part of a larger home renovation
6. The equipment is for a newly constructed home
7. To save money on energy costs
8. To help the environment
9. Some other reason, please specify: **[SPECIFY: _____]**
98. Don't Know
99. (Skipped)

B2. **[ASK IF MEASURETYPE = TUNE-UP]** What motivated you to purchase the tune-up service? **[RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW; ALLOW MULTIPLE RESPONSES]**

1. My air conditioner stopped working (i.e., unit failed)
2. My air conditioner was working, but was having problems (i.e., wasn't cooling properly or was making a noise)
3. Was included in my maintenance contract or part of a regularly scheduled check up
4. To take advantage of the rebate
5. It was time for a tune-up
6. To ensure that it lasts longer
7. To find out if it needs any repairs
8. To keep my air conditioner running efficiently
9. To save energy
10. To lower energy bill, save money on bills
11. It didn't cost much
12. Reminded by Ameren Missouri advertising
13. Reminded by advertising other than Ameren Missouri
14. Recommended by a family member or friend
15. Other **[SPECIFY: _____]**
98. Don't Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

C. All HVAC Measures – Participant Satisfaction

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED.

C1. How satisfied are you with the contractor you worked with?

1. Very satisfied
2. Somewhat satisfied
3. Not too satisfied
4. Not satisfied at all
98. Don't Know
99. (Skipped)

C2. **[ASK IF C1 = 1, 2, 3 OR 4]** Why are you **[RATING FROM C1]** with the contractor? **ALLOW MULTIPLE RESPONSES; SHOW ALL RESPONSE OPTIONS IF C1=2 OR 3, SHOW RESPONSE OPTIONS 1 – 8 & 14, 98 IF C1=1, SHOW RESPONSE OPTIONS 9-14 & 98 IF C1=4. RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW]**

1. Satisfied with the efficiency of the contractor
2. Satisfied with the reliability of the contractor
3. Satisfied with the quality of work
4. Satisfied with the cleanliness of the job site
5. Satisfied with customer care
6. Satisfied with the cost/warranty of the equipment
7. Long-standing relationship with the contractor
8. Satisfied with the equipment the contractor installed
9. Dissatisfied with the quality of work
10. Dissatisfied with the level of communication from the contractor
11. Dissatisfied with the with the installation of the equipment
12. Dissatisfied with the contractor's ability to resolve a problem
13. Dissatisfied with delays installing equipment
14. Other **[SPECIFY: _____]**
98. Don't Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

C3. How satisfied are you with the time it took to receive your rebate in the mail?

1. Very satisfied
2. Somewhat satisfied
3. Not too satisfied
4. Not satisfied at all
98. Don't Know
99. (Skipped)

- C4. **[ASK IF MEASURETYPE ≠ TUNE-UP]** How satisfied are you with the performance of your new **[MEASURETYPE]**?
1. Very satisfied
 2. Somewhat satisfied
 3. Not too satisfied
 4. Not satisfied at all
 98. Don't Know
 99. (Skipped)
- C5. **[ASK IF C4 = 1, 2, 3 OR 4]** Why are you **[RATING FROM C4]** with the performance of your new **[MEASURETYPE]**? **[ALLOW MULTIPLE RESONSES; SHOW ALL RESPONSE OPTIONS IF C4=2 OR 3, SHOW RESPONSE OPTIONS 1-6 & 13, 98 IF C4=1, SHOW RESPONES OPTIONS 7-13 & 98 IF C4=4. RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW]**
1. Satisfied with energy/cost savings experienced after installation
 2. Satisfactory overall operation and performance of the unit
 3. Unit provides effective cooling
 4. Unit is quieter than the previous one
 5. **[SHOW ONLY IF MEASURE CATEGORY= HEAT PUMP]** Unit provides effective heating
 6. **[SHOW ONLY IF MEASURE TYPE=DUCTLESS HEAT PUMP]** Unit works without ducts
 7. Unit is noisier than the previous one
 8. Did not notice energy/cost savings after installation
 9. Poor performance of unit (including insufficient cooling, temperature fluctuations, and condensation)
 10. Installation problems (including under-sizing or oversizing units)
 11. High cost of unit
 12. Unit did not provide a satisfactory return on investment
 13. Other **[SPECIFY: _____]**
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- C6. Thinking about your overall satisfaction with Ameren Missouri's Heating and Cooling Program, would you say you are:
1. Very satisfied
 2. Somewhat satisfied
 3. Not too satisfied
 4. Not satisfied at all
 98. Don't Know
 99. (Skipped)

C7. **[ASK IF C6 = 1, 2, 3 OR 4]** Why are you **[RATING FROM C6]** with Ameren Missouri’s Heating and Cooling Program? **[ALLOW MULTIPLE RESONSES; SHOW ALL RESPONSE OPTIONS IF C6 = 2 OR 3, SHOW RESPONSE OPTIONS 1-5 & 9, 98 IF C6 = 2, SHOW RESPONSE OPTIONS 6-9 & 98 IF C6 = 4].**
RANDOMIZE ORDER EXCEPT FOR OTHER AND DON’T KNOW]

1. Satisfied with the rebates
2. Overall positive program experience
3. The program met my expectations
4. Satisfied with the environmental benefits of the program
5. Satisfied with the contractor
6. Dissatisfied with the rebates
7. Dissatisfied with delays in rebate processing
8. Dissatisfied with the contractor
9. Other **[SPECIFY: _____]**
98. Don’t Know **[EXCLUSIVE RESPONSE]**
99. (Skipped)

C8. Would you recommend Ameren Missouri’s Heating and Cooling Program to friends or family members?

1. Yes
2. No
98. Don’t Know
99. (Skipped)

C9. What suggestions, if any, do you have for improving the program?

1. Specify suggestions: **[RECORD RESPONSE: _____]**
99. (Skipped)

D. Spillover Questions

D1. Since participating in the Heating and Cooling program, have you added any other energy-efficient products in your home or had any other energy-related services performed that were not discounted through Ameren Missouri?

1. Yes
2. No **[SKIP TO NEXT SECTION]**
98. Don’t Know **[SKIP TO NEXT SECTION]**
99. (Skipped) **[SKIP TO NEXT SECTION]**

D2. **[IF D1=1]** Please select the energy-efficient products or services that you purchased (and installed, if applicable) since your experience with Ameren Missouri’s Heating and Cooling program.

[RANDOMIZE ORDER, CHECK ALL THAT APPLY]

1. Home/building audit
2. Recycled a refrigerator
3. Recycled a freezer
4. Constructed an ENERGY STAR New Home
5. ENERGY STAR refrigerator
6. ENERGY STAR freezer
7. ENERGY STAR clothes washer
8. ENERGY STAR dishwasher
9. ENERGY STAR room air conditioner
 - a. How many? [**SPECIFY:** _____]
10. ENERGY STAR air purifier
 - D2a. How many? [**SPECIFY:** _____]

11. Variable speed pool pump
12. ENERGY STAR dehumidifier
13. Efficient water heater (other than heat pump water heater)
14. Efficient showerheads
 - b. How many of these are currently installed in your home? **[SPECIFY: _____]**
15. Efficient faucet aerators
 - c. How many of these are currently installed in your home? **[SPECIFY: _____]**
16. Efficient central air conditioner
17. Air source heat pump
18. Geothermal heat pump
19. Ductless heat pump
20. Dual-fuel heat pump
21. Efficient furnace fan
22. Heat pump water heater
23. Programmable (but not "smart") thermostat
24. Learning or "smart" thermostat
25. Insulation
26. Windows
27. Solar panels
28. Other items
 - d. Please specify: **[SPECIFY: _____]**
98. Don't Know **[SKIP TO NEXT SECTION]**
99. (Skipped)

[PRESENT THIS MESSAGE IF D1=1 AND NOTHING SELECTED IN D2]

You did not check any products or services for the last question.

If you did purchase and install any energy-efficient products or services, please use the back arrow below to return to that question and select one or more answers (select "other items" if you do not see your products or services on the list).

If you did NOT purchase and install any energy-efficient products or services, please use the forward arrow below to continue the survey.

- D3. **[ASK IF D2=1]** What kind of changes did you make to your home as a result of the audit?
1. **[RECORD RESPONSE: _____]**
 99. (Skipped)

- D4. **[SKIP IF MEASURE TYPE = TUNE-UP; ASK IF D2=D2.23 OR D2.24]** Did you install your new thermostat(s) when you installed your **[MEASURE TYPE]**?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- D5. **[ASK IF D2=D2.23 OR D2.24]** What kind of thermostat did you replace with the **[PROGRAMMABLE THERMOSTAT / SMART THERMOSTAT]**?
1. **[IF D2=24 "ANOTHER"]** Smart thermostat
 2. **[D2=23 "ANOTHER"]** Programmable (but not "smart") thermostat
 3. Manual thermostat
 98. Don't Know
 99. (Skipped)
- D6. Ask if **[D2= 13, 14, 15, 16, 17, 18, 19, 20, 22, 25, 26 – ASK FOR EACH]** How do you know that the **[D2 RESPONSE]** is energy efficient?
1. Efficiency rating **[RECORD NUMERIC RESPONSE: _____]**
If D2=D2.13 then display 'Energy Factor (EF) rating'
If D2=D2.14 or D2.15 then display 'Gallons per minute (GPM)'
If D2=D2.16 or 19 then display 'Seasonal Energy Efficiency Ratio (SEER)'
If D2=D2.17 then display 'Heat Season Performance Factor (HSPF)'
If D2=D2.18 then display 'Energy Efficiency Ratio (EER)'
If D2=D2.19 then display 'Heat Season Performance Factor (HSPF)'
If D2=D2.20 then display 'Energy Efficiency Ratio (EER)' and 'Coefficient of Performance (COP)'
If D2=D2.22 then display 'Energy Factor (EF) rating'
If D2=D2.25 then display 'R-Value (thermal resistance)'
If D2=D2.26 then display 'U-Factor'
 2. Other **[RECORD RESPONSE: _____]**
 98. Don't Know
 99. (Skipped)
- D7. **[ASK if D2 = 25]** How many square feet of insulation did you have installed?
1. **[RECORD NUMERIC RESPONSE: _____]**
 99. (Skipped)

- D8. **[ASK IF D2 =26]** How many square feet of windows did you have installed?
 1. **[RECORD NUMERIC RESPONSE: _____]**
 99. (Skipped)
- D9. **[ASK IF D2 = 25]** In what location in your home was the insulation installed?
 1. **[RECORD RESPONSE: _____]**
 99. (Skipped)
- D10. **[ASK if D2 = 26]** In what location in your home were the windows installed?
 1. **[RECORD RESPONSE: _____]**
 99. (Skipped)
- D11. **[ASK ONCE FOR EACH ITEM CHECKED IN D2]** Why did you choose to purchase or install the items listed below? **[INSERT TABLE OF CHECKED RESPONSES FROM D2]**
 1. **[RECORD RESPONSE]: _____**
 99. (Skipped)
- D12. Did you receive a rebate, discount, or tax credit for any of the items listed below? (If yes, check all that apply.) **[INSERT TABLE OF CHECKED RESPONSES FROM D2 – ALLOW MULTIPLE RESPONSE]**
 1. Yes, from Ameren Missouri
 2. Yes, from another organization
 3. No
 98. Don't Know
 99. (Skipped)
- D13. **[ASK FOR EACH ITEM WHERE D12 = 2]** What organizations besides Ameren Missouri paid the rebates, or provided discounts or tax credits for the items listed below? **[INSERT TABLE OF CHECKED RESPONSES FROM D2]**
 1. **[RECORD RESPONSE: _____]**
 99. (Skipped)
- D14. **[FOR MEASURES FOR WHICH AMEREN PROVIDES INCENTIVES (D2.9, D2.10, D2.11, 16, 17, 18, 19, 20, 22, 24) , ASK FOR EACH ITEM WHERE D12= 2 OR 3]** Why didn't you apply for a rebate from Ameren Missouri for the purchase of your **[D2 RESPONSE]**?
 1. **[RECORD RESPONSE]: _____**
 99. (Skipped)

D15. How important was your rebate in the Ameren Missouri program on your decision to purchase or install the [D2 RESPONSE]? [INSERT TABLE OF CHECKED RESPONSES FROM D2]

- 1. Not at all important
- 2. Not too important
- 3. Somewhat important
- 4. Very important
- 98. Don't Know
- 99. (Skipped)

D16. [ASK FOR EACH CHECKED ITEM FROM D2] Prior to purchasing or installing the items listed below, had you heard or read about the benefits of installing this equipment from [your contractor, Ameren Missouri, or Ameren Missouri's Act on Energy campaign]?

D2	Yes (1)	No (2)	Don't know (98)
[INSERT 1 st CHECKED RESPONSE FROM D2]			
[INSERT 2 nd CHECKED RESPONSE FROM D2]			
[INSERT 3 rd CHECKED RESPONSE FROM D2]			
[INSERT 4 th CHECKED RESPONSE FROM D2]			

D17. [ASK FOR EACH YES RESPONSE IN D16] How important was the information the contractor or Ameren Missouri provided about the energy efficiency or money saving benefits on your decision to purchase or install the items listed below? [INSERT TABLE OF ALL "YES" RESPONSES FROM D16]

- 1. Not at all important
- 2. Not too important
- 3. Somewhat important
- 4. Very important
- 98. Don't Know
- 99. (Skipped)

E. Central Air Conditioner Questions

ASK QUESTIONS OF PARTICIPANTS THAT HAVE INSTALLED CENTRAL AIR CONDITIONERS

- E1. Did you install your central air conditioner in a newly constructed home or in an existing home?
1. Newly constructed home
 2. Existing home
 99. (Skipped)
- E2. Do you have any of the following currently installed in addition to your new efficient air conditioner at your home? **[INDICATE ALL THAT APPLY]**
1. Air Source Heat Pump
 2. Window air conditioner unit(s)
 3. Ground Source Heat Pump
 4. Ductless Heat Pump
 5. Standard-efficiency air conditioner
 6. Room air conditioner unit(s)
 7. Another high-efficiency air conditioner
 8. Space heater(s)
 9. High-efficiency gas furnace
 10. Standard-efficiency gas furnace
 11. High-efficiency electric furnace
 12. Standard-efficiency electric furnace
 13. Baseboard electric system
 14. None of the above **[EXCLUSIVE RESPONSE]**
 98. Don't Know**[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- E3. **[ASK IF D2≠23 OR 24]** What type of thermostat do you use to control your heating and cooling equipment?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)
- E4. **[ASK IF E3= 1,2 OR 3]** Did you install this thermostat when you installed your new air conditioning system?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

- E5. **[ASK IF E4=1]** What type of thermostat did you have before installing the new thermostat?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)
- E6. What type of cooling system did you replace and remove when installing your new efficient air conditioning system?
1. Nothing
 2. Window air conditioning unit(s)
 3. Air source heat pump
 4. Room air conditioning unit(s)
 5. Ground source heat pump
 6. Central air-conditioning
 7. Other **[SPECIFY: _____]**
 8. I kept my cooling system
 9. I didn't have a cooling system
 98. Don't Know
 99. (Skipped)

F. Heat Pumps

ASK OF PARTICIPANTS WHO HAVE INSTALLED HEAT PUMPS

- F1. Did you install your heat pump in a newly constructed home or in an existing home?
1. Newly constructed home
 2. Existing home
 99. (Skipped)
- F2. For what purpose did you install your heat pump?
1. Primarily heating
 2. Primarily cooling
 3. Both heating and cooling
 98. Don't Know
 99. (Skipped)

- F3. What type of heating system did you replace and remove before you installed the heat pump?
1. Electric forced air furnace
 2. Electric baseboard heat
 3. Ground source heat pump
 4. Air Source Heat Pump
 5. Gas heating system (boiler, furnace)
 6. Other [SPECIFY: _____]
 7. I kept my previous heating system
 8. Nothing – this is new construction
 98. Don't Know
 99. (Skipped)
- F4. What type of cooling system did you replace and remove before you installed the heat pump?
1. Window air conditioning unit(s)
 2. Room air conditioning unit(s)
 3. Air Source Heat Pump
 4. Ground Source Heat Pump
 5. Central air conditioning system
 6. Other [SPECIFY: _____]
 7. I kept my previous cooling system
 8. I didn't have a cooling system
 98. Don't Know
 99. (Skipped)

F5. Do you have any of the following currently installed in addition to your new heat pump at your home? **[INDICATE ALL THAT APPLY]**

1. Air Source Heat Pump
2. Window air conditioner unit(s)
3. Ground Source Heat Pump
4. Ductless Heat Pump
5. Standard-efficiency air conditioner
6. Room air conditioner unit(s)
7. Another high-efficiency air conditioner
8. Space heater(s)
9. High-efficiency gas furnace
10. Standard-efficiency gas furnace
11. High-efficiency electric furnace
12. Standard-efficiency electric furnace
13. Baseboard electric system
14. None of the above
98. Don't Know
99. (Skipped)

F6. **[IF MEASURETYPE=ASHP]** Why did you choose to install an air source heat pump?

1. I wanted a higher efficiency electric heating system
2. I wanted a high-efficiency cooling system
3. It is more "green" than any other heating/cooling options
4. I wanted to reduce fossil fuel consumption
5. I wanted to save money on my utility bills
6. I wanted to take advantage of Ameren Missouri's rebate
7. Other **[SPECIFY: _____]**
98. Don't Know
99. (Skipped)

F7. **[IF MEASURETYPE=GSHP]** Before you selected your **[MEASURETYPE]**, did you consider installing an air source heat pump?

1. Yes
2. No
98. Don't Know
99. (Skipped)

- F8. **[IF MEASURETYPE=GSHP]** Why did you specifically choose to install a ground source heat pump?
1. It is the most efficient possible option
 2. It is more “green” than any other heating/cooling option
 3. To save money on my heating and cooling bills
 4. Our property is ideal for installation of ground well/ground loops
 5. Ground loops were already present on our property
 6. To replace my existing ground-source heat pump
 7. To increase the resale value of my home
 8. It provides more heat at low outdoor temperatures than an air source heat pump
 9. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- F9. **[IF MEASURETYPE=DUCTLESS HP]** Why did you specifically choose to install a ductless heat pump?
1. I wanted to install a Heat Pump but I did not have the duct work to install other types of heat pumps
 2. It was the easiest way to install a Heat Pump at my home
 3. To save money on my heating and cooling bills
 4. To increase the resale value of my home
 5. I wanted a higher efficiency electric heating system
 6. I wanted a high-efficiency cooling system
 7. It is more “green” than any other heating/cooling options
 8. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- F10. At what point did you determine the exact model and brand of heat pump that you wanted to buy?
1. I knew which model I wanted before calling a contractor
 2. I decided after the contractor provided me with options
 98. Don't Know
 99. (Skipped)

F11. Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply. **[CHECK ALL THAT APPLY]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. Other, Please specify: **[SPECIFY: _____]**
98. Don't Know
99. (Skipped)

F12. **[ASK IF MORE THAN ONE RESPONSE IS CHECKED IN F11]** If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected? **[ONLY SHOW RESPONSES CHECKED IN F11; SELECT ONE RESPONSE]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. **[INSERT "OTHER SPECIFY" RESPONSE FROM F11]**
98. Don't Know
99. (Skipped)

F13. **[ASK IF D2≠19 OR 20]** What type of thermostat do you use to control your heating and cooling equipment?

1. Manual thermostat
2. Programmable thermostat
3. Smart thermostat (may be called learning thermostat)
98. Don't Know
99. (Skipped)

- F14. **[ASK IF F13 = 1,2 OR 3]** Did you install this thermostat when you installed your new air conditioning system?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- F15. **[ASK IF F14=1]** What type of thermostat did you have before installing the new thermostat?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)

G. Furnace Fan Questions

ASK OF PARTICIPANTS WHO INSTALLED ONLY ECM MEASURE – NO OTHER MEASURE

- G1. What type of heating system do you have?
1. Air Source Heat Pump
 2. Electric furnace
 3. Gas furnace
 4. Ground Source Heat Pump
 5. Other **[SPECIFY: _____]**
 99. (Skipped)
- G2. What type of cooling system do you have?
1. Air Source Heat Pump
 2. Ground Source Heat Pump
 3. Central air conditioner
 4. Window air conditioner(s)
 5. Other **[SPECIFY: _____]**
 6. None
 99. (Skipped)
- G3. Your new furnace fan (with a high efficiency variable speed motor for your heating and cooling system) is able to vary speed to change the airflow that your heating and cooling system delivers. Did your previous fan have this ability?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)

- G4. Why did you decide to install a new furnace fan? **[INDICATE ALL THAT APPLY]**
1. My previous fan motor stopped working (i.e., unit failed)
 2. My previous fan motor but was having problems
 3. I was unsatisfied with the airflow
 4. To take advantage of the rebate
 5. Maintenance contract / Regularly scheduled check up
 6. To keep my air conditioner running efficiently
 7. To save energy
 8. To lower my energy bill, save money on bills
 9. It didn't cost much
 10. Reminded by Ameren Missouri advertising
 11. Reminded by advertising other than Ameren Missouri
 12. Recommended by a family or friend
 98. Don't Know
 99. (Skipped)
- G5. **[ASK IF D2≠19 OR 20]** What type of thermostat do you use to control your heating and cooling equipment?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)
- G6. **[ASK IF G5 = 1,2 OR 3]** Did you install this thermostat when you installed your new air conditioning system?
1. Yes
 2. No
 98. Don't Know
 99. (Skipped)
- G7. **[ASK IF G6=1]** What type of thermostat did you have before installing the new thermostat?
1. Manual thermostat
 2. Programmable thermostat
 3. Smart thermostat (may be called learning thermostat)
 98. Don't Know
 99. (Skipped)

- G8. Do you operate your fan in “continuous” mode to circulate air?
1. Yes
 2. No
 98. Don’t Know
 99. (Skipped)
- G9. **[IF G9=1]** Can you estimate the average number of hours per day it is set to “continuous” for each season?
1. Spring/fall: ___ [0-24]
 2. Summer: _____ [0-24]
 3. Winter: _____ [0-24]
 98. Don’t Know
 99. (Skipped)
- G10. **[IF G9=1]** Would you say the time you operate your fan in circulation mode has...
1. Increased?
 2. Decreased?
 3. Stayed the same?
 98. Don’t Know
 99. (Skipped)
- G11. **[IF G11=1 OR 2]** Can you estimate the hours of **[INCREASE/DECREASE]** for each season?
1. Spring/fall: **[SPECIFY: _____]** 0-24]
 2. Summer: **[SPECIFY: _____]** 0-24]
 3. Winter: **[SPECIFY: _____]** 0-24]
 98. Don’t Know
 99. (Skipped)
- G12. At what point did you determine the exact model and brand you wanted to buy?
1. I knew which model I wanted before calling a contractor
 2. I decided after the contractor provided me with options
 98. Don’t Know
 99. (Skipped)

G13. Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply. **[CHECK ALL THAT APPLY]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. Other, Please specify: **[SPECIFY: _____]**
98. Don't Know
99. (Skipped)

G14. **[ASK IF MORE THAN ONE RESPONSE IS CHECKED IN G14]** If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected? **[ONLY SHOW RESPONSES CHECKED IN G14; SELECT ONE RESPONSE]**

1. Price
2. Quality/reputation
3. Cost savings on energy bills
4. The store representative recommended it to me
5. My contractor or installer recommended it to me
6. It qualified for an Ameren Missouri rebate
7. It had specific features I was looking for
8. Impact on the environment
9. It was available when I needed it
10. **[INSERT "OTHER SPECIFY" RESPONSE FROM G14]**
98. Don't Know
99. (Skipped)

H. Tune-Ups

- H1. What type of equipment did the contractor tune up? **[ALLOW MULTIPLE RESPONSE]**
1. Air Source Heat Pump
 2. Ground Source Heat Pump
 3. Ductless Heat Pump
 4. Room air conditioner unit(s)
 5. Central air conditioner
 6. Other equipment [SPECIFY: _____]
 98. Don't Know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- H2. Did your contractor provide you with a report identifying your cooling system's efficiency?
1. Yes
 2. No
 98. Don't know
 99. (Skipped)
- H3. Did your contractor recommend any of the following? (Check all that apply) **[ALLOW MULTIPLE RESPONSE]**
1. Replace your air conditioner unit or heat pump with a new high efficiency unit
 2. Make repairs to your duct work
 3. Suggest any other system improvements [SPECIFY: _____]
 4. None of the above **[EXCLUSIVE RESPONSE]**
 98. Don't know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)
- H4. **[ASK IF 1, 2 OR 3 IS CHECKED IN H3]** Have you followed any of their recommendations?
1. **[SHOW IF H3=1]** Yes, I replaced my air conditioner unit or heat pump with a new high efficient unit
 2. **[SHOW IF H3=2]** Yes, I made repairs to my duct work
 3. **[SHOW IF H3=3]** Yes, **[INSERT SPECIFIED TEXT FROM H3 "OTHER"]**
 4. No
 98. Don't know
 99. (Skipped)

- H5. **[IF H3=1 AND 1 IS NOT CHECKED IN H4]** Why did you choose to tune-up your system rather than replace it? (Check all that apply) **[RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW; ALLOW MULTIPLE RESPONSES]**
1. I expect the system to last for the foreseeable future
 2. The system is still efficient enough
 3. I don't want to invest the money in a new system yet
 4. I never considered that as an option
 5. Other reason **[SPECIFY: _____]**
 98. Don't know
 99. (Skipped)
- H6. How satisfied are you with the performance of your system since the tune-up? Are you...
1. Very satisfied
 2. Somewhat satisfied
 3. Not too satisfied
 4. Not at all satisfied
 98. Don't know
 99. (Skipped)
- H7. **[ASK IF H6= 1, 2, 3 OR 4]** Why are you **[RATING FROM H6]** with the tune-up?
[RECORD RESPONSE: _____]
- H8. Since you received your tune-up, what benefits have you noticed? (Check all that apply)
[RANDOMIZE ORDER EXCEPT OTHER, NONE OF THE ABOVE & DON'T KNOW; ALLOW MULTIPLE RESPONSES]
1. Increased energy savings/lower electric bill
 2. Increased comfort
 3. Increased convenience or productivity
 4. Lower maintenance costs
 5. Improved air quality in the home
 6. Some other benefit **[SPECIFY: _____]**
 7. None of the above **[EXCLUSIVE RESPONSE]**
 98. Don't know **[EXCLUSIVE RESPONSE]**
 99. (Skipped)

I. Satisfaction with Ameren Missouri

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED.

11. Thinking about your overall experiences with Ameren Missouri as your utility, how satisfied would you say you are with Ameren Missouri?
1. Very satisfied
 2. Somewhat satisfied
 3. Not too satisfied
 4. Not satisfied at all
 98. Don't Know
 99. (Skipped)
12. **[ASK IF I1= 1, 2, 3 OR 4]** Why are you “[**RATING FROM I1**]” with Ameren Missouri as your utility? (Check all that apply.) **[ALLOW MULTIPLE RESPONSES; show all response options if I1=2 or 3, show response options 1-5 & 10, 98 if I1=1, show response options 6-10 & 98 if I1=4. RANDOMIZE ORDER EXCEPT FOR OTHER AND DON'T KNOW]**
1. Satisfied with the reliable and dependable service
 2. Satisfied with the customer service
 3. Satisfied with outage response
 4. Satisfied with utility rates
 5. The incentive/rebate for my equipment or tune-up
 6. Dissatisfied with the utility rates
 7. Dissatisfied with the reliability of service
 8. Dissatisfied with infrastructure maintenance
 9. Dissatisfied with customer service
 10. Other reasons [**SPECIFY:** _____]
 98. Don't know [**EXCLUSIVE RESPONSE**]
 99. (Skipped)
13. Based on your experience with the Heating and Cooling Program, would you say your satisfaction with Ameren Missouri has:
1. Increased
 2. Stayed about the same, or
 3. Decreased?
 98. Don't Know
 99. (Skipped)

J. All HVAC Participants Customer Demographics

ASK QUESTIONS OF ALL PARTICIPANTS, REGARDLESS OF WHAT TYPE OF MEASURE THEY HAVE INSTALLED.

We are almost finished! There are just a few final questions about your home that will help us with our analysis.

- J1. Is the energy used in your home:
1. All electric
 2. Natural gas and electric
 3. Or some other combination of energy sources
 98. Don't Know
 99. (Skipped)
- J2. Is your hot water heater electric or gas?
1. Electric
 2. Gas
 98. Don't Know
 99. (Skipped)
- J3. Which of the following best describes your home or residence? **[SELECT ONE RESPONSE]**
1. Single-family home (not a duplex, townhome, or apartment)
 2. Manufactured or modular home
 3. Mobile home
 4. Row house or townhome
 5. Two or three family attached residence
 6. Apartment with four or more units
 7. Condominium
 8. Other **[SPECIFY: _____]**
 98. Don't Know
 99. (Skipped)
- J4. Do you own or rent this residence?
1. Own
 2. Rent
 98. Don't Know
 99. (Skipped)
- J5. Approximately how many square feet of living space does your home have? Don't include the basement unless it is a space that you consider "lived in".
1. Less than 1,000 square feet
 2. 1,000 to less than 1,500 square feet
 3. 1,500 to less than 2,000 square feet
 4. 2,000 to less than 2,500 square feet
 5. 2,500 to less than 3,000 square feet
 6. 3,000 or more square feet
 98. Don't Know
 99. (Skipped)

- J6. When was your home built?
1. After 2008
 2. 2005-2008
 3. 2001-2004
 4. 1980-2000
 5. Before 1980
 98. Don't Know
 99. (Skipped)
- J7. Counting yourself, how many people normally live in your household on a full-time basis? Please include everyone who lives in your home, whether or not they are related to you, and exclude anyone just visiting or children who may be away at college or in the military.
1. Please enter a number: **[RECORD NUMERIC RESPONSE: _____]**
 2. I prefer not to answer this question
 99. (Skipped)

End of survey message for those who get to last page of the survey (eligible for drawing): Those are all of our questions! Click to the next page to verify your information for the prize drawing. **[CONTINUE TO SWEEPSTAKES VERIFICATION]**

Termination for non-aware or ineligible ECM (eligible for drawing): That is all of our questions. You are eligible to enter the prize drawing. **[CONTINUE TO SWEEPSTAKES VERIFICATION]**

Termination for HVAC employee screen (eligible for drawing): We are not surveying households where somebody works with heating and cooling equipment about this program. However, you are still eligible to enter the prize drawing. **[CONTINUE TO SWEEPSTAKES VERIFICATION]**

Termination for Ameren employee screen (not eligible for drawing): We are not surveying Ameren Missouri employee households about this program. We appreciate your participation and thank you for your time. **[TERMINATE]**

- J8. As a token of our appreciation, you are eligible to participate in a random drawing to win one of five \$100 gift cards that we are awarding to Ameren Missouri customers who take this survey (see details below).

No purchase necessary to enter to win. Must be 18 years or older to participate or win. The odds of winning are dependent upon the number of persons participating in the drawing. The drawing starts on June 1, 2017 and ends on February 28, 2018. Winners will be randomly selected on March 15, 2018. Visit Ameren.com/Sweepstakes for official rules, odds of winning and entry details. Sponsor: Ameren Missouri.

How would you like to receive your gift card if you win the drawing?

1. Mail the gift card to me:
[PLEASE PROVIDE YOUR NAME AND ADDRESS: _____]
2. Send me an “e-card” gift certificate by email:
[PLEASE PROVIDE YOUR EMAIL ADDRESS: _____]
3. I do not want to participate in the drawing.
99. (Skipped)

Closing message for respondents who enter drawing:

We appreciate your participation and thank you for your time.
Prize winners will be randomly selected on March 15, 2018.
Visit Ameren.com/Sweepstakes for official rules, odds of winning and entry details.
Sponsor: Ameren Missouri.

Closing message for respondents who decline to enter drawing:

This completes the survey. We appreciate your participation and thank you for your time.



Appendix D5. General Population Survey

January 2018

A. Introduction

[DISPLAY AMEREN MISSOURI STYLE]

Please enter the 5-digit code from the postcard invitation:

[IF CODE IS INVALID, DISPLAY THE FOLLOWING MESSAGE AND DISPLAY THE FIVE-DIGIT CODE BOX AGAIN; CLOSE SURVEY AFTER FIVE FAILED ATTEMPTS.]

Sorry, the code you have entered is invalid. Please try again or contact Joan Wang at joan.wang@cadmusgroup.com or (503) 467-7186.

[IF CODE IS VALID, DISPLAY THE FOLLOWING MESSAGE AND CONTINUE SURVEY]

Welcome! Ameren Missouri is conducting its annual study to learn more about how households throughout Missouri use energy. Your responses are very important to us and we will keep them confidential. Complete the survey by **February 1, 2018**, and we will enter you into a drawing for one of five **\$100 Visa gift cards**.

The survey will take you about 15 minutes, and is intended for the person primarily responsible for your household's energy-related decisions (i.e., the person who is responsible for paying the utility bills or selecting new lighting and appliances).

This survey saves your responses automatically and responses will be submitted when you complete the survey. You can stop and then return to the survey at any time by accessing the survey link provided to you on the postcard. Please access the survey from the same device.

B. Energy Efficiency Attitudes and Barriers

B1. How much energy do you use in your home now compared to five years ago? Would you say...

1. More
2. About the same
3. Less
- 98. Don't know

B2. How important is energy efficiency in your daily activities and when making purchasing decisions?

Would you say...

1. Very important
2. Somewhat important
3. Not too important
4. Not at all important
- 98. DON'T KNOW

B3. Please rate your home's energy efficiency. Would you say it is...

1. Very efficient
2. Somewhat efficient
3. Not too efficient
4. Not at all efficient
- 98. DON'T KNOW

B4. Please rate whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements: **[RANDOMIZE ORDER] [DROP DOWN SELECTION MENU WITH RESPONSE CHOICES: 1= STRONGLY AGREE; 2=SOMEWHAT AGREE; 3=SOMEWHAT DISAGREE; 4=STRONGLY DISAGREE; -98= DON'T KNOW]**

- a) It is important to conserve energy as much as possible
- b) Using energy to keep the home comfortable is my top priority
- c) I would like to save more energy but do not know where to start
- d) I always shop for the lowest prices, even if it takes more time
- e) I have already done as much as possible to save energy in my home
- f) I have tried a few things to save energy, but have not seen any real savings on my utility bills

B5. What are the main reasons you might decide to conserve energy? Selection up to three options. **[RANDOMIZE ORDER; ACCEPT UP TO THREE RESPONSES]**

1. Reduce energy costs
2. Increase home comfort
3. Protect the environment
4. Increase value of home
5. Other (please specify): _____
- 98. Don't know

B6. What are the main reasons you might decide NOT to conserve energy? Selection up to three options. **[RANDOMIZE ORDER; ACCEPT UP TO THREE RESPONSES]**

1. Already saving as much as possible
2. No need to save on energy cost
3. Equipment is too expensive
4. Equipment is hard to find
5. Equipment doesn't work as well
6. Don't think about it much
7. Don't have time
8. Other family members don't turn off lights/equipment
9. Other (please specify): _____
- 98. Don't know

B7. What challenges, if any, do you face in saving energy in your home? Selection up to three options.

[RANDOMIZE ORDER; ACCEPT UP TO THREE RESPONSES]

1. Can't afford it/too expensive
2. Too hard to install/implement
3. Inconvenient/don't have time/too busy
4. Not confident it will save energy/be worth it
5. Afraid it will make home uncomfortable
6. Disruption to home/mess involved with installing improvements
7. Challenges with contractors
8. Don't know where to start
9. No challenges/None
10. Challenges with home construction or age
11. Home is already pretty efficient
12. Other family members are not trying to conserve
13. Other **[SPECIFY: _____]**
- 98. DON'T KNOW

C. Energy Efficiency and Program Awareness

C1. If you wanted to know more about energy saving opportunities, where would you look for information? Selection up to three options. **[RANDOMIZE ORDER; ACCEPT UP TO THREE RESPONSES]**

1. TV or radio programs or ads
2. Online articles or ads

3. Print articles or ads (e.g., newspapers or magazines)
4. At a retail location
5. Utility bill or other utility direct mail
6. Email from the utility
7. Discussion with a contractor
8. Word of mouth (family, friends, colleagues)
9. Social media
10. Internet searches by you
11. Utility website
12. Other (please specify): _____
13. I don't want information about ways to save energy
- 98. Don't know

C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs? **[RESPONSE REQUIRED]**

1. Yes
2. No
- 98. DON'T KNOW

C3. **[IF C2 = 1]** How familiar are you with the Ameren Missouri's energy efficiency programs?

1. Very familiar
2. Somewhat familiar
3. Not too familiar
4. Not at all familiar
- 98. DON'T KNOW

C4. **[IF C3 = 1, 2, or 3]** Where do you recall having seen or heard about the Ameren Missouri energy efficiency programs? Select up to three options. **[RANDOMIZE ORDER; ACCEPT UP TO THREE RESPONSES]**

1. TV or radio programs or ads
2. Online articles or ads
3. Print articles or ads (e.g., newspapers or magazines)
4. At a retail location
5. Utility bill or other utility direct mail
6. Email from the utility
7. Discussion with a contractor
8. Word of mouth (family, friends, colleagues)
9. Social media
10. Internet searches by you
11. Utility website
12. Other (please specify): _____

-98. Don't know

C5. **[IF C2 = 1]** Are you familiar with the following programs? **[RANDOMIZE ORDER] [DROP DOWN SELECTION MENU WITH RESPONSE CHOICES: 1= YES; 2=NO; -98= DON'T KNOW]**

1. CommunitySavers Program
2. Efficient Products Program
3. Multifamily Efficient Kits Program
4. School Kits Program
5. Heating and Cooling Program
6. Home Energy Report Program
7. Lighting Program

C6. **[IF YES TO ANY OF C5]** Did you participate in any of these programs in the past year? **[RESPONSE REQUIRED]**

1. Yes
 2. No
- 98. Don't know

C7. Have you visited any of the Ameren Missouri energy efficiency program websites within the past year, such as the Efficient Products or Heating and Cooling websites?

1. Yes
 2. No
- 98. Don't know

C8. **[IF C7 = 1]** What information were you looking for on the website? Selection up to three options. **[RANDOMIZE ORDER; ACCEPT UP TO THREE RESPONSES]**

1. Energy saving tips
 2. Rebates or incentives
 3. Participating contractor or builder
 4. Participating retailers
 5. Where to recycle my CFLs or non-working LEDs
 6. Other (please specify): _____
- 98. Don't know

C9. **[IF C7 = 1]** Was the information on the website useful to you?

1. Yes
 2. No (please elaborate why): _____
- 98. DON'T KNOW

C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home? **[RESPONSE REQUIRED]**

1. Yes
2. No **[SKIP TO D1]**
- 98. Don't know **[SKIP TO D1]**

C11. From what sources did you hear or read about the Ameren Missouri energy-efficiency rebate opportunities? Selection up to three options. **[RANDOMIZE ORDER; ACCEPT UP TO THREE RESPONSES]**

1. TV or radio programs or ads
2. Online articles or ads
3. Print articles or ads (e.g., newspapers or magazines)
4. At a retail location
5. Utility bill or other utility direct mail
6. Email from the utility
7. Discussion with a contractor
8. Word of mouth (family, friends, colleagues)
9. Social media
10. Internet searches by you
11. Utility website
12. Other (please specify): _____
- 98. Don't know

D. Lighting

D1. Have you purchased any CFLs in the last year?

1. Yes
2. No
- 98. Don't know

D2. **[ASK IF D1 = 1]** How many CFLs did you purchase?

D3. **[ASK IF D1 = 1]** What store or stores did you make your purchase from?

D4. Have you purchased any LEDs in the last year? The kind of LED that can replace a traditional screw-in bulb, not LED nightlights, holiday lights, or flashlights.

1. Yes
2. No
- 98. Don't know

D5. **[ASK IF D4 = 1]** How many LEDs did you purchase?

D6. **[ASK IF D4 = 1]** What store or stores did you make your purchase from?

E. Cooling

E1. What type of cooling equipment do you have in your home? **[ACCEPT MULTIPLE RESPONSES; RESPONSE REQUIRED]**

1. Central air conditioner
2. Ductless or mini-split heat pump
3. Air-source heat pump
4. Ground-source or geothermal heat pump
5. Portable air conditioner
6. Window or wall air conditioner
7. Evaporative (swamp) cooler
8. Other (please specify): _____
9. None **[SKIP TO SECTION F]**
- 98. DON'T KNOW **[SKIP TO SECTION F]**

E2. **[IF E1 ≠ 9 or -98]** How old is the cooling equipment you previously selected? Please indicate the number of years.

[Carry forward selected choices]

Years

F. Heating

F1. What type of heating equipment do you have in your home? **[ACCEPT MULTIPLE RESPONSES; RESPONSE REQUIRED]**

1. Ductless or mini-split heat pump
2. Air-source heat pump
3. Ground-source or geothermal heat pump
4. Gas furnace/boiler
5. Electric baseboard heating system
6. Electric furnace
7. Other (please specify): _____
8. None **[SKIP TO SECTION G]**
- 98. Don't know **[SKIP TO F3]**

F2. How old is the heating equipment you previously selected? Please indicate in number of years.

[Carry forward selected choices]

Years

F3. **[If F1 = 7 OR -98]** Is your home heating electric or gas? **[RESPONSE REQUIRED]**

1. Electric
2. Gas
- 98. DON'T KNOW

G. Potential Spillover

[IF C6 = 1, SKIP TO SECTION H]

G1. Is your hot water heater electric or gas? **[RESPONSE REQUIRED]**

1. Electric
2. Gas
- 98. Don't know

G2. Have you or anyone in your household purchased and installed any energy efficient equipment **in the past year?**

1. Yes
2. No **[SKIP TO G15]**
- 98. Don't know

G3. Have you or anyone in your household purchased and installed **energy efficient** versions of the following equipment **in the past year?** **[RANDOMIZE ORDER; ACCEPT MULTIPLE RESPONSES; RESPONSE REQUIRED]**

1. Room air conditioner
2. Room air purifier
3. Pool pump

4. **[IF G1 = 1]** Showerhead
5. **[IF G1 = 1]** Kitchen faucet aerator
6. **[IF G1 = 1]** Bathroom faucet aerator
7. **[IF G1 = 1]** Hot water pipe insulation for your hot water heater
8. Furnace fan with ECM (Electronically Commutated Motor)
9. Filter whistle
10. Heat pump water heater
11. Learning or "smart" thermostat
12. None
- 98. Don't know

G4. How many pieces of each equipment did you install? If you selected *hot water pipe insulation*, please indicate the square footage. **[RESPONSE REQUIRED]**

[Carry down selected responses]

Amount

G5. Have you or anyone in your household purchased and installed any other energy efficient equipment **in the past year?**

1. Yes (please specify): _____
2. No
- 98. Don't know

G6. **[If G5=1]** How many pieces of **[carry down]** did you install?

[Text entry]

[IF G3 = 12 OR -98 SKIP TO G15]

[RESPONSES TO G3 COMBINED MAKE UP THE 'CONSIDERATION SET' FOR THE "SPILLOVER QUESTIONS" (G7-G14). IF RESPONSES ARE MORE THAN THREE, THEN THE CONSIDERATION SET BECOMES A SET OF THREE RANDOMLY SELECTED RESPONSES]

G7. **[FOR EACH PRODUCT IN "CONSIDERATION SET"]** How do you know the **[INSERT PRODUCT FROM 'CONSIDERATION SET']** is energy efficient? **[RANDOMIZE ORDER; CHOOSE ONLY ONE RESPONSE; RESPONSE REQUIRED]**

1. It's ENERGY STAR-certified
2. The retailer/dealer/contractor told me it was
3. Other (please specify): _____
- 98. Don't know **[NOTE: FAIL]**

- G8. **[FOR EACH PRODUCT IN "CONSIDERATION SET"]** Which of the following reasons best describe why you decided to install a **[INSERT PRODUCT FROM 'CONSIDERATION SET']**? **[RANDOMIZE ORDER; CHOOSE ONLY ONE RESPONSE; RESPONSE REQUIRED]**
1. To save energy **[NOTE: PASS] [SKIP TO G10]**
 2. To save money **[NOTE: PASS] [SKIP TO G10]**
 3. To replace failing equipment
 4. Needed to replace anyway
 5. Liked the style
 6. Was ready to update
 7. To improve comfort
 8. Other (please specify): _____
- 98. Don't know
- G9. **[If G8 ≠ 1 OR 2]** Which of the following reasons best describe why you chose an energy efficient version of a **[INSERT PRODUCT FROM 'CONSIDERATION SET']** **[RANDOMIZE ORDER; CHOOSE ONLY ONE RESPONSE; RESPONSE REQUIRED]**
1. To save energy **[NOTE: PASS]**
 2. To save money **[NOTE: PASS]**
 3. Liked the style **[NOTE: FAIL]**
 4. It had other features that I liked **[NOTE: FAIL]**
 5. It was the cheapest product available **[NOTE: FAIL]**
 6. It was the only option available **[NOTE: FAIL]**
 7. Other (please specify): _____
- 98. Don't know **[NOTE: FAIL]**
- G10. **[FOR EACH PRODUCT IN THE "CONSIDERATION SET"]** Did you receive a rebate, discount, or tax credit for installing the **[INSERT PRODUCT IN "CONSIDERATION SET"]**? **[RESPONSE REQUIRED]**
1. Yes
 2. No **[NOTE: PASS] [SKIP TO G12]**
- 98. Don't know **[NOTE: FAIL] [SKIP TO G14]**
- G11. **[ASK FOR EACH PRODUCT IN "CONSIDERATION SET" IF G10 = 1]** Did you get a rebate from Ameren Missouri? **[RESPONSE REQUIRED]**
1. Yes **[NOTE: FAIL] [SKIP TO G14]**
 2. No **[NOTE: PASS]**
- 98. Don't know **[NOTE: FAIL] [SKIP TO G14]**

G12. **[ASK FOR EACH PRODUCT IN "CONSIDERATION SET" IF C2 = 1 OR C10 = 1]** Why didn't you or your contractor apply for a rebate through Ameren Missouri for the **[INSERT PRODUCT IN "CONSIDERATION SET"]**? **[RANDOMIZE ORDER; CHOOSE ONLY ONE RESPONSE; RESPONSE REQUIRED]**

1. I am still planning to apply **[NOTE: FAIL]**
2. It was confusing **[NOTE: PASS]**
3. Just forgot about it **[NOTE: PASS]**
4. I wasn't sure my equipment qualified **[NOTE: PASS]**
5. I wanted a different model that did not qualify **[NOTE: FAIL]**
6. I applied, but I did not receive a rebate **[NOTE: FAIL]**
7. Other (please specify): _____
- 98. Don't know **[NOTE: FAIL]**

G13. **[ASK FOR EACH PRODUCT IN "CONSIDERATION SET" IF G10 = 1 AND G11 = 2]** Which organization did you get a rebate, discount or tax credit from?

[Text response]

G14. **[ASK FOR EACH PRODUCT AND ACTION IN "CONSIDERATION SET"]** On a 1 to 4 scale, with 1 meaning "very important", and 4 meaning "not at all important", how important was each of the following elements in your decision to purchase and install a **[INSERT PRODUCT IN "CONSIDERATION SET"]**? **[ADD "Don't know" AND "Not applicable" AS RESPONSE OPTIONS; RANDOMIZE ORDER; RESPONSE REQUIRED]**

- a) Information about energy savings from Ameren Missouri's marking or bill insert
- b) Ameren Missouri's marketing information from a contractor or retailer
- c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri
- d) Past participation in an Ameren Missouri energy efficiency program
- e) Information from the energy assessment conducted at your home through Ameren Missouri

G15. Have you or anyone in your household had a tune-up of your heating or cooling equipment **in the past year?** [RESPONSE REQUIRED]

1. Yes
 2. No [SKIP TO H1]
- 98. DON'T KNOW [SKIP TO H1]

G16. What equipment was tuned up? [CHOOSE ONLY ONE RESPONSE; RESPONSE REQUIRED]

1. Heat pump
 2. Air conditioner
 3. Other (please specify): _____
- 98. Don't know [SKIP TO H1]

G17. Which of the following reasons best describe why you decided to have the tune-up? [CHOOSE ONLY ONE RESPONSE; RESPONSE REQUIRED]

1. To save energy [NOTE: PASS]
 2. To save money [NOTE: PASS]
 3. To improve home comfort [NOTE: FAIL]
 4. Other (please specify): _____
- 98. DON'T KNOW [NOTE: FAIL]

G18. Did you receive a rebate, discount, or tax credit for the tune-up? [RESPONSE REQUIRED]

1. Yes
 2. No [NOTE: PASS] [SKIP TO G20]
- 98. DON'T KNOW [NOTE: FAIL] [SKIP TO G21]

G19. [IF G18=1] Did you get a rebate from Ameren Missouri? [RESPONSE REQUIRED]

1. Yes [NOTE: FAIL] [SKIP TO G21]
 2. No [NOTE: PASS]
- 98. Don't know [NOTE: FAIL] [SKIP TO G21]

G20. [ASK IF C2 = 1 OR C10 = 1] Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up? [RANDOMIZE ORDER; CHOOSE ONLY ONE RESPONSE; RESPONSE REQUIRED]

1. I am still planning to apply [NOTE: FAIL]
 2. It was confusing [NOTE: PASS]
 3. Just forgot about it [NOTE: PASS]
 4. I wasn't sure the tune-up qualified [NOTE: PASS]
 5. I applied, but I did not receive a rebate [NOTE: FAIL]
 6. Other (please specify): _____
- 98. Don't know [NOTE: FAIL]

G21. On a 1 to 4 scale, with 1 meaning “very important”, and 4, meaning “not at all important”, how important was each of the following elements in your decision to get a tune-up? **[ADD “Don’t know” and “Not applicable” AS RESPONSE OPTIONS; RANDOMIZE ORDER; RESPONSE REQUIRED]**

- a) Information about energy savings from Ameren Missouri’s marking or bill insert
- b) Ameren Missouri’s marketing information from a contractor or retailer
- c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri
- d) Past participation in an Ameren Missouri energy efficiency program
- e) Information from the energy assessment conducted at your home through Ameren Missouri

H. Customer Demographics

H1. Thinking about your overall experiences with Ameren Missouri as your utility, how satisfied would you say you are with Ameren Missouri?

1. Very satisfied
2. Somewhat satisfied
3. Not too satisfied
4. Not at all satisfied
- 98. Don’t know

H2. How satisfied are you with the energy efficiency information and the rebates available to you by Ameren Missouri?

1. Very satisfied
2. Somewhat satisfied
3. Not too satisfied
4. Not at all satisfied
- 98. Don't know

H3. What type of home do you live in?

1. Single-family home
2. Manufactured or modular
3. Mobile home
4. Row house/townhome
5. Two or three family attached residence
6. Apartment with 4 units or greater
7. Condominium
8. Other (please specify): _____
- 98. Don't know

H4. Approximately how many square feet of living space does your home have? Don't include the basement unless it is a space that you consider lived in.

1. Less than 1,000 square feet
2. 1,000 to less than 1,500 square feet
3. 1,500 to less than 2,000 square feet
4. 2,000 to less than 2,500 square feet
5. 2,500 to less than 3,000 square feet
6. 3,000 or more square feet
- 98. Don't know

H5. What year was your home built?

1. After 2012
2. 2009-2012
3. 2005-2008
4. 2001-2004
5. 1980-2000
6. Before 1980
- 98. Don't know

H6. Do you own or rent this residence?

1. Own
2. Rent

-98. Don't know

H7. Is your home occupied...

1. Year round
2. On a seasonal basis/vacation home
- 98. Don't know

H8. What is the highest level of education that you have completed?

1. Less than a high school degree
2. High school degree
3. Technical/trade school program
4. Associates degree or some college
5. Bachelor's degree
6. Graduate/ professional degree, e.g. J.D., MBA, MD, etc.
7. Professional certification, e.g. CPA, CNP, etc.
- 98. Don't know

H9. Which of the following categories includes your household's total annual income before taxes?

1. Less than \$10,000
2. \$10,000 – \$14,999
3. \$15,000 – \$19,999
4. \$20,000 – \$29,999
5. \$30,000 – \$39,999
6. \$40,000 – \$49,999
7. \$50,000 – \$59,999
8. \$60,000 – \$74,999
9. \$75,000 – \$99,999
10. \$100,000 – \$124,999
11. \$125,000 – \$149,999
12. \$150,000 or more
13. Prefer not to say

Thank you for taking the survey. Your response has been recorded and we have entered you into the drawing for one of five \$100 gift cards.

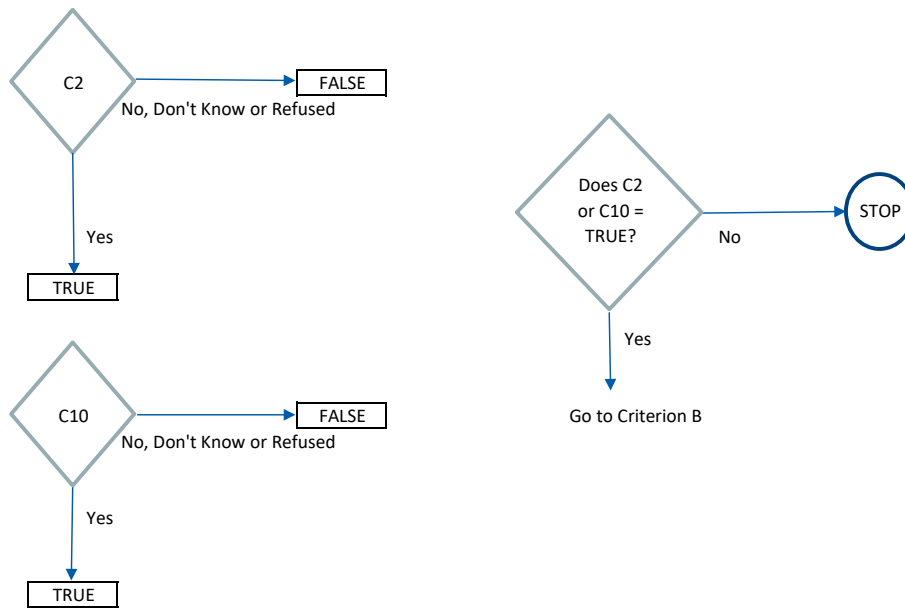
If you are selected to receive one of the five gift cards in the drawing, the gift card will be mailed to you at the same address written on the postcard you received, by February 28th, 2018.

Appendix E: FLOWCHARTS FOR DETERMINING LIKE SPILLOVER

Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount

C2. Have you ever seen or heard of the Ameren Missouri's energy efficiency programs?

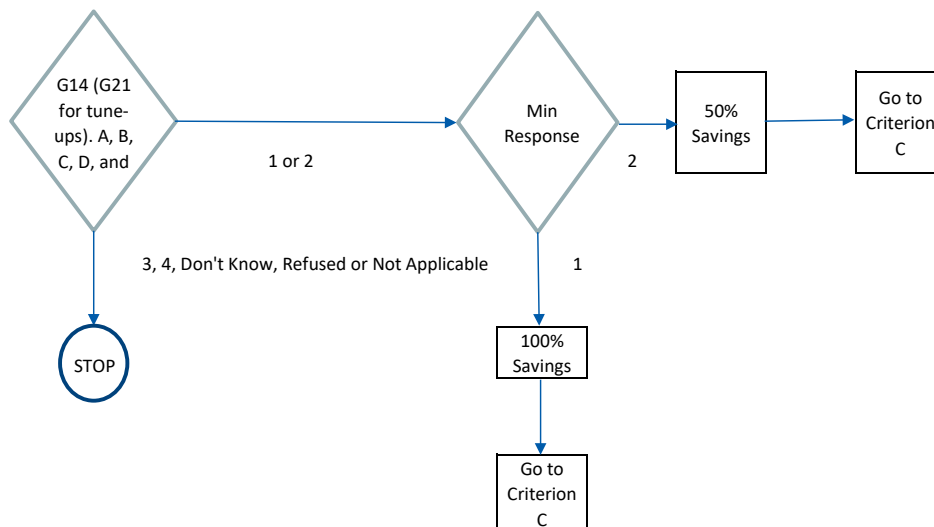
C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?



Criterion B: At least one element of Ameren Missouri's program marketing and outreach motivated them to adopt the measure

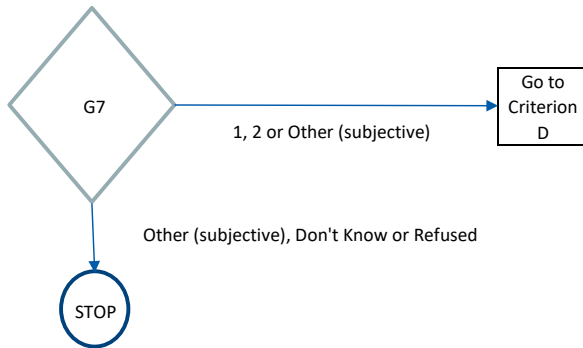
G14 (G21 for tune-ups). On a 1 to 4 scale, with 1 meaning "very important", and 4 meaning "not at all important", how important was each of the following elements in your decision to purchase and install the measure?

- A. Information about energy savings from Ameren Missouri's marketing or bill insert
- B. Ameren Missouri's marketing information from a contractor or retailer
- C. Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri
- D. Past participation in an Ameren Missouri energy efficiency program
- E. Information from the energy assessment conducted at your home through Ameren Missouri



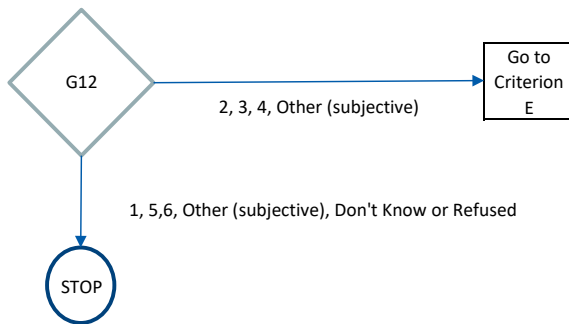
Criterion C: They had a valid reason for considering the adopted measure energy efficient

G7. How do you know the measure is energy efficient?
 1 = It's ENERGY STAR-certified, 2 = The retailer/dealer/contractor told me it was, 4 = Other (please specify)



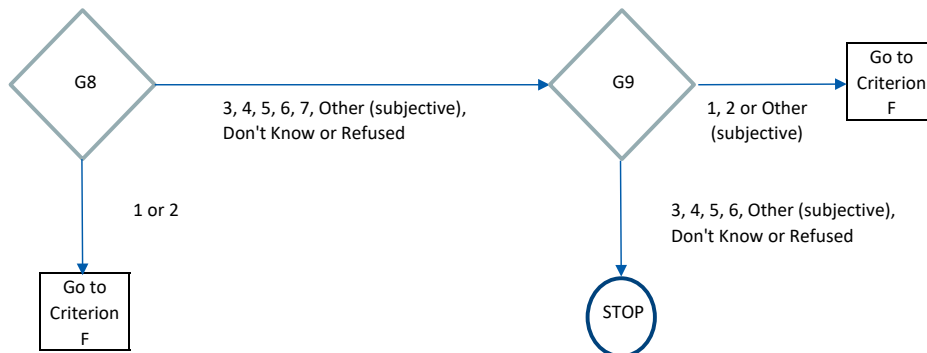
Criterion D: They had not received a rebate from Ameren Missouri, had not tried to receive a rebate from Ameren Missouri, and stated a valid reason for not applying for an Ameren Missouri measure rebate.

G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the measure?
 1 = I am still planning to apply, 2 = It was confusing, 3 = Just forgot about it, 4 = I wasn't sure my equipment qualified, 5 = I wanted a different model that did not qualify, 6 = I applied but I did not receive a rebate, 7 = Other (please specify)



Criterion E: They had a valid reason for deciding to install the measure

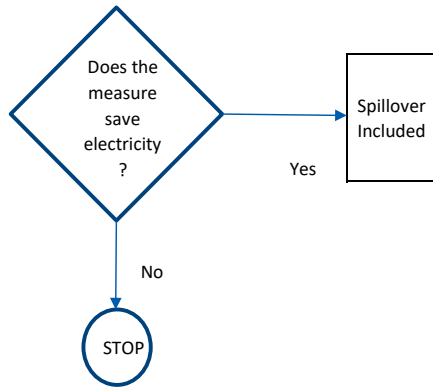
G8. Which of the following reasons best describe why you decided to install the measure?
 1 = To save energy, 2 = To save money, 3 = To replace failing equipment, 4 = Needed to replace anyway, 5 = Liked the style, 6 = Was ready to update,
 G9. Which of the following reasons best describe why you chose an energy efficient version of the measure?
 1 = To save energy, 2 = To save money, 3 = Liked the style, 4 = It had other features that I liked, 5 = It was the cheapest product available,
 6 = It was the only option available, 7 = Other (please specify)



Criterion F: The adopted measure generated electric savings, not gas savings

F1. What type of heating equipment do you have in your home?

G1. Is your hot water heater electric or gas?



Appendix F

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient			Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria				
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002583162	Learning or "smart" thermostat	12	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003598071	Room air conditioner	1	Yes	Yes	TRUE	2	1	1	99	2	FALSE	TRUE	Look at specs on unit	TRUE	No	0	I am still planning to apply	FALSE	New sun porch added on	To save energy	TRUE	Central air conditioner	Other (please specify): High Eff gas furnace. 1 week ago	Gas	TRUE	FALSE	FALSE	
CAD003598071	Furnace fan with ECM (Electronically Commutated Motor)	9	Yes	Yes	TRUE	2	2	2	1	2	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	Waiting on new heat pump to be installed	FALSE	To save energy	0	TRUE	Central air conditioner	Other (please specify): High Eff gas furnace. 1 week ago	Gas	FALSE	FALSE	FALSE	
CAD002802503	Showerhead	4	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD000263192	Heat pump water heater	11	No	Don't know	FALSE	1	1	2	1	1	FALSE	TRUE	Don't know	FALSE	Don't know	0	0	FALSE	Don't know	Don't know	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002554092	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	2	3	2	99	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	Yes	Yes	0	FALSE	To replace failing equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD000365594	Learning or "smart" thermostat	12	Yes	Yes	TRUE	99	98	3	4	4	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002669597	Learning or "smart" thermostat	12	No	No	FALSE	98	98	1	98	98	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD000468433	Pool pump	3	Yes	Yes	TRUE	2	1	1	1	99	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE	
CAD000457561	Room air purifier	2	Yes	Yes	TRUE	99	99	99	1	99	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	too small to qualify	FALSE	control allergies	To save energy	TRUE	Air-source heat pump	Air-source heat pump	Electric	TRUE	FALSE	FALSE	
CAD002287899	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	1	3	99	99	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	cool gadget	cool gadget	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003602684	Room air conditioner	1	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Ductless or mini-split heat pump	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD003602684	Learning or "smart" thermostat	12	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Ductless or mini-split heat pump	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient			Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002764034	Hot water pipe insulation for your hot water heater		Don't know	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	dont have	FALSE	No	0	dont have	FALSE	dont have	dont have	FALSE	Central air conditioner	Air-source heat pump	Electric	TRUE	FALSE	FALSE	
CAD002764034	Learning or "smart" thermostat		Don't know	Yes	TRUE	2	2		2	2	TRUE	FALSE	It's ENERGY STAR-	TRUE	Don't know	0	0	FALSE	To save energy	0	TRUE	Central air conditioner	Air-source heat pump	Electric	TRUE	FALSE	FALSE	
CAD002217834	Learning or "smart" thermostat		Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	Needed to replace anyway	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002727475	Room air purifier		Yes	Yes	TRUE	2	2	4	99	2	TRUE	FALSE	stated on website	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To improve comfort	Liked the style	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD002727475	Showerhead		Yes	Yes	TRUE	2	2	98	3	98	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	Needed to replace anyway	Liked the style	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD003637700	Showerhead		Yes	Yes	TRUE	3	3	2	2	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	Liked the style	To save energy	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	TRUE	
CAD003637700	Kitchen faucet aerator		Yes	Yes	TRUE	1	3	2	2	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	TRUE	
CAD000266147	Learning or "smart" thermostat		No	No	FALSE	2	4	2	98	4	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003767678	Showerhead		Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	Don't know	FALSE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD003767678	Bathroom faucet aerator		Yes	Yes	TRUE	4	4	1	4	99	FALSE	TRUE	From person who installed the faucet	TRUE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD003767678	Learning or "smart" thermostat		Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	my son	FALSE	No	0	Got my Nest in 2015, no rebate was offered then	FALSE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD002226824	Room air purifier		Yes	No	TRUE	98	98	98	98	98	FALSE	FALSE	Don't know	FALSE	No	0	Don't know	FALSE	To improve comfort	It was the cheapest product available	FALSE	Central air conditioner	Other (please specify):CentralGas	Don't know	TRUE	FALSE	FALSE	

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria		
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002559524	Room air purifier	2	Don't know	Yes	TRUE	2	98	2	99	99	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	Yes	Don't know	0	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD002559524	Bathroom faucet aerator	6	Don't know	Yes	TRUE	1	99	2	2	99	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	Needed to replace anyway	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD002559524	Learning or "smart" thermostat	12	Don't know	Yes	TRUE	2	98	2	98	99	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I am still planning to apply	FALSE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD002682870	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	99	99	99	99	TRUE	FALSE	It's ENERGY STAR-	TRUE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002357416	Learning or "smart" thermostat	12	Yes	Yes	TRUE	3	4	2	98	99	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wanted a different model that did	FALSE	Was ready to update	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002636733	Kitchen faucet aerator	5	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	Don't know	FALSE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Other (please specify):Central heat, gasGas	Electric	TRUE	FALSE	FALSE
CAD002636733	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	1	98	98	1	98	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Other (please specify):Central heat, gasGas	Electric	TRUE	FALSE	FALSE
CAD002636733	Furnace fan with ECM (Electronically Commutated Motor)	9	Yes	Yes	TRUE	1	98	1	1	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	Don't know	FALSE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Other (please specify):Central heat, gasGas	Electric	FALSE	FALSE	FALSE
CAD003391862	Showerhead	4	Yes	Yes	TRUE	4	4	4	4	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wanted a different model that did	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD003391862	Kitchen faucet aerator	5	Yes	Yes	TRUE	4	4	4	4	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wanted a different model that did	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD003391862	Bathroom faucet aerator	6	Yes	Yes	TRUE	4	2	4	3	99	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wanted a different model that did	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount				Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient			Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure				Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria	
Cadmus Account Key	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002630183	Heat pump water heater Learning or "smart" thermostat	11	Yes	No	TRUE	1	2	2	2	1	FALSE	TRUE	IT's ENERGY STAR-	TRUE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003472765	Learning or "smart" thermostat	12	No	Yes	TRUE	99	2	4	2	99	TRUE	FALSE	IT's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002582220	Room air purifier Learning or "smart" thermostat	2	No	No	FALSE	1	1	1	99	1	FALSE	TRUE	IT's ENERGY STAR-	TRUE	No	0	0	TRUE	Needed to replace anyway	To save money	TRUE	Central air conditioner	Air-source heat pump	Gas	TRUE	FALSE	FALSE	
CAD002582220	thermostat	12	No	No	FALSE	2	3	1	2	1	FALSE	TRUE	IT's ENERGY STAR-	TRUE	No	0	0	TRUE	To save energy	0	TRUE	Central air conditioner	Air-source heat pump	Gas	TRUE	FALSE	FALSE	
CAD003644107	Learning or "smart" thermostat	12	Don't know	Yes	TRUE	4	4	3	99	99	FALSE	FALSE	IT's ENERGY STAR-	TRUE	No	0	Lost purchase receipt	FALSE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD000126018	Kitchen faucet aerator	5	Don't know	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	IT's ENERGY STAR-certified	TRUE	No	0	Don't know	FALSE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Air-source heat pump Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD000126018	Bathroom faucet aerator	6	Don't know	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	IT's ENERGY STAR-certified	TRUE	No	0	Don't know	FALSE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Air-source heat pump Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD000049729	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	99	1	99	99	FALSE	TRUE	IT's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002695246	Showerhead	4	No	No	FALSE	1	2	2	2	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To improve comfort	Liked the style	FALSE	Central air conditioner	Don't knowElectric	Electric	TRUE	FALSE	FALSE	
CAD002188669	Learning or "smart" thermostat	12	Yes	Yes	TRUE	4	3	4	4	99	FALSE	FALSE	IT's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To replace failing equipment	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002275123	Learning or "smart" thermostat	12	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	Yes	Don't know	0	FALSE	Convenience	Gifted to me	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002405365	Showerhead	4	Yes	Yes	TRUE	2	99	2	99	2	TRUE	FALSE	IT's ENERGY STAR-certified	TRUE	No	0	I wanted a different model that did	FALSE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD003513543	Learning or "smart" thermostat	12	Yes	Yes	TRUE	4	3	2	99	99	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	Included with the home security system	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002654763	Room air purifier	2	Yes	Yes	TRUE	1	3	2	2	1	FALSE	TRUE	IT's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	To improve comfort	To save energy	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	TRUE	

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount				Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient			Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002654763	Showerhead	4	Yes	Yes	TRUE	1	2	1	1	2	FALSE	TRUE	The retailer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To replace failing equipment	Liked the style	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD002654763	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	1	2	2	3	2	FALSE	TRUE	The retailer/contractor told me it was	TRUE	No	0	Just forgot about it	TRUE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	TRUE	
CAD000136744	Room air purifier	2	Don't know	Yes	TRUE	1	1	98	1	2	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	Don't know	FALSE	To improve comfort	Don't know	FALSE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE	
CAD002276984	Showerhead	4	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	Don't know	FALSE	No	0	I wasn't sure my equipment qualified	TRUE	Liked the style	Liked the style	FALSE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	Electric	TRUE	FALSE	FALSE	
CAD002276984	Kitchen faucet aerator	5	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	Don't know	FALSE	No	0	I wasn't sure my equipment qualified	TRUE	Don't know	It had other features that I liked	FALSE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	Electric	TRUE	FALSE	FALSE	
CAD002276984	Learning or "smart" thermostat	12	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	The retailer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	Electric	TRUE	FALSE	FALSE	
CAD002749119	Room air purifier	2	Yes	Yes	TRUE	2	1	2	2	3	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	Don't know	0	FALSE	To improve comfort	To save money	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD002749119	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	2	3	2	1	3	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	TRUE	
CAD003665641	Learning or "smart" thermostat	12	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002816937	Learning or "smart" thermostat	12	No	No	FALSE	2	2	1	2	2	FALSE	TRUE	The retailer/contractor told me it was	TRUE	Don't know	0	0	FALSE	To save money	0	TRUE	Don't know	Don't know	Don't know	TRUE	FALSE	FALSE	
CAD002666443	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	4	1	2	98	FALSE	TRUE	Don't know	FALSE	No	0	I wanted a different model that did not qualify	FALSE	Convenience of being able to control with my phone and program a schedule for each day	It had other features that I liked	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD002299382	Room air conditioner	1	Yes	Yes	TRUE	3	3	3	4	3	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save money	0	TRUE	Window or wall air conditioner	Other (please specify):Space heaters electric	Electric	TRUE	FALSE	FALSE	

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount				Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria		
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002641014	Heat pump water heater	11	Yes	Yes	TRUE	2	3	99	99	99	TRUE	FALSE	The retailer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Electric furnace	Gas	FALSE	FALSE	FALSE
CAD003792114	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	4	99	99	2	TRUE	FALSE	Its on the rebate list	TRUE	Don't know	0	0	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002643507	Kitchen faucet aerator	5	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	Needed to replace anyway	Liked the style	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002643507	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	2	98	99	2	2	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	Just forgot about it	TRUE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	TRUE	FALSE
CAD003362428	Learning or "smart" thermostat	12	No	No	FALSE	1	2	1	1	1	FALSE	TRUE	The retailer/contractor told me it was	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000411372	Showerhead	4	Don't know	No	FALSE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	Needed to replace anyway	To save money	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD003406377	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	2	1	98	98	98	FALSE	TRUE	The retailer/contractor told me it was	TRUE	Don't know	0	0	FALSE	Was ready to update	contractor installed	FALSE	Central air conditioner Air-source heat pump	Air-source heat pump	Electric	TRUE	FALSE	FALSE
CAD003406377	Learning or "smart" thermostat	12	Yes	Yes	TRUE	1	1	98	98	98	FALSE	TRUE	The retailer/contractor told me it was	TRUE	Don't know	0	0	FALSE	To save energy	0	TRUE	Central air conditioner Air-source heat pump	Air-source heat pump	Electric	TRUE	FALSE	FALSE
CAD003621765	Learning or "smart" thermostat	12	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	My heat is turned off when I'm gone more than	TRUE	Yes	Yes	0	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD000470011	Room air purifier	2	Yes	No	TRUE	2	98	2	2	2	TRUE	FALSE	It's ENERGY STAR-	TRUE	Don't know	0	0	FALSE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002746360	Heat pump water heater	11	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	Just forgot about it	TRUE	added nathroom needed to upgrade size	To save money	TRUE	Other (please specify): tankless water	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002406125	Learning or "smart" thermostat	12	No	Yes	TRUE	98	4	4	98	98	FALSE	FALSE	Don't know	FALSE	No	0	Don't know	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD002716064	Bathroom faucet aerator	6	Yes	Yes	TRUE	98	99	98	99	98	FALSE	FALSE	The retailer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To replace failing equipment	To save money	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria				
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD000218066	Heat pump water heater	11	Yes	Yes	TRUE	1	3	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No		I am still planning to apply	FALSE	To replace failing equipment	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003662961	Learning or "smart" thermostat	12	Yes	Yes	TRUE	3	3	3	3	3	FALSE	FALSE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002697161	Pool pump	3	Yes	Yes	TRUE	1	2	98	2	98	FALSE	TRUE	It's ENERGY STAR-	TRUE	No		Just forgot about it	TRUE	Don't know	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE	
CAD003654940	Learning or "smart" thermostat	12	No	Yes	TRUE	2	3	2	1	4	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No		I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD000418661	Kitchen faucet aerator	5	Yes	No	TRUE	2	4	2	2	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No		I wasn't sure my equipment qualified	TRUE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	TRUE	
CAD002712011	Room air purifier	2	Yes	Yes	TRUE	4	4	4	98	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	Don't know		0	FALSE	To improve comfort	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Electric baseboard heating	Gas	TRUE	FALSE	FALSE
CAD002451805	Pool pump	3	Yes	Yes	TRUE	4	4	98	99	4	FALSE	FALSE	Don't know	FALSE	No		Don't know	FALSE	To replace failing equipment	Don't know	FALSE	Central air conditioner	Electric furnace	Don't know	TRUE	FALSE	FALSE	
CAD002451805	Learning or "smart" thermostat	12	Yes	Yes	TRUE	4	99	98	4	98	FALSE	FALSE	It's ENERGY STAR-	TRUE	Yes	Don't know	0	FALSE	To save money	0	TRUE	Central air conditioner	Electric furnace	Don't know	TRUE	FALSE	FALSE	
CAD003700034	Learning or "smart" thermostat	12	No	Yes	TRUE	2	98	2	1	98	FALSE	TRUE	Don't know	FALSE	No		Just forgot about it	TRUE	To save money	0	TRUE	Central air conditioner	Ductless or mini-split heat pump	Gas	TRUE	FALSE	FALSE	
CAD002594683	Room air conditioner	1	Yes	Yes	TRUE	98	98	98	2	98	TRUE	FALSE	Don't know	FALSE	No		I applied, but I did not receive a rebate	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Window or wall air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD000064799	Heat pump water heater	11	No	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		I wasn't sure my equipment qualified	TRUE	To replace failing equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Other (please specify):wood stoveGas	Gas	FALSE	FALSE	FALSE
CAD000049052	Room air conditioner	1	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		I wasn't sure my equipment qualified	TRUE	To improve comfort	It was the cheapest product available	FALSE	Central air conditioner	Window or wall air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002363402	Room air purifier	2	No	No	FALSE	99	4	2	4	4	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		0	0	TRUE	To improve comfort	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002363402	Learning or "smart" thermostat	12	No	No	FALSE	4	4	1	4	99	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002384242	Furnace fan with ECM (Electronically Commutated Motor)	9	Yes	Yes	TRUE	1	99	2	99	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	Don't own property	FALSE	To improve comfort	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD000372655	Learning or "smart" thermostat	12	Yes	Yes	TRUE	1	99	1	1	1	FALSE	TRUE	Don't know	FALSE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002199101	Learning or "smart" thermostat	12	Yes	Yes	TRUE	3	4	2	3	3	TRUE	FALSE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Don't know	FALSE	FALSE	FALSE
CAD000104833	Learning or "smart" thermostat	12	No	Yes	TRUE	2	4	4	4	4	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	Yes	Yes	0	FALSE	Liked the style	It had other features that I liked	FALSE	Central air conditioner	Electric furnace	Gas	TRUE	FALSE	FALSE
CAD002616954	Showerhead	4	No	No	FALSE	2	2	3	3	2	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To replace failing equipment	To save money	TRUE	Window or wall air conditioner	Electric baseboard heating system	Electric	TRUE	FALSE	FALSE
CAD002616954	Kitchen faucet aerator	5	No	No	FALSE	2	1	99	4	3	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	Needed to replace anyway	It had other features that I liked	FALSE	Window or wall air conditioner	Electric baseboard heating system	Electric	TRUE	FALSE	FALSE
CAD003720290	Heat pump water heater	11	Yes	Yes	TRUE	1	3	1	2	2	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	Yes	Don't know	0	FALSE	To save energy	0	TRUE	Central air conditioner Portable air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD000205380	Showerhead	4	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	common sense	FALSE	No	0	I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD000205380	Kitchen faucet aerator	5	Yes	Yes	TRUE	1	1	1	2	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To replace failing equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	TRUE
CAD000205380	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	common sense	FALSE	No	0	I wasn't sure my equipment qualified	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD002603785	Learning or "smart" thermostat	12	Don't know	Yes	TRUE	2	98	1	99	99	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	To replace failing equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria		
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002608437	Learning or "smart" thermostat	12	Don't know	Don't know	FALSE	4	4	3	4	4	FALSE	FALSE	research	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003417488	Room air conditioner	1	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	IT's ENERGY STAR-certified	TRUE	Yes	No	Just forgot about it	TRUE	Was ready to update	Liked the style	FALSE	Ground-source heat pump	Ground-source or geothermal heat pump	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD003417488	Room air purifier	2	Yes	Yes	TRUE	3	2	4	98	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	Just forgot about it	TRUE	Needed to replace anyway	It had other features that I liked	FALSE	Air-source heat pump	Ground-source or geothermal heat pump	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002551851	Room air purifier	2	Don't know	No	FALSE	99	99	99	99	99	FALSE	FALSE	Don't know	FALSE	No	0	0	TRUE	To improve comfort	Don't know	FALSE	Central air conditioner	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD000237084	Furnace fan with ECM (Electronically Commutated Motor)	9	No	Yes	TRUE	4	2	2	99	1	FALSE	TRUE	IT's ENERGY STAR-certified	TRUE	Yes	Yes	0	FALSE	To replace failing equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003644290	Showerhead	4	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	IT's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	Needed to replace anyway	To save energy	TRUE	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	
CAD002283814	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	4	2	4	4	TRUE	FALSE	IT's ENERGY STAR-	TRUE	No	0	Gifted without a receipt	FALSE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD002376884	Showerhead	4	No	Don't know	FALSE	1	1	2	98	1	FALSE	TRUE	Don't know	FALSE	Don't know	0	0	FALSE	The management of society changed it	To save energy	FALSE	Central air conditioner	Don't know	Electric	Electric	TRUE	FALSE	FALSE
CAD002376884	Kitchen faucet aerator	5	No	Don't know	FALSE	1	1	2	1	1	FALSE	TRUE	Don't know	FALSE	Don't know	0	0	FALSE	The management of society changed it	To save energy	FALSE	Central air conditioner	Don't know	Electric	Electric	TRUE	FALSE	FALSE
CAD002376884	Bathroom faucet aerator	6	No	Don't know	FALSE	2	1	1	1	1	FALSE	TRUE	Don't know	FALSE	Don't know	0	0	FALSE	The management of society changed it	To save energy	FALSE	Central air conditioner	Don't know	Electric	Electric	TRUE	FALSE	FALSE
CAD000043596	Learning or "smart" thermostat	12	Yes	Yes	TRUE	3	4	99	99	99	FALSE	FALSE	IT's ENERGY STAR-	TRUE	Yes	Don't know	0	FALSE	Was ready to update	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003738060	Room air conditioner	1	Yes	Yes	TRUE	3	3	3	3	3	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To improve comfort	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	
CAD003738060	Room air purifier	2	Yes	Yes	TRUE	2	3	4	4	3	TRUE	FALSE	IT's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria		
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003738060	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	3	3	3	3	TRUE	FALSE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD000278462	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	3	4	3	4	TRUE	FALSE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002356832	Furnace fan with ECM (Electronically Commutated Motor)	9	Yes	No	TRUE	3	2	2	2	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	Just forgot about it	TRUE	Needed to replace anyway	Liked the style	FALSE	Ductless or mini-split heat pump Air-source heat pump	Wind furnace/boiler Electric baseboard heating	Gas	FALSE	FALSE	FALSE
CAD002356832	Filter whistle	10	Yes	No	TRUE	1	1	1	2	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	I am still planning to apply	FALSE	To save energy	0	TRUE	Ductless or mini-split heat pump Air-source heat pump	Wind furnace/boiler Electric baseboard heating	Gas	FALSE	FALSE	FALSE
CAD002356832	Heat pump water heater	11	Yes	No	TRUE	2	2	1	2	2	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	Just forgot about it	TRUE	To save money	0	TRUE	Ductless or mini-split heat pump Air-source heat pump	Wind furnace/boiler Electric baseboard heating	Gas	FALSE	FALSE	FALSE
CAD002272041	Showerhead	4	No	No	FALSE	2	98	2	99	98	TRUE	FALSE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	Needed to replace anyway	To save money	TRUE	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD002649948	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	2	4	2	3	4	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I applied, but I did not receive a rebate	FALSE	To replace failing equipment	It had other features that I liked	FALSE	Central air conditioner Air-source heat pump	Air-source heat pump Electric furnace	Electric	TRUE	FALSE	FALSE
CAD003515316	Room air purifier	2	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To improve comfort	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount		Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria			
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000094846	Showerhead		4 Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		Came from Ameren.	FALSE	To replace failing equipment	Came from Ameren.	FALSE	Air-source heat pump/Portable air conditioner	Air-source heat pump Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000094846	Kitchen faucet aerator		5 Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		Just forgot about it	TRUE	To replace failing equipment	It had other features that I liked	FALSE	Air-source heat pump/Portable air conditioner	Air-source heat pump Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000094846	Bathroom faucet aerator		6 Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		Just forgot about it	TRUE	Needed to replace anyway	It had other features that I liked	FALSE	Air-source heat pump/Portable air conditioner	Air-source heat pump Electric furnace	Electric	TRUE	FALSE	FALSE
CAD003597429	Showerhead		4 Yes	Yes	TRUE	2	2	98	99	99	TRUE	FALSE	It's ENERGY STAR-	TRUE	No		Just forgot about it	TRUE	To replace failing equipment	It had other features that I liked	FALSE	Central air conditioner	Air-source heat pump	Electric	TRUE	FALSE	FALSE
CAD002747574	Showerhead		4 Don't know	No	FALSE	1	3	2	3	3	FALSE	TRUE	a water saver head	TRUE	No			TRUE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002594245	Learning or "smart" thermostat		12 Yes	Yes	TRUE	1	3	2	1	1	FALSE	TRUE	your website	TRUE	Yes	Yes		FALSE	Was ready to update	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002422048	Learning or "smart" thermostat		12 No	Yes	TRUE	1	2	1	2	2	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	Don't know			FALSE	Was ready to update	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002650984	Learning or "smart" thermostat		12 Yes	Yes	TRUE	2	2	98	98	2	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		I wasn't sure my equipment qualified	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002211003	Heat pump water heater		11 Yes	Don't know	TRUE	3	3	3	3	3	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		Don't know	FALSE	Needed to replace anyway	It was the only option available	FALSE	Air-source heat pump/Ground-source or geothermal heat pump	Air-source heat pump Ground-source or geothermal	Gas	FALSE	FALSE	FALSE
CAD002211003	Learning or "smart" thermostat		12 Yes	Don't know	TRUE	3	3	3	3	3	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		Don't know	FALSE	Needed to replace anyway	It was the only option available	FALSE	Air-source heat pump/Ground-source or geothermal heat pump	Air-source heat pump Ground-source or geothermal	Gas	TRUE	FALSE	FALSE
CAD002510961	Showerhead		4 No	No	FALSE	2	3	2	99	2	TRUE	FALSE	web	TRUE	No			TRUE	Needed to replace anyway	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient			Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria			
Cadmus Account Key	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)		
CAD003761896	Room air purifier		2 No	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No		installed in furnace	FALSE	whole house	clean air	FALSE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE		
CAD003761896	Furnace fan with ECM (Electronically Commutated Motor)		9 No	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	Yes	Yes		FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE		
CAD000291019	Room air conditioner		1 Don't know	No	FALSE	4	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No		0	0	TRUE	To improve comfort	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE	
CAD000408637	Learning or "smart" thermostat		12 Yes	Yes	TRUE	4	2	4	3	4	TRUE	FALSE	It's ENERGY STAR-	TRUE	No		Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE		
CAD002662787	Learning or "smart" thermostat		12 Yes	Yes	TRUE	2	98	98	98	98	TRUE	FALSE	It's ENERGY STAR-	TRUE	Don't know		0	0	FALSE	Was ready to update	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002685856	Room air conditioner		1 No	No	FALSE	1	99	2	98	2	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No		0	0	TRUE	To improve comfort	It was the only option available	FALSE	Window or wall air conditioner	Other (please specify):Electric c & oil heaterGas	Gas	TRUE	FALSE	FALSE	
CAD002582547	Room air conditioner		1 No	Don't know	FALSE	98	98	98	98	98	FALSE	FALSE	Don't know	FALSE	No		0	0	TRUE	To save energy		TRUE	Central air conditioner	Window or wall air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002515565	Furnace fan with ECM (Electronically Commutated Motor)		9 Yes	Yes	TRUE	3	2	99	99	99	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No		I am still planning to apply	FALSE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE		
CAD000458533	Learning or "smart" thermostat		12 Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No		Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner	Other (please specify):propaneGas	Electric	FALSE	FALSE	FALSE		
CAD003513673	Room air purifier		2 Yes	Yes	TRUE	1	2	2	2	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	Don't know		0	FALSE	To improve comfort	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE	
CAD003674356	Learning or "smart" thermostat		12 Don't know	Yes	TRUE	1	1	1	2	2	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	Yes	Yes		0	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE	
CAD002414770	Room air purifier		2 No	No	FALSE	98	98	98	99	98	FALSE	FALSE	It's ENERGY STAR-	TRUE	No		0	0	TRUE	To improve comfort	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE	
CAD003617699	Showerhead		4 Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	Don't know	FALSE	No		0	0	FALSE	Don't know	Don't know	FALSE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	
CAD003617699	Bathroom faucet aerator		6 Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	Don't know	FALSE	No		0	0	TRUE	To replace failing equipment	Don't know	FALSE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003617699	Furnace fan with ECM (Electronically Commutated Motor)		9 Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	222	FALSE	No	0	contractor not "certified" by ameren. He said it's too expensive to be certified and purchase their specific equipment	FALSE	Don't know	222	FALSE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD003382984	Learning or "smart" thermostat		12 Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	Didn't know about the rebate.	TRUE	New install by contractor	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002640016	Furnace fan with ECM (Electronically Commutated Motor)		9 Yes	No	TRUE	4	4	4	4	4	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	Don't know	FALSE	Needed to replace anyway	It was the only option available	FALSE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD002592153	Learning or "smart" thermostat		12 Yes	Yes	TRUE	98	2	1	98	98	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	Just forgot about it	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Electric baseboard heating system	Electric	TRUE	FALSE	FALSE
CAD002320314	Showerhead		4 Yes	Yes	TRUE	4	98	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To improve comfort	To save energy	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002320314	Hot water pipe insulation for your hot water heater		7 Yes	Yes	TRUE	99	4	99	99	99	FALSE	FALSE	Don't know	FALSE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002320314	Learning or "smart" thermostat		12 Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	Don't know	FALSE	already installed	To save energy	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD003638263	Learning or "smart" thermostat		12 Yes	Yes	TRUE	4	1	1	1	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	Yes	Yes	0	FALSE	Was ready to update	Liked the style	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002679912	Showerhead		4 Don't know	No	FALSE	3	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To replace failing equipment	Liked the style	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000274567	Room air conditioner		1 No	No	FALSE	2	2	1	3	2	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To improve comfort	To save money	TRUE	Window or wall air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria		
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002414106	Learning or "smart" thermostat	12	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002418923	Room air purifier	2	No	No	FALSE	1	1	1	2	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To improve comfort	Health	FALSE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD002418923	Learning or "smart" thermostat	12	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD003729887	Room air purifier	2	Don't know	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	0	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Don't know	TRUE	FALSE	FALSE
CAD002357394	Bathroom faucet aerator	6	No	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To replace failing equipment	To save money	TRUE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump Other (please specify):WOOD	Electric	TRUE	FALSE	FALSE
CAD002357394	Hot water pipe insulation for your hot water heater	7	No	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	Don't know	FALSE	No	0	0	TRUE	To save energy	0	TRUE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump Other (please specify):WOOD	Electric	TRUE	FALSE	FALSE
CAD002438577	Showerhead	4	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	Needed to replace anyway	Don't know	FALSE	Air-source heat pump	Air-source heat pump	Electric	TRUE	FALSE	FALSE
CAD002438577	Kitchen faucet aerator	5	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	Needed to replace anyway	needed to replace	FALSE	Air-source heat pump	Air-source heat pump	Electric	TRUE	FALSE	FALSE
CAD002438577	Bathroom faucet aerator	6	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To replace failing equipment	needed to replace them	FALSE	Air-source heat pump	Air-source heat pump	Electric	TRUE	FALSE	FALSE
CAD003621601	Learning or "smart" thermostat	12	No	Yes	TRUE	1	2	1	4	4	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	Yes	Yes	0	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD000277230	Pool pump	3	No	Yes	TRUE	2	2	1	2	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	Needed to replace anyway	To save energy	TRUE	Window or wall air conditioner	Other (please specify):Electric boilerElectric	Electric	TRUE	FALSE	TRUE
CAD000277230	Bathroom faucet aerator	6	No	Yes	TRUE	3	3	3	3	3	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	To improve comfort	Liked the style	FALSE	Window or wall air conditioner	Other (please specify):Electric boilerElectric	Electric	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount				Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002552140	Learning or "smart" thermostat	12	No	No	FALSE	99	99	98	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	Needed to replace anyway	Liked the style	FALSE	Don't know	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD003464403	Heat pump water heater	11	Yes	Yes	TRUE	2	2	1	3	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	building new house	To save money	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD003600337	Showerhead	4	Yes	Yes	TRUE	4	4	4	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD003600337	Bathroom faucet aerator	6	Yes	Yes	TRUE	4	99	4	4	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	Was ready to update	Liked the style	FALSE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD002818110	Learning or "smart" thermostat	12	Yes	Yes	TRUE	4	2	1	2	2	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD000223555	Furnace fan with ECM (Electronically Commutated Motor)	9	No	No	FALSE	1	4	4	4	4	FALSE	TRUE	Don't know	FALSE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002733200	Room air purifier	2	Yes	Yes	TRUE	1	1	99	98	99	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	0	FALSE	I just applies a few days ago. waiting to receive checks	It had other features that I liked	FALSE	Central air conditioner	Electric furnace	Gas	TRUE	FALSE	FALSE
CAD002229910	Learning or "smart" thermostat	12	Yes	No	TRUE	98	98	98	99	2	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Don't know	FALSE	FALSE	FALSE
CAD000309256	Learning or "smart" thermostat	12	No	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	It's ENERGY STAR-	TRUE	Yes	Don't know	0	FALSE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Don't knowGas	Gas	FALSE	FALSE	FALSE
CAD000199191	Furnace fan with ECM (Electronically Commutated Motor)	9	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	FALSE	Don't know	0	0	FALSE	the old one went out	Landlord did	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD000199191	Heat pump water heater	11	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	landlord did it	FALSE	Don't know	0	0	FALSE	old one went out	landlord	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD000199191	Learning or "smart" thermostat	12	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	landlord did it	FALSE	Don't know	0	0	FALSE	To replace failing equipment	landlord did it	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002193654	Room air conditioner	1	No	Yes	TRUE	98	3	98	2	2	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	To replace failing equipment	It was the cheapest product available	FALSE	Window or wall air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount				Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003652205	Hot water pipe insulation for your hot water heater		7 No	Yes	TRUE	1	4	99	99	99	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	It was confusing	TRUE	Energy conservation & so pipes don't freeze	To save energy	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	TRUE
CAD000099117	Showerhead		4 Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000099117	Bathroom faucet aerator		6 Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000099117	Hot water pipe insulation for your hot water heater		7 Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002747558	Learning or "smart" thermostat		12 Yes	No	TRUE	2	2	4	3	3	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I am still planning to apply	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD002791536	Learning or "smart" thermostat		12 Don't know	Yes	TRUE	2	3	2	3	99	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Other (please specify): Central unit Gas	Gas	FALSE	FALSE	FALSE
CAD000458378	Showerhead		4 No	No	FALSE	98	98	98	98	98	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To replace failing equipment	redone bathroom	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002804424	Showerhead		4 Yes	Yes	TRUE	1	2	2	1	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	was not aware of rebate	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	TRUE
CAD002804424	Kitchen faucet aerator		5 Yes	Yes	TRUE	1	2	2	98	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	was not aware of rebate	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	TRUE
CAD002804424	Learning or "smart" thermostat		12 Yes	Yes	TRUE	1	1	2	1	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	I have applied waiting for rebate	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD002688404	Showerhead		4 Yes	Don't know	TRUE	2	3	3	2	2	TRUE	FALSE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	Needed to replace anyway	Liked the style	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient			Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
Cadmus Account Key	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002497304	Showerhead		4 Yes	No	TRUE	2	2	2	1	2	FALSE	TRUE	Don't know	FALSE	No		Don't know	FALSE	Was ready to update	Liked the style	FALSE	Central air conditioner	Electric furnace Other (please specify):Fuel oil	Electric	TRUE	FALSE	FALSE	
CAD002497304	Bathroom faucet aerator		6 Yes	No	TRUE	1	3	1	2	2	FALSE	TRUE	Don't know	FALSE	No		Don't know	FALSE	Don't know	Don't know	FALSE	Central air conditioner	Electric furnace Other (please specify):Fuel oil	Electric	TRUE	FALSE	FALSE	
CAD002196388	Room air conditioner		1 Yes	Yes	TRUE	2	1	2	2	99	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No		I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	TRUE	
CAD002196388	Kitchen faucet aerator		5 Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Packaging Package information	TRUE	No		Don't know	FALSE	To save money	0	TRUE	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	
CAD002196388	Bathroom faucet aerator		6 Yes	Yes	TRUE	1	99	2	2	99	FALSE	TRUE		TRUE	No		Don't know	FALSE	Needed to replace anyway	To save money	TRUE	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	
CAD002274178	Room air purifier		2 No	No	FALSE	98	1	99	98	98	FALSE	TRUE	It's ENERGY STAR-	TRUE	No		0	TRUE	To improve comfort	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE	
CAD002429895	Heat pump water heater		11 No	No	FALSE	3	3	3	3	3	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	Don't know		0	FALSE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD002429895	Learning or "smart" thermostat		12 No	No	FALSE	3	3	3	3	3	FALSE	FALSE	It's ENERGY STAR-	TRUE	Don't know		0	FALSE	To replace failing equipment	To save money	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD000346401	Room air conditioner		1 No	No	FALSE	3	99	99	99	3	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		0	TRUE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Window or wall air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD000346401	Learning or "smart" thermostat		12 No	No	FALSE	3	99	99	99	99	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		0	TRUE	To replace failing equipment	To save money	TRUE	Central air conditioner	Window or wall air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD000056767	Learning or "smart" thermostat		12 Yes	Yes	TRUE	1	2	1	99	99	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No		0	TRUE	Needed to replace anyway	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria				
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD000048425	Room air conditioner		1 Yes	No	TRUE	1	3	99	99	98	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No		Don't know	FALSE	No duct work for central air	To save energy	TRUE	Window or wall air conditioner	Electric baseboard heating system Other (please specify): Window energy efficient air/heat unit Electric	Electric	Electric	TRUE	FALSE	FALSE
CAD000048425	Heat pump water heater		11 Yes	No	TRUE	2	2	99	2	99	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	Installed ourselves	TRUE	To replace failing equipment	To save money	TRUE	Window or wall air conditioner	Electric baseboard heating system Other (please specify): Window energy efficient air/heat unit Electric	Electric	Electric	TRUE	TRUE	FALSE
CAD002317968	Learning or "smart" thermostat		12 Yes	Yes	TRUE	98	1	1	98	99	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	Yes	Yes	0	FALSE	To save energy	0	TRUE	Central air conditioner	Electric baseboard heating	Electric	Electric	TRUE	FALSE	FALSE
CAD002536264	Learning or "smart" thermostat		12 Yes	Yes	TRUE	2	3	2	4	99	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	Yes	Yes	0	FALSE	To save energy	0	TRUE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	Gas	Gas	TRUE	FALSE	FALSE
CAD002720136	Room air purifier		2 Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	FALSE	No		Don't know	FALSE	Allergies	Allergies	FALSE	Central air conditioner	Gas furnace/boiler	Gas	Gas	TRUE	FALSE	FALSE
CAD002720136	Learning or "smart" thermostat		12 Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	FALSE	No		Don't know	FALSE	To replace failing equipment	Don't know	FALSE	Central air conditioner	Gas furnace/boiler	Gas	Gas	FALSE	FALSE	FALSE
CAD002617249	Pool pump		3 No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	FALSE	No		Don't know	FALSE	To replace failing equipment	Don't know	FALSE	Central air conditioner	Air-source heat pump	Electric	Electric	TRUE	FALSE	FALSE
CAD002617249	Learning or "smart" thermostat		12 No	Yes	TRUE	99	99	99	2	99	TRUE	FALSE	Don't know	FALSE	No		0	FALSE	To improve comfort	included in home upgrade	FALSE	Central air conditioner	Air-source heat pump	Electric	Electric	TRUE	FALSE	FALSE
CAD000207903	Learning or "smart" thermostat		12 No	Yes	TRUE	4	4	4	2	4	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	Yes	Yes	0	FALSE	To replace failing equipment	Liked the style	FALSE	Central air conditioner	Gas furnace/boiler	Gas	Gas	FALSE	FALSE	FALSE
CAD000086425	Pool pump		3 No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	FALSE	No		Don't know	FALSE	To replace failing equipment	It was the only option available	FALSE	Central air conditioner	Electric furnace	Electric	Electric	TRUE	FALSE	FALSE
CAD000086425	Bathroom faucet aerator		6 No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		Don't know	FALSE	Needed to replace anyway	It had other features that I liked	FALSE	Central air conditioner	Electric furnace	Electric	Electric	TRUE	FALSE	FALSE
CAD000086425	Learning or "smart" thermostat		12 No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		0	TRUE	To improve comfort	To save money	TRUE	Central air conditioner	Electric furnace	Electric	Electric	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002538212	Showerhead		4	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-	TRUE	No		Installed myself	TRUE	Needed to replace anyway	Liked the style	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000261904	Learning or "smart" thermostat		12	No	TRUE	3	3	2	3	2	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		I wasn't sure my equipment qualified	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002388519	Room air purifier		2	Yes	TRUE	99	99	99	1	99	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD002620392	Learning or "smart" thermostat		12	Yes	TRUE	2	4	3	3	4	TRUE	FALSE	It's ENERGY STAR-	TRUE	No		Just forgot about it	TRUE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002183369	Pool pump		3	Yes	TRUE	4	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002337775	Learning or "smart" thermostat		12	Yes	TRUE	98	98	4	98	99	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		I wasn't sure my equipment qualified	TRUE	To replace failing equipment	Don't know	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002486299	Learning or "smart" thermostat		12	Don't know	FALSE	2	99	3	99	2	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		0	FALSE	To replace failing equipment	To save energy	TRUE	Window or wall air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002511825	Showerhead		4	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		I wasn't sure my equipment qualified	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD002511825	Learning or "smart" thermostat		12	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Ameren web site	TRUE	Don't know		0	FALSE	Ameren Rebate	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE
CAD003845419	Room air conditioner		1	Yes	TRUE	2	2	2	99	99	TRUE	FALSE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To save energy	0	TRUE	Window or wall air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD002253667	Showerhead		4	Don't know	FALSE	3	3	3	3	3	FALSE	FALSE	It's ENERGY STAR-	TRUE	No		0	TRUE	Was ready to update	It had other features that I liked	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000240072	Furnace fan with ECM (Electronically Commutated Motor)		9	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	published reports	TRUE	Don't know		0	FALSE	To replace failing equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002758337	Showerhead		4	No	FALSE	4	4	4	99	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No		0	TRUE	Needed to replace anyway	It was the only option available	FALSE	Central air conditioner	Electric furnace Other (please specify):electric portable heaterElectric	Electric	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria				
Cadmus Account Key	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000313390	Learning or "smart" thermostat	12	Yes	No	TRUE	1	99	99	99	99	FALSE	TRUE	Don't know	FALSE	No	0	Did not know	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002500788	Learning or "smart" thermostat	12	Yes	Yes	TRUE	3	3	3	3	2	TRUE	FALSE	It's ENERGY STAR-	TRUE	No	0	Don't know	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD003780581	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	1	99	99	99	99	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To replace failing equipment	To save energy	TRUE	Window or wall air conditioner Other (please specify)-baseboard hardwire heaters	Electric baseboard heating system	Electric	TRUE	FALSE	TRUE
CAD003729140	Room air conditioner	1	Yes	Yes	TRUE	2	3	3	2	2	TRUE	FALSE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	To replace failing equipment	To save money	TRUE	Window or wall air conditioner	Electric baseboard heating	Electric	TRUE	TRUE	FALSE
CAD003785592	Room air purifier	2	Yes	Yes	TRUE	1	3	2	2	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	Don't know	0	0	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD000167699	Room air conditioner	1	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000167699	Showerhead	4	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000167699	Learning or "smart" thermostat	12	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD000325799	Room air purifier	2	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	Yes	No	I wasn't sure my equipment qualified	TRUE	Was ready to update	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	TRUE
CAD000325799	Pool pump	3	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	I am still planning to apply	FALSE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD000146043	Learning or "smart" thermostat	12	Yes	Yes	TRUE	3	2	99	3	99	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I applied, but I did not receive a rebate	FALSE	Was a gift for Skelator. He likes electronics.	Liked the style	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002594802	Learning or "smart" thermostat	12	Yes	Yes	TRUE	99	99	4	99	99	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	Just forgot about it	TRUE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002526163	Room air purifier	2	Yes	Yes	TRUE	2	2	2	2	1	FALSE	TRUE	Don't know	FALSE	No	0	I wasn't sure my equipment qualified	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD002526163	Filter whistle	10	Yes	Yes	TRUE	2	3	2	2	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	Yes	No	Just forgot about it	TRUE	Needed to replace anyway	To save money	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria			
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002608906	Learning or "smart" thermostat	12	Yes	Yes	TRUE	3	3	3	3	3	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	It was confusing	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002719020	Room air purifier	2	No	No	FALSE	2	2	2	99	2	TRUE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler Electric baseboard heating	Gas	TRUE	FALSE	FALSE
CAD002191038	Learning or "smart" thermostat	12	Yes	Yes	TRUE	1	3	1	1	3	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	Yes	Yes	0	FALSE	To save money	0	TRUE	Don't know	Don't knowElectric furnace	Don't know	TRUE	FALSE	FALSE
CAD000394675	Showerhead	4	Yes	Yes	TRUE	1	2	2	98	2	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	Don't know	FALSE	To save money	0	TRUE	Central air conditioner	Electric furnace Other (please specify):wood	Electric	TRUE	FALSE	FALSE
CAD000394675	Kitchen faucet aerator	5	Yes	Yes	TRUE	1	3	2	2	3	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	Don't know	FALSE	To save money	0	TRUE	Central air conditioner	Electric furnace Other (please specify):wood	Electric	TRUE	FALSE	FALSE
CAD000394675	Bathroom faucet aerator	6	Yes	Yes	TRUE	2	1	2	98	2	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	Don't know	FALSE	To save money	0	TRUE	Central air conditioner	Electric furnace Other (please specify):wood	Electric	TRUE	FALSE	FALSE
CAD002437806	Pool pump	3	Yes	Yes	TRUE	2	1	2	2	99	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	Yes	Yes	0	FALSE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD000483274	Showerhead	4	Don't know	Yes	TRUE	2	3	3	99	3	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	Just forgot about it	TRUE	Was ready to update	To save money	TRUE	Air-source heat pump	Air-source heat pump	Electric	TRUE	TRUE	FALSE
CAD000483274	Kitchen faucet aerator	5	Don't know	Yes	TRUE	2	4	2	4	3	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Air-source heat pump	Air-source heat pump	Electric	TRUE	TRUE	FALSE
CAD000483274	Hot water pipe insulation for your hot water heater	7	Don't know	Yes	TRUE	2	4	4	4	98	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	To save energy	0	TRUE	Air-source heat pump	Air-source heat pump	Electric	TRUE	TRUE	FALSE
CAD003826739	Heat pump water heater	11	Yes	Yes	TRUE	2	3	2	4	3	TRUE	FALSE	It's ENERGY STAR-	TRUE	Yes	No	Just forgot about it	TRUE	Was ready to update	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD003393970	Showerhead	4	No	No	FALSE	98	98	98	98	98	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	Liked the style	Liked the style	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings			Meeting all criteria					
Cadmus Account Key	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)		
CAD003393970	Learning or "smart" thermostat	12	No	No	FALSE	98	98	98	98	98	FALSE	FALSE	Landlord installed	FALSE	Don't know	0	0	FALSE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE		
CAD000204371	Learning or "smart" thermostat	12	Don't know	Yes	TRUE	3	2	2	99	99	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	I am still planning to apply	FALSE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE		
CAD003751160	Furnace fan with ECM (Electronically Commutated Motor)	9	Don't know	Yes	TRUE	1	2	2	1	1	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	Don't know	0	0	FALSE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Gas	TRUE	FALSE	FALSE		
CAD000029908	Learning or "smart" thermostat	12	Yes	Yes	TRUE	1	99	99	99	99	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	I wasn't sure my equipment qualified	TRUE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE		
CAD002504438	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	4	2	2	99	TRUE	FALSE	Features and watching my bill afterwards	TRUE	Yes	Yes	0	FALSE	To replace failing equipment	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE		
CAD000180851	Hot water pipe insulation for your hot water heater	7	No	No	FALSE	2	99	1	99	99	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE		
CAD000180851	Learning or "smart" thermostat	12	No	No	FALSE	3	99	1	2	99	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE		
CAD000408343	Learning or "smart" thermostat	12	Yes	Yes	TRUE	98	98	4	98	98	FALSE	FALSE	Don't know	FALSE	Don't know	0	0	FALSE	Needed to replace anyway	It was the only option available	FALSE	Central air conditioner	Portable air conditioner	Window or wall air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002507006	Showerhead	4	Yes	Yes	TRUE	2	2	4	2	98	TRUE	FALSE	sent by mail	FALSE	Don't know	0	0	FALSE	Needed to replace anyway	sent by mail	FALSE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE		
CAD002507006	Furnace fan with ECM (Electronically Commutated Motor)	9	Yes	Yes	TRUE	1	99	2	2	98	FALSE	TRUE	It's ENERGY STAR-certified	TRUE	No	0	Don't know	FALSE	Don't know	Don't know	FALSE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE		
CAD002507006	Learning or "smart" thermostat	12	Yes	Yes	TRUE	2	3	98	3	98	TRUE	FALSE	It's ENERGY STAR-	TRUE	Don't know	0	0	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Electric	FALSE	FALSE	FALSE		

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient		Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria			
CadmusAccountKey	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002754219	Learning or "smart" thermostat	12	Yes	Yes	TRUE	3	99	2	99	99	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	Don't know	0	0	FALSE	Was ready to update	It had other features that I liked	FALSE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD002573726	Room air conditioner	1	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	TRUE	To replace failing equipment	To save money	TRUE	Central air conditioner	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD002239058	Room air purifier	2	Don't know	No	FALSE	2	2	2	99	99	TRUE	FALSE	It's ENERGY STAR-	TRUE	Don't know	0	0	FALSE	To improve comfort	It had other features that I liked	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD002239058	Showerhead	4	Don't know	No	FALSE	2	2	2	99	99	TRUE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	Needed to replace anyway	It had other features that I liked	FALSE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE	
CAD000112760	Learning or "smart" thermostat	12	No	Don't know	FALSE	4	1	2	3	4	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Don't knowGas	Gas	FALSE	FALSE	FALSE	
CAD003542392	Showerhead	4	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To improve comfort	To save money	TRUE	Central air conditioner	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD003542392	Bathroom faucet aerator	6	No	No	FALSE	3	3	99	99	99	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To replace failing equipment	To save money	TRUE	Central air conditioner	Window or wall air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE
CAD002261164	Learning or "smart" thermostat	12	Yes	Yes	TRUE	1	2	3	4	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	FALSE	To save energy	0	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD003789553	Learning or "smart" thermostat	12	Yes	Yes	TRUE	4	2	4	4	99	TRUE	FALSE	It's ENERGY STAR-	TRUE	Yes	Yes	0	FALSE	works with Alexa and cell phone	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE	
CAD000433897	Showerhead	4	Yes	Yes	TRUE	4	4	3	4	3	FALSE	FALSE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	Needed to replace anyway	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	
CAD000433897	Hot water pipe insulation for your hot water heater	7	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No	0	0	TRUE	To save money	0	TRUE	Central air conditioner	Gas furnace/boiler	Electric	TRUE	FALSE	FALSE	
CAD002587132	Filter whistle	10	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	It's ENERGY STAR-	TRUE	No	0	0	TRUE	To save energy	0	TRUE	Central air conditioner	Electric furnace	Gas	TRUE	FALSE	FALSE	
CAD002544037	Room air conditioner	1	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	No	0	0	FALSE	To save money	0	TRUE	Central air conditioner	Window or wall air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE

Measure Information			Criterion A: Familiarity with at least one Ameren Missouri program, rebate, or discount			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure						Criterion C: They had a valid reason for considering the adopted measure energy efficient			Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a rebate from Ameren, and they stated a valid reason for not applying for an Ameren rebate				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas savings				Meeting all criteria	
Cadmus Account Key	Measure	Measure Subfix	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	C7. How do you know the [measure] is energy efficient?	Criterion C met? (qualitative assessment)	G10. Did you receive a rebate, discount, or tax credit for installing the [measure]?	G11. Did you get a rebate from Ameren Missouri?	G12. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the [measure]?	Criterion D met? (qualitative assessment)	G8. Which of the following reasons best describe why you decided to install a [measure]?	Which of the following reasons best describe why you chose an energy efficient version of a [measure]?	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Water Heating Fuel	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002544037	Room air purifier		2 Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	The retailer/dealer/contractor told me it was	TRUE	No		Just forgot about it	TRUE	health	It had other features that I liked	FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	Gas	TRUE	FALSE	FALSE
CAD002544037	Learning or "smart" thermostat		12 Yes	No	TRUE	98	98	98	98	98	FALSE	FALSE	It's ENERGY STAR-certified	TRUE	Don't know			FALSE	To save money		TRUE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002546182	Showerhead		4 Yes	No	TRUE	1	1	1	1	1	FALSE	TRUE	1 was sent by Ameren 5 yes ago	FALSE	No		I wasn't sure my equipment qualified	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	Electric	TRUE	FALSE	FALSE
CAD002440601	Furnace fan with ECM (Electronically Commutated Motor)		9 No	No	FALSE	2	2	1	1	1	FALSE	TRUE	The retailer/dealer/contractor told me it was	TRUE	Yes	No		TRUE	To replace failing equipment	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	Gas	FALSE	FALSE	FALSE
CAD002198657	Kitchen faucet aerator		5 Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	FALSE	No		Don't know	FALSE	Don't know	Don't know	FALSE	Central air conditioner	Electric furnace Other (please specify):wood stoveElectric	Electric	TRUE	FALSE	FALSE
CAD002198657	Bathroom faucet aerator		6 Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	FALSE	No		Don't know	FALSE	Don't know	Don't know	FALSE	Central air conditioner	Electric furnace Other (please specify):wood stoveElectric	Electric	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002554092	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	2	99	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler Electric baseboard heating system	TRUE	TRUE	FALSE
CAD000457561	Heat pump Tune-up	Yes	Yes	TRUE	98	1	99	1	1	FALSE	TRUE	No	0	too small to qualify	FALSE	To save energy		TRUE	Air-source heat pump	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD002598294	Air conditioner Tune-up	No	No	FALSE	2	2	2	2	2	TRUE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000158178	Air conditioner Tune-up	Don't know	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler Electric furnace	TRUE	FALSE	FALSE
CAD000030326	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	99	4	4	FALSE	FALSE	No	0	Don't know	FALSE	safety & all of the above	All of the above	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003394323	Air conditioner Tune-up	Yes	Yes	TRUE	99	4	4	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002751793	Air conditioner Tune-up	Yes	Yes	TRUE	3	1	2	1	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD000266297	Air conditioner Tune-up	No	No	FALSE	3	4	98	98	98	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002522586	Air conditioner Tune-up	Yes	Yes	TRUE	2	99	99	2	99	TRUE	FALSE	Don't know	0	0	FALSE	routine maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002528534	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Semi annual check up	TRUE	Routine maintenance	Routine maintenance	FALSE	Air-source heat pump	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD003390794	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002768417	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	3	3	3	FALSE	FALSE	No	0	Did not know a tune up qualified	TRUE	Standard service check	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002181135	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	Yes	Yes	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000326112	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	1	4	99	FALSE	TRUE	No	0	Just forgot about it	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002555793	Air conditioner Tune-up	No	Don't know	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	Maintain equipment	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000277573	Heat pump Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	No need. Program not worth the time	TRUE	Performance	General maintenance	FALSE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	TRUE	FALSE	FALSE
CAD002217834	Heat pump Tune-up	Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000070306	Heat pump Tune-up	Yes	Yes	TRUE	4	4	99	3	99	FALSE	FALSE	No	0	Don't know	FALSE	to run properly	General maintenance	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD002644496	Air conditioner Tune-up	Don't know	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003808682	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	Annual Policy	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000382090	Air conditioner Tune-up	No	No	FALSE	2	3	2	99	3	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002215623	Air conditioner Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Yes	No	Did not know a tuneup qualified for a rebate	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002602553	Air conditioner Tune-up	Yes	Yes	TRUE	2	98	99	98	98	TRUE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000032528	Air conditioner Tune-up	No	Yes	TRUE	2	2	3	1	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002419007	Air conditioner Tune-up	Don't know	Don't know	FALSE	2	3	2	2	2	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Other (please specify):CentralDon't know	TRUE	FALSE	FALSE
CAD000188830	Heat pump Tune-up	Yes	No	TRUE	1	98	98	1	98	FALSE	TRUE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric baseboard heating system	FALSE	FALSE	FALSE
CAD000034090	Air conditioner Tune-up	Don't know	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	Don't know	0	0	FALSE	Replacement. Item stolen.	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002439775	Air conditioner Tune-up	No	Yes	TRUE	3	3	99	3	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003617258	Heat pump Tune-up	Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	Don't know	0	0	FALSE	To save energy		TRUE	Don't know	Don't knowGas	FALSE	FALSE	FALSE
CAD003507695	Air conditioner Tune-up	No	No	FALSE	4	4	1	1	1	FALSE	TRUE	No	0	0	TRUE	To save money		TRUE	Window or wall air conditioner	Other (please specify):Window unitElectric	FALSE	FALSE	FALSE
CAD002631573	Air conditioner Tune-up	Yes	No	TRUE	1	2	1	2	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002615921	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002559524	Air conditioner Tune-up	Don't know	Yes	TRUE	1	99	2	99	99	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003769191	Heat pump Tune-up	Yes	Yes	TRUE	2	2	2	2	99	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditionerPortable air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000420746	Air conditioner Tune-up	No	Yes	TRUE	2	3	3	3	3	TRUE	FALSE	Yes	No	Turn up at no cost	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD000072128	Heat pump Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Don't know	FALSE	Having problems	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002350896	Air conditioner Tune-up	Yes	Yes	TRUE	2	1	2	99	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002496225	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE	
CAD002588293	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE	
CAD002490752	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD000194142	Air conditioner Tune-up	Yes	Yes	TRUE	1	4	3	2	3	FALSE	TRUE	Don't know	0	0	FALSE	Issue	Repairs	FALSE	Central air conditioner	Air-source heat pump	Electric furnace	TRUE	FALSE	FALSE
CAD000355006	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002379148	Air conditioner Tune-up	No	Yes	TRUE	1	2	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE	
CAD002556255	Air conditioner Tune-up	Yes	Yes	TRUE	99	2	99	2	4	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002444013	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	2	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE	
CAD003714734	Air conditioner Tune-up	No	No	FALSE	98	2	98	98	98	TRUE	FALSE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD000353882	Air conditioner Tune-up	Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Don't know	FALSE	Needed Freon	Repairs	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE	
CAD002498237	Air conditioner Tune-up	No	No	FALSE	4	4	4	99	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002505012	Air conditioner Tune-up	Yes	Yes	TRUE	1	98	3	99	98	FALSE	TRUE	Don't know	0	0	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003643855	Air conditioner Tune-up	Yes	No	TRUE	2	2	1	2	2	FALSE	TRUE	No	0	Just forgot about it	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002469260	Air conditioner Tune-up	No	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002636733	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Other (please specify):Central heat, gasGas	TRUE	FALSE	FALSE
CAD003503012	Air conditioner Tune-up	No	No	FALSE	1	98	98	98	98	FALSE	TRUE	No	0	0	TRUE	routine service	Routine maintenance	FALSE	Central air conditioner	Other (please specify):wood stoveElectric	TRUE	FALSE	FALSE
CAD002261419	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	4	3	3	TRUE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Other (please specify):Gas Force airGas	TRUE	FALSE	FALSE
CAD002455713	Air conditioner Tune-up	Yes	Yes	TRUE	3	99	4	4	99	FALSE	FALSE	Yes	No	Don't know	FALSE	standard maintenance	Routine maintenance	FALSE	Air-source heat pump	Air-source heat pump Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000168511	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	2	2	FALSE	TRUE	No	0	didn't know about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002769816	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002222845	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	98	2	TRUE	FALSE	No	0	Not aware of it.	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002380847	Air conditioner Tune-up	No	Yes	TRUE	2	1	1	99	99	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditionerDuctless or mini-split heat pump	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002248093	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	2	3	3	TRUE	FALSE	No	0	Did not know	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002597413	Air conditioner Tune-up	Yes	Yes	TRUE	1	3	2	2	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002576377	Heat pump Tune-up	No	Don't know	FALSE	1	2	2	3	2	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002356171	Air conditioner Tune-up	Yes	Yes	TRUE	98	1	2	1	99	FALSE	TRUE	Yes	Don't know	0	FALSE	All the above and annual maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000199609	Air conditioner Tune-up	Yes	Yes	TRUE	2	98	3	98	3	TRUE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler Electric furnace	TRUE	FALSE	FALSE
CAD002571125	Air conditioner Tune-up	No	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	I am still planning to apply	FALSE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002333131	Heat pump Tune-up	Don't know	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	Was making a noise	Repairs	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD000266623	Air conditioner Tune-up	No	Yes	TRUE	2	4	2	2	4	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000275880	Air conditioner Tune-up	No	No	FALSE	1	98	1	98	98	FALSE	TRUE	Yes	No	Don't know	FALSE	check every 6 months	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000047620	Air conditioner Tune-up	No	Yes	TRUE	2	3	3	98	98	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002415372	Heat pump Tune-up	Yes	No	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Had no idea that this was even possible	TRUE	Routine maintenance	Routine maintenance	FALSE	Central air conditioner Ductless or mini-split heat pump	Ductless or mini-split heat pump Air-source heat pump	TRUE	FALSE	FALSE
CAD002523848	Heat pump Tune-up	Yes	Yes	TRUE	2	2	1	1	98	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	proper operation	General maintenance	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD002313525	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002558071	Air conditioner Tune-up	No	No	FALSE	3	3	2	3	2	TRUE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000128422	Air conditioner Tune-up	Don't know	Don't know	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	Maintenance	General maintenance	FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler Other (please specify):Wall unitGas	TRUE	FALSE	FALSE
CAD002328751	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	1	2	1	FALSE	TRUE	No	0	did not know i could	TRUE	To improve home comfort		FALSE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	FALSE	FALSE	FALSE
CAD000126018	Air conditioner Tune-up	Don't know	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	Don't know	0	0	FALSE	Scheduled	General maintenance	FALSE	Central air conditioner Air-source heat pump Electric furnace	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD002339280	Air conditioner Tune-up	Yes	Yes	TRUE	1	98	98	98	98	FALSE	TRUE	Yes	No	Just forgot about it	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002481240	Heat pump Tune-up	Yes	No	TRUE	2	3	1	2	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Portable air conditioner Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000215602	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I didn't know that it qualified	TRUE	maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002342641	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Routine annual contract	TRUE	Routine annual	Routine maintenance	FALSE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	FALSE	FALSE	FALSE
CAD002420707	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Air-source heat pump	FALSE	FALSE	FALSE
CAD003524609	Air conditioner Tune-up	Yes	No	TRUE	1	1	1	1	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000357643	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	98	4	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	save on repairs	To save money	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002587103	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	2	1	99	FALSE	TRUE	Yes	Yes	0	FALSE	maintain systems	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002549797	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	3	2	TRUE	FALSE	Yes	Yes	0	FALSE	warranty item	Part of other contracts or warranties	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002230173	Air conditioner Tune-up	No	No	FALSE	4	4	1	98	3	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002679628	Air conditioner Tune-up	No	No	FALSE	2	2	2	2	2	TRUE	FALSE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002636379	Air conditioner Tune-up	Don't know	Don't know	FALSE	98	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002506641	Heat pump Tune-up	Yes	Yes	TRUE	4	4	4	3	99	FALSE	FALSE	Yes	No	Don't know	FALSE	To save energy		TRUE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	TRUE	FALSE	FALSE
CAD002292085	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	correct a problem	Repairs	FALSE	Air-source heat pump	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD002473934	Air conditioner Tune-up	Yes	Yes	TRUE	3	2	3	3	3	TRUE	FALSE	No	0	Just forgot about it	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD000136688	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000077308	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	Yes	No	didn't know Ameren offered a rebate	TRUE	extend life of equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000476495	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	Yes	Don't know	0	FALSE	Part of contract for new item	Part of other contracts or warranties	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002211960	Air conditioner Tune-up	No	No	FALSE	1	3	3	99	98	FALSE	TRUE	No	0	0	TRUE	Clean up dust	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000033814	Air conditioner Tune-up	No	Yes	TRUE	3	4	99	4	3	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	preventive maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000419733	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD000265200	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	3	3	TRUE	FALSE	No	0	Don't know	FALSE	Annual Service	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000361906	Air conditioner Tune-up	No	Yes	TRUE	2	3	4	3	3	TRUE	FALSE	Yes	Yes	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003510019	Air conditioner Tune-up	No	No	FALSE	1	98	98	99	2	FALSE	TRUE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler Electric baseboard heating systemElectric furnace	TRUE	FALSE	FALSE
CAD000115006	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	99	4	FALSE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000086295	Heat pump Tune-up	Yes	Don't know	TRUE	1	99	1	1	99	FALSE	TRUE	No	0	Landlord	FALSE	To improve home comfort		FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000361102	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	not applicable	FALSE	maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000123471	Air conditioner Tune-up	No	No	FALSE	98	98	98	98	98	FALSE	FALSE	No	0	0	TRUE	Done yearly	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002462231	Air conditioner Tune-up	Yes	Yes	TRUE	4	99	4	3	99	FALSE	FALSE	No	0	Didn't know about it	TRUE	To maintain equipment	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003574894	Air conditioner Tune-up	Yes	Yes	TRUE	2	4	4	1	4	FALSE	TRUE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Window or wall air conditioner	Electric furnace	FALSE	FALSE	FALSE
CAD000147551	Air conditioner Tune-up	Yes	No	TRUE	98	4	4	4	4	FALSE	FALSE	No	0	not aware of it	TRUE	safety	Safety	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002365441	Air conditioner Tune-up	No	No	FALSE	3	3	98	99	1	FALSE	TRUE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000363839	Air conditioner Tune-up	No	No	FALSE	3	99	98	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000370030	Air conditioner Tune-up	Don't know	Yes	TRUE	99	99	99	1	99	FALSE	TRUE	No	0	Didn't know it was available	TRUE	keep it working in good order.	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002243068	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	2	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002317306	Air conditioner Tune-up	Don't know	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	had to be replaced	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000416421	Air conditioner Tune-up	Yes	Yes	TRUE	3	4	98	3	98	FALSE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002761518	Air conditioner Tune-up	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	Yes	No	I didn't know about it	TRUE	have a contract with scott lee	Part of other contracts or warranties	FALSE	Central air conditioner	Don't knowGas	TRUE	FALSE	FALSE
CAD000289409	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Not offered	TRUE	Keep equipment running effectively	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000144310	Air conditioner Tune-up	No	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000150210	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	Don't know	FALSE	to continue warranty	Part of other contracts or warranties	FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002372778	Air conditioner Tune-up	No	Yes	TRUE	99	99	2	99	99	TRUE	FALSE	No	0	Did the tune up myself	FALSE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002240050	Air conditioner Tune-up	Yes	Yes	TRUE	1	99	99	1	99	FALSE	TRUE	No	0	Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	TRUE
CAD002654763	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	1	2	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	TRUE
CAD000422492	Heat pump Tune-up	Don't know	Yes	TRUE	3	3	4	3	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	FALSE	FALSE	FALSE
CAD002706616	Air conditioner Tune-up	Yes	Don't know	TRUE	2	98	2	3	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002573928	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	apartment staff does it	Part of other contracts or warranties	FALSE	Central air conditioner	Other (please specify):apb uilt in 1963artment building Electric	TRUE	FALSE	FALSE
CAD000136744	Air conditioner Tune-up	Don't know	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD003551000	Air conditioner Tune-up	Yes	No	TRUE	3	99	99	99	99	FALSE	FALSE	No	0	I live at an apartment complex and they decided how to handle the	FALSE	It wasn't working properly	Repairs	FALSE	Don't know	Don't knowGas	FALSE	FALSE	FALSE
CAD002753819	Air conditioner Tune-up	No	No	FALSE	1	1	1	99	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Don't knowGas	TRUE	FALSE	FALSE
CAD003626520	Air conditioner Tune-up	No	No	FALSE	2	4	1	99	2	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000252745	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	99	99	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Long life of appliance	To save money	TRUE	Central air conditioner	Gas furnace/boiler Other (please specify):Radiators - contained water systemGas	TRUE	FALSE	FALSE
CAD002260568	Air conditioner Tune-up	No	No	FALSE	2	2	2	2	2	TRUE	FALSE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Other (please specify):Centralized Cooling/heating systemElectric	TRUE	FALSE	FALSE
CAD002227938	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002749119	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002303970	Air conditioner Tune-up	Yes	No	TRUE	2	2	1	98	98	FALSE	TRUE	No	0	Just renting	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002792077	Air conditioner Tune-up	Don't know	No	FALSE	1	1	1	1	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000113591	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	wasn't aware that it was available	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000054814	Air conditioner Tune-up	No	Don't know	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner Portable air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003610943	Heat pump Tune-up	Yes	Yes	TRUE	2	2	2	98	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD003614516	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	98	3	3	FALSE	FALSE	No	0	Just forgot about it	TRUE	Don't know		FALSE	Central air conditioner	Don't know Electric	TRUE	FALSE	FALSE
CAD002791787	Air conditioner Tune-up	No	Yes	TRUE	98	4	98	3	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Twice a year service	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002699701	Air conditioner Tune-up	No	No	FALSE	3	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	HOME WARRANTY EXPIRING	Part of other contracts or warranties	FALSE	Central air conditioner	Electric furnace Other (please specify): 2' room heater Electric	TRUE	FALSE	FALSE
CAD000492069	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner Air-source heat pump	Gas furnace/boiler Electric baseboard heating system	TRUE	FALSE	FALSE
CAD002549563	Air conditioner Tune-up	Yes	Don't know	TRUE	1	4	4	98	4	FALSE	TRUE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002643507	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000422866	Air conditioner Tune-up	No	No	FALSE	4	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	Annual maintenance prevents problems.	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003362428	Air conditioner Tune-up	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002295492	Air conditioner Tune-up	No	No	FALSE	99	4	99	4	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000343834	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	98	2	TRUE	FALSE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002533823	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002734156	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	4	2	2	TRUE	FALSE	No	0	Just forgot about it	TRUE	Preventative maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002434769	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Landlord paid for the tune up	FALSE	clean the unit	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002573695	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002750422	Air conditioner Tune-up	No	No	FALSE	1	99	4	99	99	FALSE	TRUE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002216357	Air conditioner Tune-up	Yes	Yes	TRUE	4	99	99	4	99	FALSE	FALSE	Yes	No	Received rebate from sheet metal union; wasn't aware of Ameren rebate	TRUE	Reg. maint. to avoid breakdowns	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002678733	Air conditioner Tune-up	Yes	Yes	TRUE	2	4	2	2	1	FALSE	TRUE	No	0	Didn't know about the rebate	TRUE	To maintain the equipment life	To save money	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002541475	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	safety/preventive maintenance	Safety	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002343241	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	2	3	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002813599	Air conditioner Tune-up	Don't know	Don't know	FALSE	4	4	4	3	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002295122	Heat pump Tune-up	Yes	Yes	TRUE	3	4	99	99	3	FALSE	FALSE	No	0	Didn't know about it	TRUE	scheduled maintenance	Routine maintenance	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD002747121	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	1	99	FALSE	TRUE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditionerDuctless or mini-split heat pump	Ductless or mini-split heat pump Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000435328	Air conditioner Tune-up	No	Yes	TRUE	98	98	2	98	98	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditionerPortable air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000174725	Air conditioner Tune-up	No	No	FALSE	98	3	98	99	98	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002313628	Air conditioner Tune-up	No	No	FALSE	1	2	4	2	2	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditionerDuctless or mini-split heat pump	Ductless or mini-split heat pump Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000395599	Air conditioner Tune-up	No	No	FALSE	2	3	98	3	2	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002504058	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	98	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000217412	Air conditioner Tune-up	Yes	No	TRUE	2	3	4	2	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000187060	Air conditioner Tune-up	Yes	Yes	TRUE	2	98	98	98	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	was/n work right	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003794855	Air conditioner Tune-up	Yes	Yes	TRUE	1	3	2	2	2	FALSE	TRUE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000195455	Air conditioner Tune-up	Don't know	No	FALSE	2	2	2	2	2	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003783590	Air conditioner Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Just forgot about it	TRUE	Make sure its in working order	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002667575	Air conditioner Tune-up	No	No	FALSE	1	3	2	99	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002665701	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003542327	Heat pump Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Don't knowGas	FALSE	FALSE	FALSE
CAD002207091	Air conditioner Tune-up	Yes	Yes	TRUE	2	99	2	99	99	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003565369	Air conditioner Tune-up	Yes	Yes	TRUE	1	99	99	99	99	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner Portable air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002544965	Heat pump Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Ensure operating efficiency	To save energy	TRUE	Central air conditioner Air-source heat pump Gas furnace/boiler Air-source heat pump	Air-source heat pump Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002565967	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	99	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003360984	Air conditioner Tune-up	Yes	Don't know	TRUE	3	2	2	2	3	TRUE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002555908	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	99	99	99	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002326046	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	99	2	TRUE	FALSE	No	0	Don't know	FALSE	Routine check up	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002360439	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Didn't know about	TRUE	Repair	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002759062	Air conditioner Tune-up	No	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	wasn't aware of	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002809585	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	98	FALSE	FALSE	No	0	Didn't know such a thing	TRUE	Maintenance	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000304538	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002406125	Air conditioner Tune-up	No	Yes	TRUE	2	4	2	98	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002400575	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000419731	Air conditioner Tune-up	No	Yes	TRUE	98	2	2	2	98	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002368182	Air conditioner Tune-up	Yes	No	TRUE	1	99	99	1	1	FALSE	TRUE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner/Portable air conditioner	Gas furnace/boiler/ Electric baseboard heating system	TRUE	FALSE	FALSE
CAD003475103	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000033439	Air conditioner Tune-up	Don't know	No	FALSE	1	2	1	1	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002598410	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002697161	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	2	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002338562	Heat pump Tune-up	Yes	Yes	TRUE	3	99	3	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Electric furnace	FALSE	FALSE	FALSE
CAD000112591	Air conditioner Tune-up	Yes	Yes	TRUE	1	4	4	1	3	FALSE	TRUE	No	0	I am still planning to apply	FALSE	Make sure there are no problems	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003608885	Air conditioner Tune-up	No	No	FALSE	2	2	2	99	1	FALSE	TRUE	No	0	0	TRUE	Ensure longevity	To save money	TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002679725	Heat pump Tune-up	Don't know	Yes	TRUE	99	99	4	98	99	FALSE	FALSE	Yes	No	Don't know	FALSE	To save money		TRUE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD000362770	Air conditioner Tune-up	Don't know	Yes	TRUE	2	3	2	2	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002658426	Air conditioner Tune-up	No	No	FALSE	98	98	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002543997	Air conditioner Tune-up	Yes	No	TRUE	2	98	98	2	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002451805	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	Don't know	FALSE	repair	Repairs	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003700034	Air conditioner Tune-up	No	Yes	TRUE	4	1	98	2	3	FALSE	TRUE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditionerDuctless or mini-split heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD002207358	Air conditioner Tune-up	Yes	No	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000245212	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002321046	Air conditioner Tune-up	Yes	No	TRUE	98	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000414894	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	didn't even think of it	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000467019	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000049052	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner Window or wall air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002363402	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	annual tune up to improve quality of product/ind life	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002384242	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	1	1	1	FALSE	TRUE	No	0	Don't own property	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002287001	Air conditioner Tune-up	Yes	Yes	TRUE	4	99	99	4	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002762757	Air conditioner Tune-up	Yes	Yes	TRUE	98	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler Electric baseboard heating system	TRUE	FALSE	FALSE
CAD002209716	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	To avoid equipment failures	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003860888	Heat pump Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I didn't know I could apply	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002325613	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner portable air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002178812	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002475366	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	1	FALSE	TRUE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Other (please specify):RADIATORSDon't know	TRUE	FALSE	FALSE
CAD002215970	Air conditioner Tune-up	Yes	Yes	TRUE	4	2	98	3	3	TRUE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000237665	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002402877	Air conditioner Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000175035	Air conditioner Tune-up	Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Not aware	TRUE	Annual Maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003865659	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Maintenance done by owner	FALSE	Required	Part of other contracts or warranties	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003720290	Heat pump Tune-up	Yes	Yes	TRUE	1	2	1	2	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner/Portable air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002330507	Air conditioner Tune-up	Yes	Yes	TRUE	1	3	1	99	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002181439	Heat pump Tune-up	Yes	Yes	TRUE	2	2	1	2	2	FALSE	TRUE	No	0	did not qualify, had it done previous year	FALSE	To save energy		TRUE	Ductless or mini-split heat pump Air-source heat pump Gas furnace/boiler	Ductless or mini-split heat pump Air-source heat pump Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002489436	Air conditioner Tune-up	Yes	Yes	TRUE	1	3	1	3	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	TRUE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000367804	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	working properly	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002248392	Air conditioner Tune-up	No	No	FALSE	99	2	98	99	98	TRUE	FALSE	No	0	0	TRUE	malfunction	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002266784	Air conditioner Tune-up	Yes	Yes	TRUE	2	4	3	2	98	TRUE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002290317	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	Yes	Don't know	0	FALSE	Preventive Maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002299024	Air conditioner Tune-up	No	No	FALSE	99	3	1	99	99	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002506497	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002567438	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	2	99	1	FALSE	TRUE	No	0	Didn't know I could.	TRUE	Suspected issue	Repairs	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002520393	Heat pump Tune-up	Yes	Don't know	TRUE	2	2	98	99	1	FALSE	TRUE	Don't know	0	0	FALSE	clean filter	General maintenance	FALSE	Air-source heat pump Other (please specify): window unit	Air-source heat pump	TRUE	FALSE	FALSE
CAD002446354	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I rent	FALSE	annual check	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003560208	Heat pump Tune-up	Yes	Yes	TRUE	3	4	3	3	3	FALSE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner Air-source heat pump Electric baseboard heating system Electric furnace		TRUE	FALSE	FALSE
CAD000081419	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	99	1	98	FALSE	TRUE	No	0	contractor did not qualify	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002574340	Air conditioner Tune-up	No	No	FALSE	4	3	2	3	4	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Window or wall air conditioner	Electric furnace	FALSE	FALSE	FALSE
CAD000237711	Air conditioner Tune-up	No	Yes	TRUE	1	98	3	3	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD000456248	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Needed fixing	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002534503	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000466195	Air conditioner Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002790081	Air conditioner Tune-up	Don't know	Yes	TRUE	3	4	99	98	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003501894	Air conditioner Tune-up	Yes	No	TRUE	2	3	1	98	99	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	it was suggested by vendor	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000237084	Air conditioner Tune-up	No	Yes	TRUE	3	1	3	99	3	FALSE	TRUE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003527865	Air conditioner Tune-up	Yes	No	TRUE	2	2	2	2	2	TRUE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Don't knowElectric	TRUE	FALSE	FALSE
CAD000333971	Air conditioner Tune-up	Yes	No	TRUE	99	1	1	1	1	FALSE	TRUE	No	0	we did not know about this	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002546361	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	2	98	2	TRUE	FALSE	No	0	It was confusing	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD000378385	Air conditioner Tune-up	Yes	Yes	TRUE	1	99	4	99	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	TRUE
CAD002635175	Heat pump Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Electric baseboard heating system	FALSE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003667874	Air conditioner Tune-up	Yes	No	TRUE	3	3	3	3	3	FALSE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000391152	Air conditioner Tune-up	Don't know	No	FALSE	3	3	98	1	98	FALSE	TRUE	No	0	0	TRUE	yearly maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002341247	Air conditioner Tune-up	No	Yes	TRUE	2	2	3	2	3	TRUE	FALSE	No	0	Don't know	FALSE	ac stopped working	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000483092	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner Other (please specify):Attic fan	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003681190	Air conditioner Tune-up	Don't know	Don't know	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	needed repair	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002742667	Air conditioner Tune-up	Don't know	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002569850	Air conditioner Tune-up	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	No	0	0	TRUE	Quality check	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000441771	Air conditioner Tune-up	No	Yes	TRUE	4	4	4	99	4	FALSE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002807348	Air conditioner Tune-up	Yes	No	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	General maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003706593	Air conditioner Tune-up	Yes	No	TRUE	4	4	99	99	99	FALSE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002352707	Heat pump Tune-up	Yes	Don't know	TRUE	98	4	4	98	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Air-source heat pump	Air-source heat pump Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000462079	Air conditioner Tune-up	Don't know	Yes	TRUE	1	2	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002500429	Air conditioner Tune-up	Yes	Yes	TRUE	3	98	2	99	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	longevity of equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002316671	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	Elim emerg svc calls	General maintenance	FALSE	Central air conditioner	Other (please specify):Gas furnace - forced airGas	TRUE	FALSE	FALSE
CAD000202433	Air conditioner Tune-up	Don't know	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000302233	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002393113	Heat pump Tune-up	Yes	Yes	TRUE	3	3	2	3	3	TRUE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD003866941	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	99	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	so it runs okay	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002231592	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002691639	Air conditioner Tune-up	No	Don't know	FALSE	3	3	2	3	3	TRUE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002310030	Air conditioner Tune-up	No	No	FALSE	99	99	99	4	99	FALSE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Don't know	Don't knowElectric	FALSE	FALSE	FALSE
CAD002508130	Air conditioner Tune-up	Don't know	Yes	TRUE	2	2	99	99	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000134747	Air conditioner Tune-up	Yes	Yes	TRUE	1	3	2	2	99	FALSE	TRUE	Yes	Yes	0	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000315241	Air conditioner Tune-up	Don't know	Yes	TRUE	2	3	2	2	2	TRUE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

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CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002481798	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Don't knowElectric	TRUE	FALSE	FALSE
CAD002390596	Air conditioner Tune-up	No	Yes	TRUE	99	4	4	99	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner Window or wall air conditioner	Don't knowGas	TRUE	FALSE	FALSE
CAD002575036	Air conditioner Tune-up	Yes	No	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	avoid break-down	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003822782	Air conditioner Tune-up	Don't know	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	wasn't aware you could	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000298899	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	Yes	No	Wasn't aware of its availability.	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000287443	Air conditioner Tune-up	No	Don't know	FALSE	4	4	4	4	3	FALSE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002649948	Heat pump Tune-up	Yes	Yes	TRUE	2	98	3	2	3	TRUE	FALSE	No	0	contractor doesn't have your equipment	FALSE	repair	Repairs	FALSE	Central air conditionerAir-source heat pump Electric furnace	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD000046477	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	WHAT IS CONSIDERED A TUNE UP TO AMEREN	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002464108	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	98	98	98	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002697240	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000367615	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	General maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002680037	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Didn't know about the program	TRUE	safety reasons	Safety	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

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CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002199039	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	My husband is HVAC Certified and did it himself	FALSE	Preventative Maintenance	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002747574	Air conditioner Tune-up	Don't know	No	FALSE	2	3	3	3	3	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000476087	Air conditioner Tune-up	Yes	Don't know	TRUE	2	99	99	99	2	TRUE	FALSE	Yes	No	Wasn't aware of this option	TRUE	Check up	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002601343	Air conditioner Tune-up	Yes	Yes	TRUE	99	3	1	2	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000257574	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	2	2	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Check before summer	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002312693	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	DIDN'T KNOW ABOUT IT	TRUE	MAKE SURE EQUIPMENT WAS IN GOOD WORKING ORDER	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002422048	Air conditioner Tune-up	No	Yes	TRUE	2	2	1	2	2	FALSE	TRUE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003526997	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	99	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	NO COOL AIR	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002745960	Air conditioner Tune-up	Yes	No	TRUE	1	2	98	99	2	FALSE	TRUE	No	0	didn't know I could	TRUE	To save money		TRUE	Air-source heat pump	Air-source heat pump Electric furnace	FALSE	FALSE	FALSE
CAD002585689	Air conditioner Tune-up	Yes	No	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002211003	Heat pump Tune-up	Yes	Don't know	TRUE	3	3	3	3	3	FALSE	FALSE	No	0	Don't know	FALSE	Keep it working efficiently	To save energy	TRUE	Air-source heat pump Ground-source or geothermal heat pump	Ductless or mini-split heat pump Air-source heat pump Ground-source or geothermal heat pump	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002344557	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	2	1	1	FALSE	TRUE	No	0	0	Just forgot about it	TRUE	To save energy	TRUE	Central air conditioner	Air-source heat pump	TRUE	FALSE	TRUE	
CAD003387771	Air conditioner Tune-up	No	No	FALSE	1	1	1	2	1	FALSE	TRUE	No	0	0	Stop Working	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE		
CAD003761896	Air conditioner Tune-up	No	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	0	I wasn't sure the tune-up qualified	TRUE	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE	
CAD002517915	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	0	I did not know to	TRUE	we just do it every 6 mos	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000487298	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	3	3	3	FALSE	FALSE	Don't know	0	0	To improve home comfort	FALSE	FALSE	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002797064	Air conditioner Tune-up	No	No	FALSE	2	98	1	99	99	FALSE	TRUE	No	0	0	To improve home comfort	FALSE	FALSE	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002517543	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	99	99	99	FALSE	TRUE	No	0	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002558609	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	Yes	No	0	Didn't know about it	TRUE	Preventive maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003800020	Air conditioner Tune-up	Yes	Yes	TRUE	98	4	99	99	4	FALSE	FALSE	No	0	0	Don't know	FALSE	To save money	TRUE	Central air conditioner	Other (please specify): ceiling cable electric	TRUE	FALSE	FALSE	
CAD003390149	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	0	Landlord applied	FALSE	Wasn't running properly	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000408637	Air conditioner Tune-up	Yes	Yes	TRUE	3	4	1	1	2	FALSE	TRUE	No	0	0	Just forgot about it	TRUE	To improve home comfort	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD003845013	Heat pump Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	Don't know	0	0	Bought house that was a fixer upper	FALSE	Repairs	FALSE	Central air conditioner	Electric furnace	FALSE	FALSE	FALSE	

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CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000420099	Air conditioner Tune-up	Yes	Yes	TRUE	99	4	99	4	99	FALSE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002662787	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000130306	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	3	3	3	TRUE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002454622	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002286741	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002515565	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002647146	Air conditioner Tune-up	No	Yes	TRUE	3	3	3	3	3	FALSE	FALSE	Yes	Yes	0	FALSE	Comes with the warranty	Part of other contracts or warranties	FALSE	Central air conditioner/Air-source heat pump	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD000291265	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000163999	Heat pump Tune-up	Yes	Yes	TRUE	1	98	2	98	98	FALSE	TRUE	No	0	Don't know	FALSE	maintenance	General maintenance	FALSE	Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002786857	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	0	0	FALSE	routine maintenance for optimum performance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002538092	Heat pump Tune-up	No	No	FALSE	1	4	3	98	1	FALSE	TRUE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000175588	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

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CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002331012	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	contractor isn't an ameren designated	FALSE	preventive maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002631324	Air conditioner Tune-up	Yes	No	TRUE	1	2	2	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD003674356	Air conditioner Tune-up	Don't know	Yes	TRUE	2	1	1	2	2	FALSE	TRUE	Yes	Yes	0	FALSE	Unit not functioning properly	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003613624	Heat pump Tune-up	Yes	No	TRUE	2	98	2	99	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002637761	Air conditioner Tune-up	No	No	FALSE	2	3	1	1	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000218671	Air conditioner Tune-up	No	Yes	TRUE	3	2	2	3	2	TRUE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002399131	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Didn't realize there was a rebate	TRUE	To keep equipment running efficiently	To save energy	TRUE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	TRUE	FALSE	FALSE
CAD000450498	Air conditioner Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Didn't know a tune up qualifies	TRUE	To improve home comfort		FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000287579	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	2	2	FALSE	TRUE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000223618	Air conditioner Tune-up	Don't know	Don't know	FALSE	4	4	4	4	4	FALSE	FALSE	Yes	Don't know	0	FALSE	to keep equipment working well	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002682004	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	2	2	1	FALSE	TRUE	Yes	Don't know	0	FALSE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003403257	Heat pump Tune-up	No	No	FALSE	2	1	1	99	99	FALSE	TRUE	No	0	0	TRUE	To save energy		TRUE	Other (please specify): Thermostat controls both heat and cool	Don't knowElectric	FALSE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002592153	Air conditioner Tune-up	Yes	Yes	TRUE	4	2	4	4	4	TRUE	FALSE	No	0	Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner	Electric baseboard heating system Electric furnace	TRUE	TRUE	FALSE
CAD000041202	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD000257236	Air conditioner Tune-up	Yes	No	TRUE	98	4	4	98	4	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002786723	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002235273	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	99	99	TRUE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD000287984	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	2	99	98	TRUE	FALSE	No	0	My son does it at no charge so I don't get a rebate	FALSE	my son does it annually	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002452776	Air conditioner Tune-up	Yes	Yes	TRUE	1	3	3	2	2	FALSE	TRUE	No	0	Not my home rental	FALSE	To save money		TRUE	Other (please specify): Not my house	Don't know Electric	FALSE	FALSE	FALSE
CAD002408402	Air conditioner Tune-up	No	No	FALSE	2	2	2	99	1	FALSE	TRUE	Yes	No	Don't know	FALSE	To save money		TRUE	Central air conditioner	Other (please specify): Three gas furnaces	TRUE	FALSE	FALSE
CAD000178595	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	didn't know I could	TRUE	done annually	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003466429	Air conditioner Tune-up	Yes	Yes	TRUE	98	99	98	98	98	FALSE	FALSE	No	0	Did not realize I could	TRUE	To improve home comfort		FALSE	Central air conditioner Air-source heat pump Electric heat pump	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD002731748	Air conditioner Tune-up	Yes	Yes	TRUE	1	98	98	98	98	FALSE	TRUE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002559318	Air conditioner Tune-up	No	No	FALSE	2	1	2	2	2	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002566395	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	Yes	No	Didn't no about it	TRUE	Gets checked twice a year	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002763723	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002414106	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000359294	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	Don't know		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002418923	Air conditioner Tune-up	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000430881	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	Tore up.	Repairs	FALSE	Central air conditioner	Other (please specify):Central gas heatGas	TRUE	FALSE	FALSE
CAD003729887	Heat pump Tune-up	Don't know	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002357394	Air conditioner Tune-up	No	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	FALSE	FALSE	FALSE
CAD002490152	Air conditioner Tune-up	Yes	No	TRUE	4	99	98	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Window or wall air conditioner	Gas furnace/boiler Electric baseboard heating system	FALSE	FALSE	FALSE
CAD002193047	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	Just forgot about it	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	TRUE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003575795	Air conditioner Tune-up	No	No	FALSE	98	98	99	98	98	FALSE	FALSE	No	0	0	TRUE	Needed replacing	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003678628	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	4	1	2	FALSE	TRUE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Window or wall air conditioner	Electric furnace	FALSE	FALSE	FALSE
CAD002490565	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	2	2	FALSE	TRUE	No	0	I didn't know of the rebate	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	TRUE
CAD002287806	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	3	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002578014	Heat pump Tune-up	No	Yes	TRUE	99	4	99	99	98	FALSE	FALSE	Yes	No	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000454608	Air conditioner Tune-up	Yes	No	TRUE	1	99	99	99	99	FALSE	TRUE	No	0	Because my husband is a heating and cooling contractor and he completed the tune-up himself.	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003621601	Air conditioner Tune-up	No	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002685007	Air conditioner Tune-up	Yes	Yes	TRUE	2	4	3	98	98	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002552140	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Don't know	Electric furnace	FALSE	FALSE	FALSE
CAD002794077	Air conditioner Tune-up	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler Other (please specify):wood furnaceGas	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000237266	Heat pump Tune-up	Yes	Yes	TRUE	99	98	99	98	99	FALSE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	regular schedule	Routine maintenance	FALSE	Air-source heat pump	Air-source heat pump Other (please specify): wood burning stoveElectric	TRUE	FALSE	FALSE
CAD000064911	Air conditioner Tune-up	Don't know	Yes	TRUE	2	2	2	3	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002209335	Air conditioner Tune-up	No	No	FALSE	1	2	2	2	2	FALSE	TRUE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002426821	Heat pump Tune-up	Yes	Yes	TRUE	2	3	1	1	2	FALSE	TRUE	No	0	I am still planning to apply	FALSE	To save energy		TRUE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD003632523	Air conditioner Tune-up	Yes	No	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002622250	Air conditioner Tune-up	No	No	FALSE	98	98	98	98	98	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002276722	Heat pump Tune-up	No	No	FALSE	2	2	2	2	1	FALSE	TRUE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000095396	Heat pump Tune-up	Yes	Yes	TRUE	98	4	3	99	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	TRUE	FALSE	FALSE
CAD002564806	Air conditioner Tune-up	Don't know	No	FALSE	2	98	98	2	98	TRUE	FALSE	Yes	No	Don't know	FALSE	Don't know		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002229910	Air conditioner Tune-up	Yes	No	TRUE	98	98	99	99	98	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	replaced air conditioner as not working	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002660743	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	3	99	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD003699994	Air conditioner Tune-up	No	Yes	TRUE	2	3	2	99	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002455705	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	1	1	99	FALSE	TRUE	No	0	Don't know	FALSE	Maintenance agreement	Part of other contracts or warranties	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002743572	Air conditioner Tune-up	No	No	FALSE	98	4	98	99	99	FALSE	FALSE	No	0	0	TRUE	Age of unit	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000033220	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	1	2	3	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	Normal Maintenance Cycle	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003791151	Air conditioner Tune-up	No	No	FALSE	1	2	3	99	4	FALSE	TRUE	No	0	0	TRUE	It stopped cooling	Repairs	FALSE	Central air conditioner	Don't knowGas	TRUE	FALSE	FALSE
CAD002387608	Air conditioner Tune-up	Don't know	No	FALSE	4	4	99	4	4	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Window or wall air conditioner	Other (please specify):window unitsElectric	FALSE	FALSE	FALSE
CAD002279029	Air conditioner Tune-up	Yes	Yes	TRUE	1	98	2	2	98	FALSE	TRUE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003652205	Air conditioner Tune-up	No	Yes	TRUE	99	4	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Necessary	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000107573	Air conditioner Tune-up	Yes	Yes	TRUE	1	98	99	1	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD003553667	Heat pump Tune-up	Don't know	Yes	TRUE	98	99	98	98	98	FALSE	FALSE	Don't know	0	0	FALSE	Don't know		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000038724	Air conditioner Tune-up	Don't know	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	it was part of home repair insurance	FALSE	as part of a repair	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000392544	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000263446	Air conditioner Tune-up	Yes	Yes	TRUE	2	99	99	99	99	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	TRUE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002799030	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	4	2	99	TRUE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003730321	Air conditioner Tune-up	No	Yes	TRUE	1	99	99	99	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	Air condition not cooling	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003537230	Heat pump Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I don't know if he did or not. I know I did not pay him anything since it was included in my purchase price.	FALSE	Included with purchase price	Part of other contracts or warranties	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD002747558	Air conditioner Tune-up	Yes	No	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	I am still planning to apply	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000324845	Heat pump Tune-up	Yes	No	TRUE	4	99	98	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner Air-source heat pump Window or wall air conditioner	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD002709983	Air conditioner Tune-up	No	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000090734	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	3	FALSE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000229215	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Did own work	FALSE	To save energy		TRUE	Central air conditioner	Other (please specify): Oil Furnace Don't know	TRUE	FALSE	FALSE
CAD002764322	Heat pump Tune-up	No	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Air-source heat pump	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD002497437	Air conditioner Tune-up	Yes	Yes	TRUE	99	98	98	98	99	FALSE	FALSE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Don't know Electric	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002251305	Air conditioner Tune-up	Yes	Yes	TRUE	2	4	2	99	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002246874	Air conditioner Tune-up	Don't know	No	FALSE	3	3	98	98	3	FALSE	FALSE	No	0	0	TRUE	Checkup	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002191362	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	2	1	1	FALSE	TRUE	No	0	Under contract with the mobile home park	FALSE	Stopped working in the summer	Repairs	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003519104	Air conditioner Tune-up	Yes	No	TRUE	98	99	98	99	98	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000473113	Air conditioner Tune-up	Yes	No	TRUE	2	2	2	2	1	FALSE	TRUE	No	0	It was confusing	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002459793	Air conditioner Tune-up	Yes	Yes	TRUE	2	99	2	99	99	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002497304	Air conditioner Tune-up	Yes	No	TRUE	2	2	1	2	2	FALSE	TRUE	No	0	Don't know	FALSE	Had to be replaced	Replacement	FALSE	Central air conditioner	Electric furnace Other (please specify):Fuel oil furnaceElectric	TRUE	FALSE	FALSE
CAD000071868	Air conditioner Tune-up	Yes	Yes	TRUE	2	99	1	2	2	FALSE	TRUE	Yes	No	I wasn't sure the tune-up qualified	TRUE	Maintain proper operation and service	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002230325	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Other (please specify):gas furnaceGas	TRUE	FALSE	FALSE
CAD002383456	Air conditioner Tune-up	Don't know	No	FALSE	3	3	3	99	3	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003871052	Air conditioner Tune-up	No	No	FALSE	98	4	98	99	99	FALSE	FALSE	No	0	0	TRUE	My central air conditioner unit outside broke & I replaced it and new furnace they were	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002341434	Air conditioner Tune-up	No	No	FALSE	98	98	98	98	98	FALSE	FALSE	Don't know	0	0	FALSE	Old	General maintenance	FALSE	Other (please specify): Apt House (probably central air)	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000208965	Air conditioner Tune-up	Yes	No	TRUE	1	1	1	2	1	FALSE	TRUE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002193467	Air conditioner Tune-up	Don't know	Yes	TRUE	1	3	1	1	98	FALSE	TRUE	No	0	company failed to do it	FALSE	To save energy		TRUE	Central air conditioner	Air-source heat pump	TRUE	FALSE	FALSE
CAD002584243	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	99	99	FALSE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002810278	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	It stopped working so I decided to have it tuned up while it was repaired	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002274178	Air conditioner Tune-up	No	No	FALSE	98	98	99	98	98	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002713058	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	98	98	TRUE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002793916	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	4	4	3	TRUE	FALSE	Don't know	0	0	FALSE	Protect equipment	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000037786	Heat pump Tune-up	Yes	Yes	TRUE	1	3	1	2	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner/Air-source heat pump	Air-source heat pump	TRUE	FALSE	TRUE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000081940	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002429895	Air conditioner Tune-up	No	No	FALSE	3	3	3	3	3	FALSE	FALSE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002529631	Air conditioner Tune-up	Yes	Yes	TRUE	1	3	2	3	2	FALSE	TRUE	No	0	I am still planning to apply	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002798531	Air conditioner Tune-up	Yes	Yes	TRUE	2	99	99	4	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Maintenance	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002723093	Heat pump Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000346401	Air conditioner Tune-up	No	No	FALSE	98	98	98	98	98	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002250194	Air conditioner Tune-up	Yes	No	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002493723	Air conditioner Tune-up	Don't know	No	FALSE	98	98	2	98	98	TRUE	FALSE	No	0	0	TRUE	needed it	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002397597	Air conditioner Tune-up	Don't know	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Was not aware	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002406637	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003750928	Air conditioner Tune-up	Yes	Yes	TRUE	1	98	2	1	99	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	cleaning	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000048425	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	2	1	FALSE	TRUE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Window or wall air conditioner	Electric baseboard heating systemOther (please specify):Window energy efficient air/heat unitElectric	FALSE	FALSE	FALSE
CAD002627227	Air conditioner Tune-up	Yes	Yes	TRUE	3	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	regular maintenance	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002533225	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002799431	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	2	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD000162214	Air conditioner Tune-up	Yes	Yes	TRUE	2	4	4	4	2	TRUE	FALSE	No	0	was told it didnt qualify	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002602465	Heat pump Tune-up	Yes	Yes	TRUE	3	99	99	2	99	TRUE	FALSE	Yes	No	Don't know	FALSE	SEMI ANNUAL CHECK	Routine maintenance	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD000102403	Air conditioner Tune-up	Yes	Yes	TRUE	4	2	3	3	99	TRUE	FALSE	No	0	Not aware of rebates on seasonal tune-ups.	TRUE	Extend life of equipment.	To save money	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002607575	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Didn't know about it.	TRUE	regular maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler Electric furnace	TRUE	FALSE	FALSE
CAD000079094	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	99	99	98	FALSE	FALSE	Yes	No	air comnditioning company gave me credit	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002536264	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	TRUE	FALSE	FALSE
CAD000229136	Air conditioner Tune-up	Don't know	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Don't knowGas	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003709793	Air conditioner Tune-up	Don't know	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	Routine maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002215554	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	Periodically schedule	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler Electric furnace	TRUE	FALSE	FALSE
CAD002720136	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000092700	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	2	2	98	TRUE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003810194	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	4	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002543128	Air conditioner Tune-up	No	No	FALSE	3	99	3	2	99	TRUE	FALSE	No	0	0	TRUE	regular maintenance	Routine maintenance	FALSE	Central air conditioner Other (please specify): ceiling fans	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000469834	Air conditioner Tune-up	Yes	Don't know	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000109182	Heat pump Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To save energy		TRUE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD002617249	Air conditioner Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	contract	Part of other contracts or warranties	FALSE	Central air conditioner	Air-source heat pump	TRUE	FALSE	FALSE
CAD003771953	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	98	99	FALSE	FALSE	Yes	No	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000364578	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000378906	Air conditioner Tune-up	Yes	Yes	TRUE	98	4	4	99	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002521071	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	1	99	1	FALSE	TRUE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002206861	Air conditioner Tune-up	No	No	FALSE	4	4	98	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Air-source heat pump	Air-source heat pump	FALSE	FALSE	FALSE
CAD000312804	Air conditioner Tune-up	Yes	Yes	TRUE	2	4	2	4	4	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002688030	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	2	1	FALSE	TRUE	No	0	unaware of rebate for tuneup	TRUE	for regular maint	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003627636	Air conditioner Tune-up	No	Yes	TRUE	2	4	2	99	3	TRUE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002353792	Air conditioner Tune-up	Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	did not qualify as was too small	FALSE	Needed new A/C	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000207903	Air conditioner Tune-up	No	Yes	TRUE	4	99	98	99	99	FALSE	FALSE	No	0	did not know about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002538212	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Son in law HVAC guy	FALSE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003757150	Air conditioner Tune-up	No	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002304230	Heat pump Tune-up	Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Didn't know	TRUE	Wasn't functioning	Repairs	FALSE	Central air conditioner	Electric furnace	FALSE	FALSE	FALSE
CAD002416545	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000230805	Air conditioner Tune-up	No	Yes	TRUE	3	2	2	2	2	TRUE	FALSE	Don't know	0	0	FALSE	Make sure everything was running properly	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002752649	Heat pump Tune-up	Yes	No	TRUE	1	98	99	2	2	FALSE	TRUE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marking or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000051483	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002383585	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner Ductless or mini-split heat pump Gas furnace/boiler	Ductless or mini-split heat pump Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003838352	Air conditioner Tune-up	Don't know	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002252708	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000263323	Air conditioner Tune-up	Don't know	No	FALSE	3	4	2	99	3	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003713251	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002814788	Air conditioner Tune-up	No	Yes	TRUE	1	4	2	98	98	FALSE	TRUE	No	0	landlord	FALSE	rent-maintenance	Part of other contracts or warranties	FALSE	Don't know	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002623729	Air conditioner Tune-up	No	Don't know	FALSE	98	98	98	98	98	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000157619	Air conditioner Tune-up	No	No	FALSE	1	98	2	98	1	FALSE	TRUE	Yes	No	Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002271522	Air conditioner Tune-up	Yes	No	TRUE	1	4	1	1	3	FALSE	TRUE	Don't know	0	0	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002613923	Heat pump Tune-up	Yes	Yes	TRUE	3	2	99	1	99	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	maintainance	General maintenanc	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD000398887	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	99	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	make sure it was working properly	General maintenanc	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002747457	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	It didn't look like it qualified according to the website	FALSE	Had new system installed	Replacement	FALSE	Central air conditioner	Other (please specify): Hot Water Baseboard HeatGas	TRUE	FALSE	FALSE
CAD000344983	Heat pump Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner/Air-source heat pump	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002620392	Air conditioner Tune-up	Yes	Yes	TRUE	3	4	3	3	4	FALSE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000211273	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	1	2	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002203660	Heat pump Tune-up	Yes	Yes	TRUE	1	3	4	3	99	FALSE	TRUE	Yes	No	Don't know	FALSE	maintain high efficiency	To save energy	TRUE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD003752115	Heat pump Tune-up	Yes	Yes	TRUE	4	4	4	4	99	FALSE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	extend life of equipment	To save money	TRUE	Air-source heat pump	Air-source heat pump Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002658274	Air conditioner Tune-up	Yes	Yes	TRUE	1	4	2	99	1	FALSE	TRUE	No	0	didn't know I could	TRUE	to maintain them	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002772736	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	99	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002511825	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000038267	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	3	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000148285	Air conditioner Tune-up	No	No	FALSE	1	4	2	2	1	FALSE	TRUE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000109260	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	Maintain equipment	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000058722	Air conditioner Tune-up	Yes	No	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Dont know about	TRUE	Yearly service	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002253667	Air conditioner Tune-up	Don't know	No	FALSE	2	4	4	4	4	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000311666	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	99	99	FALSE	TRUE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002512915	Air conditioner Tune-up	No	Yes	TRUE	2	1	3	2	1	FALSE	TRUE	Yes	No	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000440273	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	3	3	TRUE	FALSE	No	0	Don't know	FALSE	regular maintenance	Routine maintenance	FALSE	Central air conditioner	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD00264039	Air conditioner Tune-up	No	Don't know	FALSE	2	2	2	2	3	TRUE	FALSE	No	0	0	TRUE	Just had it serviced	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002380572	Air conditioner Tune-up	Yes	Yes	TRUE	99	1	1	99	99	FALSE	TRUE	No	0	Don't know	FALSE	Product Care	General maintenance	FALSE	Central air conditioner	Don't know/Don't know	TRUE	FALSE	FALSE
CAD002619977	Air conditioner Tune-up	No	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Don't know	FALSE	maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002403661	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	2	2	TRUE	FALSE	No	0	I applied, but I did not receive a rebate	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002780033	Air conditioner Tune-up	Yes	Yes	TRUE	3	2	2	3	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Repairs	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002754686	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002500192	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	quit working	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002482671	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	98	98	99	TRUE	FALSE	No	0	wasn't aware	TRUE	preventive maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000442275	Air conditioner Tune-up	Yes	No	TRUE	4	4	2	2	99	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Air-source heat pump	Electric furnace	FALSE	FALSE	FALSE
CAD000088959	Air conditioner Tune-up	Yes	Yes	TRUE	2	98	3	2	2	TRUE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000313390	Air conditioner Tune-up	Yes	No	TRUE	1	99	99	99	99	FALSE	TRUE	No	0	Don't know	FALSE	Yearly Maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002500788	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	3	2	2	TRUE	FALSE	Don't know	0	0	FALSE	I quit working	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002365577	Air conditioner Tune-up	No	No	FALSE	3	4	3	4	3	FALSE	FALSE	No	0	0	TRUE	up keep	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000040471	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	1	2	1	FALSE	TRUE	Yes	No	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003832689	Heat pump Tune-up	No	No	FALSE	1	2	2	2	2	FALSE	TRUE	No	0	0	TRUE	Broken	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD003542712	Air conditioner Tune-up	Yes	Yes	TRUE	4	2	3	99	4	TRUE	FALSE	Yes	Yes	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002630227	Heat pump Tune-up	No	No	FALSE	3	4	4	98	3	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	FALSE	FALSE	FALSE
CAD003623201	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	Old unit was broken	Repairs	FALSE	Window or wall air conditioner	Other (please specify):RadiatorDon't know	FALSE	FALSE	FALSE
CAD000048235	Air conditioner Tune-up	Yes	No	TRUE	3	3	3	3	3	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Maintenance contract	Part of other contracts or warranties	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002722419	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD00264212	Air conditioner Tune-up	Yes	Yes	TRUE	3	2	2	98	4	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Equipment failed	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002674232	Air conditioner Tune-up	Yes	Yes	TRUE	2	98	2	99	98	TRUE	FALSE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003832230	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003587211	Heat pump Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000157171	Air conditioner Tune-up	No	No	FALSE	1	3	1	98	2	FALSE	TRUE	No	0	0	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002777503	Air conditioner Tune-up	Don't know	No	FALSE	98	98	98	98	98	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace Other (please specify);and infra red heatersGas	TRUE	FALSE	FALSE
CAD002524198	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003605882	Air conditioner Tune-up	Yes	Yes	TRUE	4	3	2	99	4	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	routine maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003862849	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	Yes	No	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000358123	Air conditioner Tune-up	Don't know	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner Other (please specify):PTA C	Gas furnace/boiler Other (please specify):PTA C Gas	TRUE	FALSE	FALSE
CAD002466600	Heat pump Tune-up	Yes	Yes	TRUE	99	2	99	99	99	TRUE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Air-source heat pump Gas furnace/boiler	FALSE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002502078	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002680098	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	4	2	4	TRUE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000325799	Heat pump Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002313651	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD003517470	Air conditioner Tune-up	Yes	No	TRUE	1	2	2	2	1	FALSE	TRUE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002489212	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I do my own work	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000270464	Heat pump Tune-up	Don't know	Yes	TRUE	99	99	2	98	98	TRUE	FALSE	No	0	contractor didn't turn in application in a timely manner	FALSE	newly installed	Replacement	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD002491500	Air conditioner Tune-up	No	No	FALSE	98	98	98	98	98	FALSE	FALSE	No	0	0	TRUE	Repairs	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000317739	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	service contract on new equipment	Part of other contracts or warranties	FALSE	Central air conditioner	Other (please specify); propane gas furnaceGas	TRUE	FALSE	FALSE
CAD000471452	Air conditioner Tune-up	Yes	Yes	TRUE	3	2	3	2	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002203765	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	2	2	99	FALSE	TRUE	No	0	was not aware of it	TRUE	to keep in good repair	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002371481	Air conditioner Tune-up	Don't know	Yes	TRUE	3	3	1	2	2	FALSE	TRUE	Don't know	0	0	FALSE	Don't know		FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas		Meeting all criteria			
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000321480	Air conditioner Tune-up	Yes	No	TRUE	2	4	2	4	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Repair	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002283943	Heat pump Tune-up	Don't know	No	FALSE	2	1	1	2	1	FALSE	TRUE	No	0	0	TRUE	yearly check up	Routine maintenance	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD000165214	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	2	1	1	FALSE	TRUE	Yes	Yes	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000414402	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	4	3	3	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Ductless or mini-split heat pump Window or wall air conditioner	Ductless or mini-split heat pump Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002303042	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002410491	Heat pump Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Air-source heat pump	FALSE	FALSE	FALSE
CAD002365877	Air conditioner Tune-up	No	No	FALSE	98	98	98	98	98	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002643549	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	regular maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002312433	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	3	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002285314	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	4	3	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000101310	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003544473	Heat pump Tune-up	Yes	Yes	TRUE	2	99	99	99	99	TRUE	FALSE	Don't know	0	0	FALSE	Don't know		FALSE	Central air conditioner/Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002180787	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	1	98	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	Maintain efficiency	To save energy	TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	TRUE
CAD000174437	Air conditioner Tune-up	Yes	Yes	TRUE	3	4	3	3	3	FALSE	FALSE	Don't know	0	0	FALSE	To save money		TRUE	Central air conditioner	Don't knowGas	TRUE	FALSE	FALSE
CAD002561045	Air conditioner Tune-up	Yes	Yes	TRUE	4	1	1	1	1	FALSE	TRUE	Yes	No	Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD002345132	Heat pump Tune-up	Yes	Yes	TRUE	1	2	3	3	1	FALSE	TRUE	No	0	Don't know	FALSE	HAVE CONTRACT WITH CONTRACTOR	Part of other contracts or warranties	FALSE	Central air conditionerAir-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE
CAD002279877	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Rental	FALSE	Don't know		FALSE	Air-source heat pump	Air-source heat pump	FALSE	FALSE	FALSE
CAD002447613	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	It was confusing	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002719020	Air conditioner Tune-up	No	No	FALSE	3	2	3	99	3	TRUE	FALSE	No	0	0	TRUE	To protect equipment	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler Electric baseboard heating system	TRUE	FALSE	FALSE
CAD000146210	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Broke	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003754388	Air conditioner Tune-up	No	No	FALSE	1	4	98	2	2	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric baseboard heating system	TRUE	FALSE	FALSE
CAD002567529	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Yes	No	DID NOT KNOW ABOUT IT	TRUE	MAKE SURE IT IS OPERATING CORRECTLY	General maintenance	FALSE	Ground-source or geothermal heat pump	Ground-source or geothermal heat pump	TRUE	FALSE	FALSE
CAD000136504	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Did not know I had the opportunity	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003862879	Heat pump Tune-up	No	No	FALSE	1	1	2	2	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric baseboard heating system	FALSE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002340460	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Just forgot about it	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002686730	Air conditioner Tune-up	No	No	FALSE	2	3	2	99	99	TRUE	FALSE	Yes	No	Don't know	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002405435	Air conditioner Tune-up	Yes	No	TRUE	1	3	1	1	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler Electric baseboard heating system	TRUE	FALSE	FALSE
CAD002460252	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	1	1	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	TRUE
CAD002304389	Heat pump Tune-up	No	No	FALSE	1	2	3	3	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Don't knowElectric	FALSE	FALSE	FALSE
CAD000341598	Air conditioner Tune-up	No	Yes	TRUE	2	98	2	99	98	TRUE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002358813	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	3	99	4	FALSE	FALSE	No	0	old unit and just repaired	FALSE	did not work	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002786730	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	1	2	2	FALSE	TRUE	No	0	Don't know	FALSE	check for problems	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000471524	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	99	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002656317	Air conditioner Tune-up	Yes	No	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Don't knowElectric	TRUE	TRUE	FALSE
CAD002686030	Air conditioner Tune-up	Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	didn't pay renting	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002437806	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Did not know a rebate was available	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD000171359	Heat pump Tune-up	Don't know	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner/ portable air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD003875801	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	New built home	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002485426	Heat pump Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	Yes	No	no longer with Ameren	FALSE	replace old one/damaged	Replacement	FALSE	Central air conditioner/air-source heat pump	Other (please specify):infraredElectric	TRUE	FALSE	FALSE
CAD000357545	Air conditioner Tune-up	No	No	FALSE	98	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003872166	Air conditioner Tune-up	Don't know	Yes	TRUE	1	2	2	2	1	FALSE	TRUE	Yes	No	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002614331	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003826739	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	3	3	3	FALSE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002669830	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	1	FALSE	TRUE	No	0	Just forgot about it	TRUE	To improve home comfort		FALSE	Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002265871	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	General Practice	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000112786	Air conditioner Tune-up	Yes	Yes	TRUE	1	2	1	2	2	FALSE	TRUE	Yes	No	Did not know I could	TRUE	Preventive Maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000106806	Air conditioner Tune-up	No	Yes	TRUE	3	3	2	3	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002520048	Air conditioner Tune-up	No	No	FALSE	2	3	2	2	2	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000335788	Air conditioner Tune-up	Don't know	No	FALSE	2	98	99	99	98	TRUE	FALSE	Don't know	0	0	FALSE	stopped working	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002362790	Air conditioner Tune-up	Don't know	Yes	TRUE	2	2	2	2	99	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Other (please specify):Outside wood furnaceElectric	TRUE	TRUE	FALSE
CAD002182871	Air conditioner Tune-up	Yes	No	TRUE	1	99	99	99	99	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	rotten and broken	Repairs	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003651085	Air conditioner Tune-up	Yes	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Ductless or mini-split heat pump	TRUE	FALSE	FALSE
CAD002675784	Air conditioner Tune-up	Yes	Don't know	TRUE	2	99	99	99	99	TRUE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002731510	Air conditioner Tune-up	Don't know	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I was not informed of rebate opportunity	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002798368	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	didn't know about it	TRUE	extend life of unit	To save money	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000204371	Air conditioner Tune-up	Don't know	Yes	TRUE	2	98	2	99	99	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Improve system efficiency	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002342482	Air conditioner Tune-up	Yes	Yes	TRUE	3	4	4	99	2	TRUE	FALSE	No	0	Don't know	FALSE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000491458	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner/Air-source heat pump	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD003753576	Air conditioner Tune-up	Don't know	No	FALSE	2	99	99	99	99	TRUE	FALSE	No	0	0	TRUE	it wasn't cooling properly and needs to be replaced	Repairs	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002770051	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	3	2	TRUE	FALSE	No	0	Just forgot about it	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	TRUE	FALSE
CAD002427941	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	3	3	3	TRUE	FALSE	Don't know	0	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	
CAD002698485	Air conditioner Tune-up	No	Yes	TRUE	4	2	2	4	4	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002773808	Heat pump Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	It was just a service call	TRUE	To save money		TRUE	Central air conditioner	Don't know	Electric	FALSE	FALSE	FALSE
CAD002410089	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	3	4	99	FALSE	FALSE	Yes	Don't know	0	FALSE	Extend life of systems	To save money	TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE	
CAD002623081	Air conditioner Tune-up	Yes	Don't know	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD003497311	Air conditioner Tune-up	No	Yes	TRUE	2	2	2	3	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002763970	Air conditioner Tune-up	Yes	Yes	TRUE	2	4	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Don't know		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE	
CAD000180851	Air conditioner Tune-up	No	No	FALSE	99	99	2	99	99	TRUE	FALSE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE	
CAD002807779	Air conditioner Tune-up	Yes	No	TRUE	1	1	1	1	2	FALSE	TRUE	No	0	Don't know	FALSE	Freeon was leaking	Repairs	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE	
CAD002381265	Heat pump Tune-up	Yes	Yes	TRUE	2	3	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE	
CAD002367862	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002586036	Heat pump Tune-up	Yes	Don't know	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	maintenance	General maintenance	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE	
CAD000067306	Air conditioner Tune-up	No	Yes	TRUE	99	99	3	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	
CAD002299258	Air conditioner Tune-up	No	No	FALSE	3	3	98	3	98	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE	

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002191318	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Breakdown, Maint.	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002238321	Air conditioner Tune-up	No	No	FALSE	1	99	99	99	99	FALSE	TRUE	No	0	0	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000272148	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner Portable air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003844085	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	As preventative maintenance to help ensure peak operating	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000374367	Heat pump Tune-up	Yes	Yes	TRUE	3	4	98	4	3	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	replaced air conditioner	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002799276	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To improve home comfort		FALSE	Central air conditioner Air-source heat pump	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003612620	Air conditioner Tune-up	Yes	Yes	TRUE	3	3	99	98	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002754219	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	regular maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000337268	Air conditioner Tune-up	Don't know	Yes	TRUE	1	1	2	2	2	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD003363508	Air conditioner Tune-up	Yes	No	TRUE	2	2	1	99	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	Life of equipment	To save money	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE
CAD000141236	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Yes	No	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000470251	Air conditioner Tune-up	Yes	No	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002446831	Air conditioner Tune-up	Yes	Yes	TRUE	2	99	3	98	4	TRUE	FALSE	No	0	I'm sure my apartment complex did.	FALSE	To save energy		TRUE	Don't know	Electric furnace	FALSE	FALSE	FALSE
CAD002539792	Heat pump Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	maintenance contract	Part of other contracts or warranties	FALSE	Central air conditioner Air-source heat pump Gas furnace/boiler	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000370266	Heat pump Tune-up	No	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	Yes	No	Don't know	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000140042	Air conditioner Tune-up	No	No	FALSE	1	2	99	99	1	FALSE	TRUE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000342969	Air conditioner Tune-up	Don't know	Yes	TRUE	99	99	99	4	99	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Ductless or mini-split heat pump	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002660319	Air conditioner Tune-up	Yes	Don't know	TRUE	2	4	2	4	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Don't know		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000065270	Air conditioner Tune-up	Yes	No	TRUE	4	4	4	99	4	FALSE	FALSE	Yes	Don't know	0	FALSE	To improve home comfort		FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002537326	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I applied, but I did not receive a rebate	FALSE	broken	Repairs	FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003822296	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	Don't know	0	0	FALSE	It wasn't working	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002537375	Air conditioner Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Air-source heat pump Electric furnace	TRUE	FALSE	FALSE
CAD000424887	Heat pump Tune-up	Yes	Yes	TRUE	2	3	2	2	2	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	to maintain	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002222023	Heat pump Tune-up	Don't know	Yes	TRUE	2	2	2	99	99	TRUE	FALSE	No	0	Don't know	FALSE	Routine check	Routine maintenance	FALSE	Air-source heat pump	Air-source heat pump	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002343373	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	3	3	3	TRUE	FALSE	No	0	It was confusing	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000492057	Air conditioner Tune-up	No	No	FALSE	99	99	99	99	99	FALSE	FALSE	No	0	0	TRUE	keep in good condition	General maintenance	FALSE	Central air conditioner	Air-source heat pump	TRUE	FALSE	FALSE
CAD000248781	Air conditioner Tune-up	No	Yes	TRUE	1	98	98	1	2	FALSE	TRUE	No	0	Not sure about this	TRUE	to keep equip working	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002342089	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	to ensure continuing safe operation	Safety	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002252795	Air conditioner Tune-up	Yes	Yes	TRUE	1	99	99	99	99	FALSE	TRUE	No	0	Don't know	FALSE	Don't know		FALSE	Central air conditioner	Don't know/Don't know	TRUE	FALSE	FALSE
CAD003866141	Air conditioner Tune-up	Yes	Yes	TRUE	99	98	4	98	99	FALSE	FALSE	Don't know	0	0	FALSE	previous owner did it regularly	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002181470	Heat pump Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	broke	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002473802	Heat pump Tune-up	Yes	Yes	TRUE	98	98	98	98	98	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Air-source heat pump	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002782834	Air conditioner Tune-up	Yes	No	TRUE	2	99	99	99	99	TRUE	FALSE	No	0	Don't know	FALSE	preventive maintenance	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD003619088	Heat pump Tune-up	Don't know	No	FALSE	4	4	4	4	98	FALSE	FALSE	No	0	0	TRUE	required by landlord	Part of other contracts or warranties	FALSE	Central air conditioner	Don't know/Electric	FALSE	FALSE	FALSE
CAD003398781	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	1	2	2	FALSE	TRUE	Don't know	0	0	FALSE	To save energy		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000434226	Heat pump Tune-up	No	Yes	TRUE	4	4	4	4	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	Sensor was dirty; temporarily stopped working	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a				Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria	
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002619607	Air conditioner Tune-up	Yes	No	TRUE	3	3	2	3	3	TRUE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save money		TRUE	Central air conditioner	Electric furnace	TRUE	TRUE	FALSE
CAD000043637	Air conditioner Tune-up	Yes	Yes	TRUE	1	3	4	1	2	FALSE	TRUE	No	0	Not Qualified	FALSE	Once A Year	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002260831	Air conditioner Tune-up	No	No	FALSE	2	4	4	99	3	TRUE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003872048	Air conditioner Tune-up	Yes	Yes	TRUE	2	3	4	3	1	FALSE	TRUE	No	0	I wasn't sure the tune-up qualified	TRUE	done annually	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003774275	Heat pump Tune-up	No	Yes	TRUE	1	1	1	1	1	FALSE	TRUE	No	0	Wasn't aware of the tax credit	TRUE	To improve home comfort		FALSE	Central air conditioner Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD002199810	Air conditioner Tune-up	No	No	FALSE	1	2	2	99	1	FALSE	TRUE	No	0	0	TRUE	Brother in heating and cooling	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000440388	Air conditioner Tune-up	Yes	Yes	TRUE	2	2	2	2	3	TRUE	FALSE	Yes	Yes	0	FALSE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000079856	Air conditioner Tune-up	Yes	No	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	No problems	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000343301	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	to make sure it continued operating effectively	To save energy	TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002587132	Heat pump Tune-up	No	No	FALSE	1	1	1	1	1	FALSE	TRUE	Yes	Don't know	0	FALSE	To save energy		TRUE	Central air conditioner	Electric furnace	FALSE	FALSE	FALSE
CAD002615762	Air conditioner Tune-up	Yes	Yes	TRUE	4	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	Routine maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000140775	Air conditioner Tune-up	No	No	FALSE	3	2	2	3	3	TRUE	FALSE	No	0	0	TRUE	routine maintenance	Routine maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home ?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD002726025	Heat pump Tune-up	No	No	FALSE	1	2	1	1	1	FALSE	TRUE	No	0	0	TRUE	To save energy		TRUE	Window or wall air conditioner	Gas furnace/boiler	FALSE	FALSE	FALSE
CAD000467924	Air conditioner Tune-up	No	No	FALSE	2	2	2	2	2	TRUE	FALSE	No	0	0	TRUE	Maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002203621	Air conditioner Tune-up	No	No	FALSE	3	4	3	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000170509	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	99	98	FALSE	FALSE	Don't know	0	0	FALSE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000232135	Air conditioner Tune-up	No	No	FALSE	4	4	4	4	4	FALSE	FALSE	No	0	0	TRUE	To improve home comfort		FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD003535023	Air conditioner Tune-up	Yes	No	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	It was not working properly	Repairs	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000218047	Air conditioner Tune-up	Yes	Yes	TRUE	98	98	98	98	99	FALSE	FALSE	Don't know	0	0	FALSE	preventative maintenance	General maintenance	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD000475107	Air conditioner Tune-up	Don't know	Yes	TRUE	2	99	99	98	4	TRUE	FALSE	No	0	Didn't know about it	TRUE	Replaced part	Replacement	FALSE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002276489	Air conditioner Tune-up	Yes	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	Don't know	FALSE	Did as part of the maintenance of the building	Part of other contracts or warranties	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD000195965	Air conditioner Tune-up	No	Yes	TRUE	4	4	4	4	99	FALSE	FALSE	Yes	No	Didn't know about it	TRUE	It needed repairs new parts	Repairs	FALSE	Central air conditioner Other (please specify): Floor fan	Gas furnace/boiler	TRUE	FALSE	FALSE
CAD002716032	Air conditioner Tune-up	No	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Don't know	FALSE	To make sure everything is okay	General maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002430611	Air conditioner Tune-up	No	Yes	TRUE	1	1	1	99	99	FALSE	TRUE	No	0	Didn't know	TRUE	To save money		TRUE	Central air conditioner	Gas furnace/boiler	TRUE	FALSE	TRUE

Measure Information		Criterion A: Familiarity with at least one Ameren Missouri program,			Criterion B: At least one element of Ameren's program marketing and outreach motivated them to adopt the measure							Criterion D: They had not received a rebate from Ameren, and had not already tried to receive a			Criterion E: They had a valid reason for deciding to install the measure			Criterion F: The adopted measure generated electric savings, not gas			Meeting all criteria		
CadmusAccountKey	Measure	C2. Have you ever seen or heard of Ameren Missouri's energy efficiency programs?	C10. Are you aware that Ameren Missouri offers rebates and discounts for energy-saving equipment in your home?	Criterion A met? (Yes to C2 or C10)	a) Information about energy savings from Ameren Missouri's marketing or bill insert	b) Ameren Missouri's marketing information from a contractor or retailer	c) Information from colleagues or friends who installed energy efficient equipment and received a rebate from Ameren Missouri	d) Past participation in an Ameren Missouri energy efficiency program	e) Information from the energy assessment conducted at your home through Ameren Missouri	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)	G18. Did you receive a rebate, discount, or tax credit for the tune-up?	G19. Did you get a rebate from Ameren Missouri?	G20. Why didn't you or your contractor apply for a rebate through Ameren Missouri for the tune-up?	Criterion D met? (qualitative assessment)	G17. Which of the following reasons best describe why you decided to install have the tune-up?	G17 Other Categories	Criterion E met? (qualitative assessment)	Cooling System	Heating System	Criterion F met? (depends on the measure)	Criterion B met for 50% savings? (Max rating was 3)	Criterion B met for 100% savings? (Max rating was 4)
CAD003404308	Air conditioner Tune-up	No	Yes	TRUE	99	99	99	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	A/C has to have freon put in it every year, it's leaking	Routine maintenance	FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE
CAD002410712	Air conditioner Tune-up	Yes	Yes	TRUE	4	98	4	99	99	FALSE	FALSE	No	0	I wasn't sure the tune-up qualified	TRUE	To save energy		TRUE	Don't know	Don't know/Don't know	FALSE	FALSE	FALSE
CAD000155236	Air conditioner Tune-up	Yes	Yes	TRUE	4	4	4	4	4	FALSE	FALSE	No	0	Don't know	FALSE	To improve home comfort		FALSE	Central air conditioner	Electric furnace	TRUE	FALSE	FALSE

Appendix G. Immediate Survey Responses

This appendix provides the responses to questions in the Heating and Cooling Program Immediate Survey. This survey was sent by email to PY17 HVAC participants between one and two months after installing their equipment. In PY17 583 respondents completed this survey.

The tables below provide the number of responses to answers to the survey questions. They also provide the percentage of the various responses, where the denominator is the total number of respondents who answered the question, not including respondents who replied “don’t know”.

We did not report initial screening questions that would have disqualified respondents from taking the survey. We do not report spillover questions because the analysis is done in a dynamic function and not based on raw frequencies.

A. All HVAC Measures – Verification and Program Awareness

Table 1. Survey Question A8 Responses (n=574)

Prior to this survey, were you aware that the rebate you received after your tune up was provided by Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Yes	519	90.4%
No	55	1.0%
Don't know	6	

Table 2. Survey Question A9 Responses (n=579)

How did you hear about Ameren Missouri’s Heating and Cooling Program?		
Response	Count of Response	Percent of Respondents
From my contractor or installer	289	67.2%
Visited Ameren's Web site	36	6.2%
Other Web site (which site?)	9	1.6%
On my monthly energy statement/bill	59	10.2%
Information that I received by mail from Ameren	76	13.1%
Information that I received by mail from a contractor	41	7.1%
A brochure from Ameren that I did not receive by mail	4	0.7%
When my rebate check arrived	1	0.2%
Family, friend or co-worker	27	4.7%
Newspaper	9	1.6%
Radio	9	1.6%
Ameren Missouri representative	2	0.3%
Television advertisement	19	3.3%
Ameren Missouri Home Energy Report	25	4.3%
Signs or displays in a store	5	0.9%
Store representative or salesperson	50	8.6%

How did you hear about Ameren Missouri's Heating and Cooling Program?		
Response	Count of Response	Percent of Respondents
Social Media (Facebook, Twitter)	2	0.3%
Some other way (please specify)	7	1.2%
Don't know	1	

B. All HVAC Measures – Purchase Patterns and Decision-making

Table 3. Survey Question B1 Responses (n=537)

What was the primary reason you purchased a new [Measure Type]?		
Response	Count of Response	Percent of Respondents
To replace broken equipment	165	30.7%
To replace aging equipment	300	55.9%
To improve the comfort of my home	16	3.0%
To improve the safety of my home	1	0.2%
The purchase was part of a larger home renovation	9	1.7%
The equipment is for a newly constructed home	6	1.1%
To save money on energy costs	35	6.5%
To help the environment	1	0.2%
Some other reason, please specify	4	0.7%
Don't know	1	

Table 4. Survey Question B2 Responses (n=41)

What motivated you to purchase the tune-up service?		
Response	Count of Response	Percent of Respondents
My air conditioner was working, but was having problems (i.e., wasn't cooling properly or was making a noise)	3	7.3%
Was included in my maintenance contract or part of a regularly scheduled check up	1	2.4%
To take advantage of the rebate	14	34.1%
It was time for a tune-up	17	41.5%
To ensure that it lasts longer	10	24.4%
To find out if it needs any repairs	12	29.3%
To keep my air conditioner running efficiently	23	56.1%
To save energy	11	26.8%
To lower energy bill, save money on bills	12	29.3%
It didn't cost much	6	14.6%
Reminded by Ameren Missouri advertising	2	4.9%
Recommended by a family or friend	2	4.9%
Don't know	0	

C. ALL HVAC Measures - Participation Process – Contractors

Table 5. Survey Question C1a Responses (n=536)

How did you select the contractor who installed your system?		
Response	Count of Response	Percent of Respondents
I have used this contractor before	251	46.8%
Better Business Bureau	20	3.7%
I saw contractor's marketing materials	25	4.7%
Ameren website	6	1.1%
The contractor was referred to me by a family member, friend, or colleague	142	26.5%
Online advertisement	10	1.9%
I saw contractor's newspaper/TV/radio advertisement	27	5.0%
Through business owners in my neighborhood or network	18	3.4%
Yellow pages	4	0.7%
Angie's list or similar consumer information source	21	3.9%
Some other way (Please specify)	55	10.3%
Don't Know	1	

Table 6. Survey Question C1b Responses (n=39)

How did you select the contractor who conducted your tune-up?		
Response	Count of Response	Percent of Respondents
I have used this contractor before	12	30.8%
I saw contractor's marketing materials	9	23.1%
The contractor approached me directly	5	12.8%
Ameren website	4	10.3%
I saw contractor's newspaper/TV/radio advertisement	2	5.1%
Yellow pages	1	2.6%
Angie's list or similar consumer information source	1	2.6%
Some other way (Please specify)	9	23.1%
Don't Know	0	

Table 7. Survey Question C2 Responses (n=126)

Did you specifically seek out a contractor who participated in the program in order to receive a rebate for your equipment?		
Response	Count of Response	Percent of Respondents
Yes	32	25.4%
No	94	74.6%
Don't know	0	

Table 8. Survey Question C3 Responses (n=32)

How difficult was it to find a contractor that participated in the program?		
Response	Count of Response	Percent of Respondents
Not difficult at all	24	75.0%
Not too difficult	7	21.9%
Somewhat difficult	1	3.1%
Don't Know	0	

Table 9. Survey Question C4 Responses (n=526)

Please check any options listed below that your contractor discussed with you prior to installing your [MEASURETYPE]. Please note, options listed below may or may not have been applicable to your situation.		
Response	Count of Response	Percent of Respondents
Rebates from Ameren Missouri for high-efficiency equipment	471	89.5%
Contractor or manufacturer rebates	230	43.7%
State or federal tax credits or rebates	103	19.6%
Additional energy-efficient equipment or home improvements	225	42.8%
Energy saving tips	279	53.0%
None of the above	9	1.7%
Don't Know	8	

D. All HVAC Measures – Participant Satisfaction

Table 14. Survey Question D1 Responses (n=568)

How satisfied are you with the contractor you worked with?		
Response	Count of Response	Percent of Respondents
Very satisfied	521	91.7%
Somewhat satisfied	41	7.2%
Not too satisfied	4	0.7%
Not satisfied at all	2	0.4%
Don't Know	1	

Table 15. Survey Question D2 Responses (n=554)

Why are you [RATING FROM D1] with the contractor?		
Response	Count of Response	Percent of Respondents
Satisfied with the efficiency of the contractor	398	71.8%
Satisfied with the reliability of the contractor	397	71.7%
Satisfied with the quality of work	470	84.8%
Satisfied with the cleanliness of the job site	407	73.5%
Satisfied with customer care	388	70.0%
Satisfied with the cost/warranty of the equipment	321	57.9%

Why are you [RATING FROM D1] with the contractor?		
Response	Count of Response	Percent of Respondents
Long-standing relationship with the contractor	203	36.6%
Satisfied with the equipment the contractor installed	421	76.0%
Dissatisfied with the quality of work	6	1.1%
Dissatisfied with the level of communication from the contractor	12	2.2%
Dissatisfied with the installation of the equipment	7	1.3%
Dissatisfied with the contractor's ability to resolve a problem	3	0.5%
Dissatisfied with delays in stalling equipment	4	0.7%
Other reasons or comments, please specify:	36	6.5%
Don't Know	4	

Table 16. Survey Question D3 Responses (n=541)

How satisfied are you with the time it took to receive your rebate in the mail?		
Response	Count of Response	Percent of Respondents
Very satisfied	434	80.2%
Somewhat satisfied	97	17.9%
Not too satisfied	7	1.3%
Don't Know	17	

Table 17. Survey Question D4 Responses (n=434)

How satisfied are you with the performance of your new [MeasureType]?		
Response	Count of Response	Percent of Respondents
Very satisfied	404	93.1%
Somewhat satisfied	30	6.9%
Don't Know	87	

Table 18. Survey Question D5 Responses (n=425)

Why are you [RATING FROM D4] with the performance of your new [MEASURETYPE]?		
Response	Count of Response	Percent of Respondents
Satisfied with Energy/cost savings experienced after installation	176	41.4%
Satisfactory overall operation and performance of the unit	326	76.7%
Unit provides more effective cooling	238	56.0%
Unit is quieter than the previous one	255	60.0%
Unit provides effective heating	33	7.8%
Unit works without ducts	3	0.7%
Unit is noisier than the previous unit	8	1.9%
Did not notice energy/cost savings after installation	13	3.1%
Poor performance of unit (including insufficient cooling, temperature fluctuations, and condensation)	1	0.2%
Installation problems (including under-sizing or oversizing units)	2	0.5%

Why are you [RATING FROM D4] with the performance of your new [MEASURETYPE]?		
Response	Count of Response	Percent of Respondents
High cost of unit	11	2.6%
Unit did not provide a satisfactory return on investment	1	0.2%
Other reasons or comments, please specify:	26	6.1%
Don't Know	5	

Table 19. Survey Question D6 Responses (n=75)

How satisfied are you with the performance of your new smart thermostat(s)?		
Response	Count of Response	Percent of Respondents
Very satisfied	65	86.7%
Somewhat satisfied	9	12.0%
Not satisfied at all	1	1.3%
Don't Know	0	

Table 20. Survey Question D8 Responses (n=549)

Thinking about your overall satisfaction with Ameren Missouri's Heating and Cooling Program, would you say you are:		
Response	Count of Response	Percent of Respondents
Very satisfied	490	89.3%
Somewhat satisfied	52	9.5%
Not too satisfied	3	0.5%
Not satisfied at all	4	0.7%
Don't Know	7	

Table 21. Survey Question D9 Responses (n=544)

Why are you [RATING FROM D4] with Ameren Missouri's Heating and Cooling Program		
Response	Count of Response	Percent of Respondents
Satisfied with the rebates	403	74.1%
Overall positive program experience	334	61.4%
The program met my expectations	265	48.7%
Satisfied with the environmental benefits of the program	246	45.2%
Satisfied with the contractor	323	59.4%
Dissatisfied with the rebates	6	1.1%
Dissatisfied with delays in rebate processing	7	1.3%
Dissatisfied with the contractor	1	0.2%
Other reasons or comments, please specify:	26	4.8%
Don't Know	2	

Table 22. Survey Question D10 Responses (n=538)

Would you recommend Ameren Missouri's Heating and Cooling Program to friends or family members?

Response	Count of Response	Percent of Respondents
Yes	535	99.4%
No	3	0.6%
Don't Know	13	

E. Central Air Conditioner Questions

Table 23. Survey Question E1 Responses (n=423)

Did you install your central air conditioner in a newly constructed home or in an existing home?		
Response	Count of Response	Percent of Respondents
Existing home	420	99.3%
Newly constructed home	3	0.7%
Don't Know	0	

Table 24. Survey Question E2 Responses (n=1)

At the time when you purchased/constructed your new home, what type(s) of heating and cooling systems did you consider or were offered by your contractor?		
Response	Count of Response	Percent of Respondents
Standard efficiency gas furnace	1	100.0%
Don't Know	1	

Table 25. Survey Question E3 Responses (n=362)

At the time when you decided to install your new efficient air conditioning system, what other type(s) of cooling systems did you consider or were offered by your contractor?		
Response	Count of Response	Percent of Respondents
Air Source Heat Pump	24	6.6%
Ground Source Heat Pump	6	1.7%
Ductless Heat Pump	7	1.9%
Standard-efficiency air conditioner	100	27.6%
Window air conditioner unit(s)	5	1.4%
Room air conditioner(s)	4	1.1%
Other (please specify)	11	3.0%
Only considered or was only offered high-efficiency air conditioner	228	63.0%
Don't Know	48	

Table 26. Survey Question E4 Responses (n=375)

Do you have any of the following currently installed in addition to your new efficient air conditioner at your home?		
Response	Count of Response	Percent of Respondents
Air Source Heat Pump	4	1.1%
Window air conditioner unit(s)	9	2.4%
Ground Source Heat Pump	1	0.3%
Ductless Heat Pump	2	0.5%
Standard-efficiency air conditioner	25	6.7%
Room air conditioner(s)	7	1.9%
Another high-efficiency air conditioner	15	4.0%
Space heater(s)	13	3.5%
High-efficiency gas furnace	189	50.4%
High-efficiency electric furnace	17	4.5%
Standard-efficiency electric furnace	10	2.7%
Baseboard electric system	3	0.8%
None of the above	67	17.9%
Don't Know	33	

Table 27. Survey Question E5 Responses (n=405)

At what point did you determine the exact air conditioner you wanted to buy?		
Response	Count of Response	Percent of Respondents
I knew which model I wanted before calling a contractor	17	4.2%
I decided after the contractor provided me with option	388	95.8%
Don't Know	6	

Table 28. Survey Question E6 Responses (n=414)

Which factors were important in your decision to purchase the specific equipment you selected? Please select all that apply.		
Response	Count of Response	Percent of Respondents
Price	222	53.6%
Quality/reputation	233	56.3%
Cost savings on energy bills	277	66.9%
The store representative recommended it to me	27	6.5%
My contractor or installer recommended it to me	274	66.2%
It qualified for an Ameren Missouri rebate	254	61.4%
It had specific features I was looking for	94	22.7%
Impact on the environment	101	24.4%
It was available when I needed it	76	18.4%
Other (please specify)	7	1.7%
Don't Know	3	

Table 29. Survey Question E7 Responses (n=357)

If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific equipment you selected?		
Response	Count of Response	Percent of Respondents
Price	37	10.4%
Quality/reputation	71	19.9%
Cost savings on energy bills	88	24.6%
The store representative recommended it to me	4	1.1%
My contractor or installer recommended it to me	101	28.3%
It qualified for an Ameren Missouri rebate	24	6.7%
It had specific features I was looking for	14	3.9%
Impact on the environment	5	1.4%
It was available when I needed it	11	3.1%
Other (please specify)	2	0.6%
Don't Know	0	

Table 30. Survey Question E8 Responses (n=351)

What type of thermostat do you use to control your heating and cooling equipment?		
Response	Count of Response	Percent of Respondents
Manual thermostat	53	15.1%
Programmable thermostat	206	58.7%
Smart thermostat (may be called learning thermostat)	92	26.2%
Don't Know	8	

Table 31. Survey Question E9 Responses (n=358)

Did you install this thermostat when you installed your new air conditioning system?		
Response	Count of Response	Percent of Respondents
Yes	225	62.8%
No	133	37.2%
Don't Know	2	

Table 32. Survey Question E10 Responses (n=222)

What type of thermostat did you have before installing the new thermostat?		
Response	Count of Response	Percent of Respondents
Manual thermostat	94	42.3%
Programmable thermostat	119	53.6%
Smart thermostat (may be called learning thermostat)	9	4.1%
Don't Know	2	

Table 33. Survey Question E11 Responses (n=398)

What type of cooling system did you replace and remove when installing your new efficient air conditioning system?		
Response	Count of Response	Percent of Respondents
Nothing	3	0.8%
Window air conditioning unit(s)	4	1.0%
Air source heat pump	1	0.3%
Room air conditioning unit(s)	1	0.3%
Ground source heat pump	2	0.5%
Central air-conditioning	378	95.0%
Other (please specify)	4	1.0%
I kept my cooling system	4	1.0%
I didn't have a cooling system	1	0.3%
Don't Know	9	

Central Air Conditioning Free Ridership Questions

Table 34. Survey Question E12 Responses (n=393)

Please think back when you first spoke with your contractor in regards to replacing and/or installing your central air conditioner. What prompted the conversation?		
Response	Count of Response	Percent of Respondents
My air conditioner stopped working (i.e., unit failed)	119	30.3%
My conditioner was working, but was having problems (i.e., wasn't cooling properly or was making noise)	148	37.7%
Was included in my maintenance contract or a part of a regularly scheduled check up	28	7.1%
To take advantage of the rebate	40	10.2%
It was time for a tune-up	28	7.1%
To ensure that it lasts longer	22	5.6%
To find out if it needs any repairs	19	4.8%
To keep my air conditioner running efficiently	36	9.2%
To save energy	57	14.5%
To lower my energy bill, save money on bills	95	24.2%
It didn't cost much to discuss upgrading my system with the contractor	15	3.8%
Reminded by Ameren Missouri advertising	5	1.3%
Reminded by advertising other than Ameren Missouri	3	0.8%
Recommended by a family member or friend	19	4.8%
Other (please specify)	47	12.0%
Don't Know	9	

Table 35. Survey Question E13b Responses (n=248)

Did your contractor offer you the option to repair or tune-up your system instead of replacing it?		
Response	Count of Response	Percent of Respondents
Yes	149	60.1%
No	99	39.9%
Don't Know	10	

Table 36. Survey Question E13b Responses (n=70)

So, to the best of your knowledge your system was not repairable and had to be replaced?		
Response	Count of Response	Percent of Respondents
Yes	55	78.6%
No	15	21.4%
Don't Know	5	

Table 37. Survey Question E14 Responses (n=91)

About how much would the repair have cost?		
Response	Count of Response	Percent of Respondents
Less than \$200	1	1.1%
\$200-\$500	23	25.3%
\$500-\$1,000	37	40.7%
\$1,000-\$2,500	23	25.3%
More than \$2,500	7	7.7%
Don't Know	17	

Table 38. Survey Question E15 Responses (n=146)

Why did you opt for replacing the unit instead of repairing it?		
Response	Count of Response	Percent of Respondents
The repair costs were too much; was not worth it	57	39.0%
I would have had to replace it soon anyway	104	71.2%
The contractor convinced me installing a high-efficiency model was worth it	49	33.6%
I wanted to take advantage of Ameren Missouri's rebates while available	44	30.1%
I wanted to take advantage of manufacturer rebates or tax credits while available	17	11.6%
Other (please specify)	8	5.5%
Don't Know	2	

Table 39. Survey Question E16 Responses (n=368)

Before you knew about the incentive from Ameren Missouri, were you already planning to install a new high-efficiency air conditioning system this year?		
Response	Count of Response	Percent of Respondents
Yes	237	64.4%
No	131	35.6%
Don't Know	39	

Table 40. Survey Question E17 Responses (n=402)

You installed a [MEASUREEFFICIENCY] central air conditioner. Why did you choose to install this particular unit?		
Response	Count of Response	Percent of Respondents
I wanted the cheapest option available	3	0.7%
I wanted the most efficient option possible	89	22.1%
I researched my options and decided this was the right balance of efficiency and cost	111	27.6%
My contractor convinced me this was the right balance of efficiency and cost	229	57.0%
I heard Ameren Missouri provided an incentive for this SEER	108	26.9%
It's the same efficiency as my old unit	5	1.2%
I wanted something more efficient than my old unit	173	43.0%
Other (please specify)	10	2.5%
Don't Know	5	

Table 41. Survey Question E18 Responses (n=321)

Without Ameren Missouri's rebate, were you planning to install a high-efficiency air conditioning system...?		
Response	Count of Response	Percent of Respondents
Around the same time	222	69.2%
Later in the same year	16	5.0%
In one or two years	68	21.2%
After more than three years	15	4.7%
Don't Know	86	

Table 42. Survey Question E19 Responses (n=253)

Were you planning to install the same high-efficiency air conditioning system without the rebate from Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Yes	212	83.8%
No	41	16.2%
Don't Know	70	

Table 43. Survey Question E20 Responses (n=37)

Would you have installed a different high-efficiency air conditioning system without the Ameren Missouri rebate or would you have decided to not purchase one at all?		
Response	Count of Response	Percent of Respondents
I would have installed a different high-efficiency air conditioning system	31	83.8%
I would have decided not to purchase a high-efficiency air conditioning system at all	6	16.2%
Don't Know	74	

Table 44. Survey Question E21 Responses (n=27)

Without Ameren's rebate, would you have installed a lower efficiency system, the same efficiency system, or a higher efficiency system than the one you installed...?		
Response	Count of Response	Percent of Respondents
Lower efficiency	11	40.7%
Same efficiency	10	37.0%
Higher efficiency	6	22.2%
Don't Know	4	

Table 45. Survey Question E22 Responses (n=393)

How important was the Ameren Missouri incentive on your decision to purchase the high-efficiency air conditioning system? Would you say...?		
Response	Count of Response	Percent of Respondents
Very important	116	29.5%
Somewhat important	214	54.5%
Not very important	48	12.2%
Not at all important	15	3.8%
Don't Know	10	

Table 46. Survey Question E23 Responses (n=398)

How important was the Ameren Missouri incentive on your decision to purchase the high-efficiency air conditioning system? Would you say...?		
Response	Count of Response	Percent of Respondents
Very important	274	68.8%
Somewhat important	117	29.4%
Not very important	3	0.8%
Not at all important	4	1.0%
Don't Know	5	

F. Heat Pumps

Table 47. Survey Question F1 Responses (n=94)

Did you install your heat pump in a newly constructed home or in an existing home?		
Response	Count of Response	Percent of Respondents
Newly constructed home	8	8.5%
Existing home	86	91.5%
Don't Know	0	

Table 48. Survey Question F2 Responses (n=7)

At the time when you purchased/constructed your new home, what other type(s) of heating and cooling systems did you consider or were offered by your contractor?		
Response	Count of Response	Percent of Respondents
Air Source Heat Pump	2	28.6%
Ground Source Heat Pump	3	42.9%
Ductless Heat Pump	1	14.3%
High-efficiency air conditioner	3	42.9%
High-efficiency gas furnace	1	14.3%
High-efficiency electric furnace	1	14.3%
Standard-efficiency electric furnace	1	14.3%
Only considered or was only offered heat pump	1	14.3%
Don't Know	1	

Table 49. Survey Question F3 Responses (n=76)

At the time when you purchased your new heat pump, what other type(s) of heating and cooling systems did you consider or were offered by your contractor?		
Response	Count of Response	Percent of Respondents
Air Source Heat Pump	14	18.4%
Ground Source Heat Pump	8	10.5%
Ductless Heat Pump	3	3.9%
Standard-efficiency air conditioner	22	28.9%
High-efficiency air conditioner	26	34.2%
High-efficiency gas furnace	10	13.2%
Standard-efficiency gas furnace	4	5.3%
High-efficiency electric furnace	24	31.6%
Window air conditioner unit(s)	1	1.3%
Room air conditioner unit(s)	3	3.9%
Standard-efficiency electric furnace	7	9.2%
Baseboard electric system	1	1.3%
Only considered or was only offered heat pump	22	28.9%
Don't Know	10	

Table 50. Survey Question F4 Responses (n=92)

For what purpose did you install your heat pump?		
Response	Count of Response	Percent of Respondents
Primarily heating	3	3.3%
Primarily cooling	2	2.2%
Both heating and cooling	87	94.6%
Don't Know	1	

Table 51. Survey Question F5 Responses (n=88)

What type of heating system did you replace and remove before you installed the heat pump?		
Response	Count of Response	Percent of Respondents
Electric forced air furnace	47	53.4%
Ground source heat pump	1	1.1%
Air Source Heat Pump	24	27.3%
Gas heating system (boiler, furnace)	4	4.5%
I kept my previous heating system	3	3.4%
Nothing - this is new construction	7	8.0%
Other (please specify)	2	2.3%
Don't Know	6	

Table 52. Survey Question F6 Responses (n=87)

What type of cooling system did you replace and remove at the time you installed the heat pump?		
Response	Count of Response	Percent of Respondents
Window air conditioning unit(s)	2	2.3%
Air Source Heat Pump	25	28.7%
Central air conditioning system	53	60.9%
I kept my cooling system	2	2.3%
I didn't have a cooling system	3	3.4%
Other (please specify)	2	2.3%
Don't Know	5	

Table 53. Survey Question F7 Responses (n=82)

Do you have any of the following currently installed in addition to your new heat pump at your home?		
Response	Count of Response	Percent of Respondents
Air Source Heat Pump	9	11.0%
Window air conditioner unit(s)	2	2.4%
Ductless Heat Pump	2	2.4%
Standard-efficiency air conditioner	4	4.9%
Room air conditioner unit(s)	1	1.2%
Another high-efficiency air conditioner	2	2.4%
Space heater(s)	10	12.2%

Do you have any of the following currently installed in addition to your new heat pump at your home?		
Response	Count of Response	Percent of Respondents
High-efficiency gas furnace	1	1.2%
Standard-efficiency gas furnace	1	1.2%
High-efficiency electric furnace	4	4.9%
Standard-efficiency electric furnace	3	3.7%
Baseboard electric system	1	1.2%
None of the above	48	58.5%
Don't Know	9	

Table 54. Survey Question F8 Responses (n=80)

What type of thermostat do you use to control your heating and cooling equipment?		
Response	Count of Response	Percent of Respondents
Smart thermostat (may be called learning thermostat)	30	37.5%
Programmable thermostat	42	52.5%
Manual thermostat	8	10.0%
Don't Know	3	

Table 55. Survey Question F9 Responses (n=83)

Did you install this thermostat when you installed your new heat pump?		
Response	Count of Response	Percent of Respondents
Yes	75	90.4%
No	8	9.6%
Don't Know	3	

Table 56. Survey Question F10 Responses (n=68)

What type of thermostat did you have before installing the new thermostat?		
Response	Count of Response	Percent of Respondents
Programmable thermostat	37	54.4%
Manual thermostat	29	42.6%
Smart thermostat (may be called learning thermostat)	2	2.9%
Don't Know	6	

Table 57. Survey Question F11 Responses (n=86)

Why did you choose to install an air source heat pump?		
Response	Count of Response	Percent of Respondents
It's what I had before	21	24.4%
I wanted a higher-efficiency cooling system	37	43.0%
I wanted a higher efficiency electric heating system	38	44.2%
It is more "green" than any other heating/cooling options	7	8.1%
I wanted to reduce fossil fuel consumption	3	3.5%

Why did you choose to install an air source heat pump?		
Response	Count of Response	Percent of Respondents
I wanted to save money on my utility bills	51	59.3%
I wanted to take advantage of Ameren's rebate	30	34.9%
Other (please specify)	1	1.2%
Don't Know	0	

Table 58. Survey Question F12 Responses (n=1)

Before you selected your [MEASURETYPE], did you consider installing an air source heat pump?		
Response	Count of Response	Percent of Respondents
Yes	1	100.0%
Don't Know	0	

Table 59. Survey Question F13 Responses (n=1)

Why did you specifically choose to install a ground source heat pump?		
Response	Count of Response	Percent of Respondents
It is the most efficient possible option	1	100.0%
To save money on my heating and cooling bills	1	100.0%
Don't Know	0	

Table 60. Survey Question F14 Responses (n=3)

Why did you specifically choose to install a ductless heat pump?		
Response	Count of Response	Percent of Respondents
To save money on my heating and cooling bills	3	100.0%
I wanted a higher efficiency electric heating system	1	33.3%
I wanted a high-efficiency cooling system	2	66.7%
It is more "green" than any other heating/cooling options	2	66.7%
Don't Know	0	

Table 61. Survey Question F15 Responses (n=89)

At what point did you determine the exact model and brand of heat pump that you wanted to buy?		
Response	Count of Response	Percent of Respondents
I knew which model I wanted before calling a contractor	4	4.5%
I decided after the contractor provided me with option	85	95.5%
Don't Know	3	

Table 62. Survey Question F16 Responses (n=93)

Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply		
Response	Count of Response	Percent of Respondents
Price	33	35.5%
Quality/reputation	47	50.5%
Cost savings on energy bills	60	64.5%
The store representative recommended it to me	9	9.7%
My contractor or installer recommended it to me	58	62.4%
It qualified for an Ameren Missouri rebate	60	64.5%
It had specific features I was looking for	23	24.7%
Impact on the environment	16	17.2%
It was available when I needed it	15	16.1%
Other (please specify)	1	1.1%
Don't Know	0	

Table 63. Survey Question F17 Responses (n=80)

If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected?		
Response	Count of Response	Percent of Respondents
Price	8	10.0%
Quality/reputation	10	12.5%
Cost savings on energy bills	24	30.0%
The store representative recommended it to me	1	1.3%
My contractor or installer recommended it to me	22	27.5%
It qualified for an Ameren Missouri rebate	3	3.8%
It had specific features I was looking for	7	8.8%
Impact on the environment	3	3.8%
It was available when I needed it	1	1.3%
Other (please specify)	1	1.3%
Don't Know	0	

Heat Pump Free Ridership Questions

Table 64. Survey Question F18 Responses (n=84)

Please think back to when you first spoke with your contractor in regards to replacing and/or installing your heat pump. What prompted the conversation?		
Response	Count of Response	Percent of Respondents
My air conditioner or heat pump stopped working (i.e., unit failed)	27	32.1%
My air conditioner or heat pump was working, but was having problems (i.e., wasn't cooling properly)	34	40.5%
Maintenance contract/Regularly scheduled check up	8	9.5%
To take advantage of the rebate	12	14.3%
It was time for a tune-up	5	6.0%
To ensure that it lasts longer	8	9.5%
To find out if it needs any repairs	3	3.6%
To keep my heat pump running efficiently	1	1.2%
To save energy	21	25.0%
To lower my energy bill, save money on bills	26	31.0%
It didn't cost much to discuss upgrading my system with the contractor	7	8.3%
Reminded by Ameren Missouri advertising	4	4.8%
Recommended by a family or friend	4	4.8%
Other (please specify)	5	6.0%
Don't Know	0	

Table 65. Survey Question F19 Responses (n=57)

Did your contractor offer you the option to repair or tune-up your system instead of replacing it?		
Response	Count of Response	Percent of Respondents
Yes	37	64.9%
No	20	35.1%
Don't Know	0	

Table 66. Survey Question F20 Responses (n=19)

So, to the best of your knowledge your system was not repairable and had to be replaced?		
Response	Count of Response	Percent of Respondents
Yes	16	84.2%
No	3	15.8%
Don't Know	1	

Table 67. Survey Question F21 Responses (n=20)

About how much would the repair have cost?		
Response	Count of Response	Percent of Respondents
Less than \$200	1	5.0%
\$200-\$500	3	15.0%
\$500-\$1,000	8	40.0%
\$1,000-\$2,500	3	15.0%
More than \$2,500	5	25.0%
Don't Know	9	

Table 68. Survey Question F22 Responses (n=37)

Why did you opt for replacing the unit instead of repairing it?		
Response	Count of Response	Percent of Respondents
The repair costs were too much; was not worth it	17	45.9%
I would have had to replace it soon anyway	28	75.7%
The contractor convinced me installing a high-efficiency model was worth it/would save me money in the long-run	14	37.8%
I wanted to take advantage of Ameren Missouri's rebates while available	10	27.0%
I wanted to take advantage of manufacturer rebates or tax credits while available	8	21.6%
Don't Know	0	

Table 69. Survey Question F23 Responses (n=88)

Before you knew about the heat pump incentive from Ameren Missouri, were you already considering a heat pump as your replacement system?		
Response	Count of Response	Percent of Respondents
Yes	71	80.7%
No	17	19.3%
Don't Know	4	

Table 70. Survey Question F24 Responses (n=71)

Why were you considering a heat pump?		
Response	Count of Response	Percent of Respondents
I knew about Ameren's incentive	2	2.8%
It was more efficient	34	47.9%
I wanted heating as well	3	4.2%
I already had a heat pump	28	39.4%
Other (please specify)	4	5.6%
Don't Know	0	

Table 71. Survey Question F25 Responses (n=17)

Why did you decide to install a heat pump?		
Response	Count of Response	Percent of Respondents
The contractor told me about the benefits of a heat pump	10	58.8%
The contractor told me about Ameren's incentive	1	5.9%
It was more efficient	3	17.6%
I found out about Ameren Missouri's incentive	1	5.9%
Other (please specify)	2	11.8%
Don't Know	0	

Table 72. Survey Question F26 Responses (n=81)

Before you knew about the incentive from Ameren Missouri, were you already planning to install a high-efficiency heat pump this year?		
Response	Count of Response	Percent of Respondents
Yes	51	63.0%
No	30	37.0%
Don't Know	10	

Table 73. Survey Question F27 Responses (n=90)

You installed a [MEASUREEFFICIENCY] heat pump. Why did you choose to install this particular system?		
Response	Count of Response	Percent of Respondents
I wanted the most efficient option possible	28	31.1%
I researched my options and decided this was the right balance of efficiency and cost	32	35.6%
My contractor convinced me this was the right balance of efficiency and cost	45	50.0%
I heard Ameren Missouri provided incentive rebate for this system	23	25.6%
It's the same efficiency as my old unit	1	1.1%
I wanted something more efficient than my old unit	40	44.4%
Don't Know	1	

Table 74. Survey Question F28 Responses (n=74)

Without Ameren Missouri's rebate, would you have installed a high-efficiency heat pump system...?		
Response	Count of Response	Percent of Respondents
Around the same time	56	75.7%
Later in the same year	3	4.1%
In one or two years	14	18.9%
After more than three years	1	1.4%
Don't Know	17	

Table 75. Survey Question F29 Responses (n=59)

Would you have installed the same high-efficiency heat pump without the rebate from Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Yes	50	84.7%
No	9	15.3%
Don't Know	17	

Table 76. Survey Question F30 Responses (n=14)

Would you have installed a different high-efficiency heat pump without the Ameren Missouri rebate or would you have decided to not purchase one at all?		
Response	Count of Response	Percent of Respondents
I would have installed a different high-efficiency heat pump	13	92.9%
I would have decided not to purchase a high-efficiency heat pump at all	1	7.1%
Don't Know	12	

Table 77. Survey Question F31 Responses (n=11)

Without Ameren Missouri's rebate, would you have installed a lower efficiency system, the same efficiency system, or a higher efficiency system?		
Response	Count of Response	Percent of Respondents
Same efficiency	4	36.4%
Lower efficiency	6	54.5%
Higher efficiency	1	9.1%
Don't Know	2	

Table 78. Survey Question F32 Responses (n=90)

How important was the Ameren Missouri rebate on your decision to purchase and install the high-efficiency heat pump?		
Response	Count of Response	Percent of Respondents
Very important	25	27.8%
Somewhat important	53	58.9%
Not very important	9	10.0%
Not at all important	3	3.3%
Don't Know	0	

Table 79. Survey Question F33 Responses (n=90)

How important was the advice from the contractor in your decision to purchase and install the high-efficiency heat pump? Would you say...?		
Response	Count of Response	Percent of Respondents
Very important	65	72.2%
Somewhat important	19	21.1%
Not very important	5	5.6%
Not at all important	1	1.1%
Don't Know	0	

G. ECM Questions

Table 80. Survey Question G1 Responses (n=1)

What type of heating system do you have?		
Response	Count of Response	Percent of Respondents
Gas furnace	1	100.0%
Don't Know	0	

Table 81. Survey Question G2 Responses (n=1)

What type of cooling system do you have?		
Response	Count of Response	Percent of Respondents
Central air conditioner	1	100.0%
Don't Know	0	

Table 82. Survey Question G3 Responses (n=1)

Your new furnace fan (with a high efficiency variable speed motor for your heating and cooling system) is able to vary speed to change the airflow that your heating and cooling system delivers. Did your previous fan have this ability?		
Response	Count of Response	Percent of Respondents
No	1	100.0%
Don't Know	0	

Table 83. Survey Question G4 Responses (n=1)

Why did you decide to install a new furnace fan?		
Response	Count of Response	Percent of Respondents
My previous fan motor stopped working (i.e., unit failed)	1	100.0%
Don't Know	0	

Table 84. Survey Question G8 Responses (n=1)

Do you operate your fan in "continuous" mode to circulate air?		
Response	Count of Response	Percent of Respondents
Don't Know	1	

Table 85. Survey Question G12 Responses (n=1)

At what point did you determine the exact model and brand you wanted to buy?		
Response	Count of Response	Percent of Respondents
I decided after the contractor provided me with option	1	100.0%
Don't Know	0	

Table 86. Survey Question G13 Responses (n=1)

Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply		
Response	Count of Response	Percent of Respondents
Price	1	100.0%
Cost savings on energy bills	1	100.0%
The store representative recommended it to me	1	100.0%
My contractor or installer recommended it to me	1	100.0%
Impact on the environment	1	100.0%
Don't Know	0	

Table 87. Survey Question G14 Responses (n=1)

If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected?		
Response	Count of Response	Percent of Respondents
My contractor or installer recommended it to me	1	100.0%
Don't Know	0	

ECM Free Ridership Questions

Table 88. Survey Question G15 Responses (n=1)

Before you knew about the furnace fan incentive from Ameren Missouri, were you already considering installing a new fan?		
Response	Count of Response	Percent of Respondents
Yes	1	100.0%
Don't Know	0	

Table 89. Survey Question G16 Responses (n=1)

Without Ameren Missouri's rebate, would you have installed a new furnace fan....?		
Response	Count of Response	Percent of Respondents
Around the same time	1	100.0%
Don't Know	0	

Table 90. Survey Question G17 Responses (n=1)

Would you have installed the same fan without the rebate from Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Yes	1	100.0%
Don't Know	0	

Table 91. Survey Question G19 Responses (n=1)

How important was the Ameren Missouri rebate on your decision to purchase and install the furnace fan?		
Response	Count of Response	Percent of Respondents
Not very important	1	100.0%
Don't Know	0	

Table 92. Survey Question G20 Responses (n=1)

How important was the advice from the contractor in your decision to purchase and install the furnace fan?		
Response	Count of Response	Percent of Respondents
Very important	1	100.0%
Don't Know	0	

H. Smart Thermostat

Table 93. Survey Question H1 Responses (n=67)

Our records indicate that you purchased a "smart" thermostat, is this correct?		
Response	Count of Response	Percent of Respondents
Yes	64	95.5%
No, purchased another kind or number of thermostats (please specify):	3	4.5%
Don't Know	1	

Table 94. Survey Question H2a Responses (n=53)

Is the smart thermostat currently installed in your home?		
Response	Count of Response	Percent of Respondents
Yes	51	96.2%
No	2	3.8%

Don't Know	2	
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Table 95. Survey Question H2b Responses (n=11)

Are all of the smart thermostats that you purchased currently installed in your home?		
Response	Count of Response	Percent of Respondents
Yes	10	90.9%
Only one is installed	1	9.1%
Don't Know	0	

Table 96. Survey Question H3a Responses (n=1)

Was the smart thermostat installed and then removed, or has it not been installed yet?		
Response	Count of Response	Percent of Respondents
Not installed yet	1	100.0%
Don't Know	1	

Table 97. Survey Question H3b Responses (n=1)

Were any of these thermostats installed and then removed, or have they not been installed yet?		
Response	Count of Response	Percent of Respondents
Installed and removed	1	100.0%
Don't Know	0	

Table 98. Survey Question H4 Responses (n=1)

Why did you install and then remove the smart thermostat(s)?		
Response	Count of Response	Percent of Respondents
Thermostat broke	1	100.0%
Don't Know	0	

Table 99. Survey Question H6a Responses (n=49)

What types of heating and cooling systems is the smart thermostat connected to?		
Response	Count of Response	Percent of Respondents
High-efficiency central air conditioner	39	79.6%
Standard-efficiency central air conditioner	5	10.2%
Air source heat pump	5	10.2%

High-efficiency gas furnace	27	55.1%
Standard-efficiency gas furnace	8	16.3%
High-efficiency electric furnace	2	4.1%
Standard-efficiency electric furnace	1	2.0%
Don't Know	2	

Table 100. Survey Question H6b Responses (n=10)

What types of heating and cooling systems are your smart thermostats connected to?		
Response	Count of Response	Percent of Respondents
High-efficiency central air conditioner	8	80.0%
Standard-efficiency central air conditioner	1	10.0%
Air source heat pump	1	10.0%
High-efficiency gas furnace	6	60.0%
Standard-efficiency gas furnace	1	10.0%
High-efficiency electric furnace	1	10.0%
Don't Know	1	

Table 101. Survey Question H7a Responses (n=49)

What type of thermostat did you replace with the smart thermostat?		
Response	Count of Response	Percent of Respondents
Replaced a traditional/manual thermostat	22	44.9%
Replaced a programmable thermostat (a thermostat that can be programmed, but is not "smart" or connected)	26	53.1%
My new thermostat replaced another smart thermostat (may also be called "learning" thermostats)	1	2.0%
Don't Know	2	

Table 102. Survey Question H7b Responses (n=11)

What type(s) of thermostat did you replace with the smart thermostats?		
Response	Count of Response	Percent of Respondents
My new thermostats are installed in a newly constructed home	1	9.1%
Replaced a programmable thermostat (a thermostat that can be programmed, but is not "smart" or connected)	8	72.7%
Replaced a traditional/manual thermostat	2	18.2%

Don't Know	0	
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Table 103. Survey Question H8 Responses (n=60)

Which option best represents how you most often used or interacted with your OLD thermostat(s)?		
Response	Count of Response	Percent of Respondents
Relied on the programmed schedule of temperatures, but sometimes manually changed the temperature	20	33.3%
Relied on the programmed schedule of temperatures, and never manually changed the temperature	2	3.3%
Manually adjusted temperature using no regular schedule	18	30.0%
Manually adjusted temperature using a regular schedule by changing the temperature for different time	6	10.0%
Kept thermostat(s) set at a constant temperature throughout each season	14	23.3%
Don't Know	1	

Table 104. Survey Question H9 Responses (n=59)

Why did you replace your existing thermostat(s)?		
Response	Count of Response	Percent of Respondents
To save energy	17	28.8%
To save money on my utility bills	21	35.6%
The Ameren Missouri rebate	25	42.4%
Other rebates or coupons (not from Ameren Missouri)	6	10.2%
Part of a "package deal" with other equipment being replaced at the same time	32	54.2%
To update my home with the latest technology	20	33.9%
To take advantage of the features of the smart thermostat	32	54.2%
Some other reason (Specify)	1	1.7%
Don't Know	1	

Table 105. Survey Question H10 Responses (n=66)

Did you purchase the thermostat at a store, or from a contractor?		
Response	Count of Response	Percent of Respondents
Online Store	7	10.6%
Local retail store	13	19.7%
Contractor	46	69.7%
Don't Know	0	

Table 106. Survey Question H11 Responses (n=61)

At what point did you determine the exact model and brand you wanted to buy?

Response	Count of Response	Percent of Respondents
I knew which model I wanted before visiting the store	15	24.6%
I knew which model I wanted before calling a contractor	2	3.3%
I decided at the online store	5	8.2%
I decided after the contractor provided me with options	39	63.9%
Don't Know	5	

Table 107. Survey Question H12 Responses (n=64)

Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply		
Response	Count of Response	Percent of Respondents
Price	21	32.8%
Quality/reputation	29	45.3%
Cost savings on energy bills	32	50.0%
The store representative recommended it to me	2	3.1%
My contractor recommended it to me	37	57.8%
It qualified for an Ameren Missouri rebate	29	45.3%
It had specific features I was looking for	28	43.8%
Impact on the environment	9	14.1%
It was available when I needed it	8	12.5%
Other (please specify)	1	1.6%
Don't Know	3	

Table 108. Survey Question H13 Responses (n=44)

If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected?		
Response	Count of Response	Percent of Respondents
Quality/reputation	2	4.5%
Price	3	6.8%
My contractor recommended it to me	9	20.5%
It was available when I needed it	1	2.3%
It qualified for an Ameren Missouri rebate	6	13.6%
It had specific features I was looking for	15	34.1%
Impact on the environment	1	2.3%
Cost savings on energy bills	7	15.9%
Don't Know	0	

Table 109. Survey Question H14 Responses (n=63)

How did you learn that the thermostat qualified for an Ameren Missouri Rebate?
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Response	Count of Response	Percent of Respondents
From the contractor	40	63.5%
From a representative at the store	4	6.3%
Ameren Missouri website	16	25.4%
Other (please specify)	3	4.8%
Don't Know	4	

Table 110. Survey Question H15 Responses (n=59)

How easy is the smart thermostat to use?		
Response	Count of Response	Percent of Respondents
Very easy	44	74.6%
Somewhat easy	13	22.0%
Not too easy	2	3.4%
Don't Know	0	

Table 111. Survey Question H16 Responses (n=36)

Is the function on your smart thermostat that senses when you are home or away working? (This function is also called "geofencing" or "occupancy sensing.")		
Response	Count of Response	Percent of Respondents
Yes	26	72.2%
No	10	27.8%
Don't Know	24	

Table 112. Survey Question H17 Responses (n=56)

Is your smart thermostat connected to the internet?		
Response	Count of Response	Percent of Respondents
Yes	46	82.1%
No	10	17.9%
Don't Know	4	

Table 113. Survey Question H18 Responses (n=56)

Which features of your smart thermostat do you like best?		
Response	Count of Response	Percent of Respondents
Thermostat design/aesthetic	19	33.9%
Thermostat ease of use	39	69.6%
Automatically programs itself/automatically adjusts the temperature when you're away	19	33.9%
Gives me detailed information about my energy use	11	19.6%

Dehumidifying capabilities (when thermostat uses HVAC system to lower indoor humidity level)	14	25.0%
Maintenance reminders	7	12.5%
Mobile app	23	41.1%
Remote monitoring of household temperature and thermostat settings	36	64.3%
Ability to check local weather from thermostat and smartphone/tablet app	14	25.0%
Other features (please specify)	3	5.4%
None of the above	1	1.8%
Don't Know	4	

Table 114. Survey Question H19 Responses (n=97)

In what ways have you ever accessed your thermostat since it was first installed, to do things such as changing your temperature settings or schedules?		
Response	Count of Response	Percent of Respondents
The thermostat itself	51	52.6%
Website on a PC or laptop	7	7.2%
Smartphone or tablet app	38	39.2%
I have not accessed my thermostat since it was installed	1	1.0%
Don't Know	0	

Table 115. Survey Question H20 Responses (n=59)

In the past 30 days, how have you most often accessed your smart thermostat?		
Response	Count of Response	Percent of Respondents
The thermostat itself	35	59.3%
Smartphone or tablet app	23	39.0%
I have not accessed my thermostat in the past month	1	1.7%
Don't Know	1	

Table 116. Survey Question H21 Responses (n=58)

How do you currently use your thermostat's interactive capabilities?		
Response	Count of Response	Percent of Respondents
Check how much energy I have used	11	19.0%
Adjust the temperature while at home	35	60.3%
Adjust the temperature while away from home	21	36.2%
Modify my thermostat schedule while at home	17	29.3%
Modify my thermostat schedule while away from home	12	20.7%
Check inside or outside temperature	17	29.3%
Just checked it out to see what it has to offer	8	13.8%
Have not used interactive capabilities	7	12.1%
Other (please specify)	1	1.7%

Don't Know	2	
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Table 117. Survey Question H22 Responses (n=58)

you or someone in your household set up and program the thermostat, or did the contractor set it up for you?		
Response	Count of Response	Percent of Respondents
I or someone in my household set up/programmed it	31	53.4%
Contractor set up/programmed it	27	46.6%
Don't Know	1	

Table 118. Survey Question H23 Responses (n=31)

How easy was it to set up your thermostat? Would you say it was...?		
Response	Count of Response	Percent of Respondents
Very easy	18	58.1%
Somewhat easy	12	38.7%
Not too easy	1	3.2%
Don't Know	0	

Table 119. Survey Question H24 Responses (n=60)

How is your smart thermostat currently controlled?		
Response	Count of Response	Percent of Respondents
I rely on the programmed schedule of temperatures, but sometimes manually change the temperature	36	60.0%
I rely on the programmed schedule of temperatures, and never manually change the temperature	5	8.3%
I manually adjust the temperature using no regular schedule	10	16.7%
I manually adjust the temperature using a regular schedule by changing the temperature for different	4	6.7%
I keep it at a constant temperature throughout the season	4	6.7%
Some other way (please specify)	1	1.7%
Don't Know	0	

Smart Thermostat Free Ridership Questions

Table 120. Survey Question H25 Responses (n=58)

Did you first find out about the Ameren Missouri rebate before or after you purchased your new thermostat?		
Response	Count of Response	Percent of Respondents
Learned of rebate before purchase	48	82.8%
Learned of rebate after purchase	10	17.2%
Don't Know	2	

Table 121. Survey Question H26 Responses (n=10)

Please confirm: You purchased your new thermostat and then found out it qualified for a rebate from Ameren Missouri afterwards, is that correct?		
Response	Count of Response	Percent of Respondents
Yes, that is correct	10	100.0%
Don't Know	0	

Table 122. Survey Question H27 Responses (n=45)

Before you knew about the rebate from Ameren Missouri, were you already planning to install a smart thermostat this year?		
Response	Count of Response	Percent of Respondents
Yes	19	42.2%
No	26	57.8%
Don't Know	5	

Table 123. Survey Question H28 Responses (n=30)

Without Ameren Missouri's rebate, would you have installed a smart thermostat...?		
Response	Count of Response	Percent of Respondents
Around the same time	17	56.7%
Later in the same year	4	13.3%
In one or two years	9	30.0%
Don't Know	20	

Table 124. Survey Question H29 Responses (n=25)

Would you have installed the same smart thermostat without the rebate from Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Yes	16	64.0%
No	9	36.0%
Don't Know	16	

Table 125. Survey Question H30 Responses (n=11)

Would you have installed a different thermostat without the Ameren Missouri rebate or would you have decided to not purchase one at all?		
Response	Count of Response	Percent of Respondents
I would have installed a different thermostat	6	54.5%
I would have decided not to purchase one at all	5	45.5%

Don't Know	14	
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Table 126. Survey Question H31 Responses (n=6)

When you say you would have installed a thermostat without the rebate from Ameren Missouri, would you have installed...?		
Response	Count of Response	Percent of Respondents
A smart thermostat (also called a "learning" thermostat)	3	50.0%
A programmable thermostat (a thermostat that can be programmed, but is not "smart" or connected to communication devices)	2	33.3%
A manual thermostat	1	16.7%
Don't Know	0	

Table 127. Survey Question H32 Responses (n=64)

How important was the Ameren Missouri rebate on your decision to purchase and install the smart thermostat?		
Response	Count of Response	Percent of Respondents
Very important	20	31.3%
Somewhat important	30	46.9%
Not very important	10	15.6%
Not at all important	4	6.3%
Don't Know	2	

Table 128. Survey Question H33 Responses (n=61)

How important was the advice from the contractor in your decision to purchase and install the smart thermostat? Would you say...?		
Response	Count of Response	Percent of Respondents
Very important	32	52.5%
Somewhat important	16	26.2%
Not very important	9	14.8%
Not at all important	4	6.6%
Don't Know	5	

I. Tune-Up Questions

Table 129. Survey Question I1 Responses (n=37)

What type of equipment did the contractor tune up?		
Response	Count of Response	Percent of Respondents

Air Source Heat Pump	1	2.7%
Ductless Heat Pump	1	2.7%
Central air conditioner	34	91.9%
Other equipment	4	10.8%
Don't know	0	

Table 130. Survey Question I3 Responses (n=31)

Did your contractor provide you with a report identifying your cooling system's efficiency?		
Response	Count of Response	Percent of Respondents
Yes	24	77.4%
No	7	22.6%
Don't know	6	

Table 131. Survey Question I4 Responses (n=35)

Did your contractor recommend any of the following:		
Response	Count of Response	Percent of Respondents
Replace your air conditioner unit or heat pump with a new high efficiency unit	6	17.1%
Make repairs to your duct work	2	5.7%
Suggest any other system improvements	5	14.3%
None	23	65.7%
Don't know	2	

Table 132. Survey Question I5 Responses (n=11)

Have you followed any of their recommendations?		
Response	Count of Response	Percent of Respondents
Yes, I replaced my air conditioner unit or heat pump with a new high efficient unit	3	27.3%
Yes, I made repairs to my duct work	1	9.1%
Yes, replace or clean filter regularly	1	9.1%
Yes, add gas to the system	1	9.1%
Yes, needed a part that was not working properly and my fan was running too fast	1	9.1%
No	4	36.4%
Don't know	1	

Table 133. Survey Question I6 Responses (n=3)

Why did you choose to tune-up your system rather than replace it?		
Response	Count of Response	Percent of Respondents
I expect the system to last for the foreseeable future	1	33.3%
The system is still efficient enough	1	33.3%
I don't want to invest money in a new system yet	1	33.3%
Don't know	0	

Table 134. Survey Question I7 Responses (n=37)

How satisfied are you with the performance of your system since the tune-up? Are you...		
Response	Count of Response	Percent of Respondents
Very satisfied	28	75.7%
Somewhat satisfied	9	24.3%
Don't Know	0	

Table 135. Survey Question I9 Responses (n=26)

Since you received your tune-up have you experienced any benefits? (check all that apply)		
Response	Count of Response	Percent of Respondents
Increased energy savings/lower electric bill	7	26.9%
Increased comfort	11	42.3%
Increased convenience or productivity	1	3.8%
Lower maintenance costs	3	11.5%
Improved air quality in the home	5	19.2%
Some other reason	3	11.5%
None of the above	7	26.9%
Don't Know	11	

Table 136. Survey Question I10 Responses (n=35)

Before the tune-up, was your system able to adequately cool your home on the hottest days of the year?		
Response	Count of Response	Percent of Respondents
Yes	27	77.1%
No	8	22.9%
Don't Know	2	

Table 137. Survey Question I11 Responses (n=35)

Before the tune-up, was your system able to adequately cool your home on the hottest days of the year?		
Response	Count of Response	Percent of Respondents
Yes	34	97.1%
No	1	2.9%
Don't Know	2	

Table 138. Survey Question I12 Responses (n=37)

After the tune-up, how have you changed the temperature settings in your home?		
Response	Count of Response	Percent of Respondents
I use the same temperature settings as before	29	78.4%
I set a cooler temperature in the summer now	2	5.4%
I set a warmer temperature in the summer now	6	16.2%
Don't Know	0	

Tune-Up Free Ridership Questions

Table 139. Survey Question I13 Responses (n=37)

Do you currently have a maintenance contract for your heating and cooling equipment?		
Response	Count of Response	Percent of Respondents
Yes	4	10.8%
No	33	89.2%
Don't Know	0	

Table 140. Survey Question I14 Responses (n=4)

Did you purchase the maintenance agreement when you received the tune-up?		
Response	Count of Response	Percent of Respondents
Yes	1	25.0%
No	3	75.0%
Don't Know	0	

Table 141. Survey Question I15 Responses (n=3)

Did your regular maintenance contractor provide the tune-up as part of your maintenance contract or annual check-up?		
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Response	Count of Response	Percent of Respondents
Yes	2	66.7%
No	1	33.3%
Don't Know	0	

Table 142. Survey Question I16 Responses (n=36)

When you first heard of the Ameren Missouri rebate, had you already scheduled your tune-up or annual check-up?		
Response	Count of Response	Percent of Respondents
Yes	5	13.9%
No	31	86.1%
Don't Know	1	

Table 143. Survey Question I17 Responses (n=5)

To confirm, you scheduled the tune-up or check-up and then found out about the Ameren Missouri discount, is that correct?		
Response	Count of Response	Percent of Respondents
Yes	3	60.0%
No	2	40.0%
Don't Know	0	

Table 144. Survey Question I18 Responses (n=27)

Did your contractor explain what was different about Ameren Missouri's TEA [Tune-Up Plus Efficiency Analysis] from their standard tune-up?		
Response	Count of Response	Percent of Respondents
Yes	8	29.6%
No	18	66.7%
Explained that there was no difference	1	3.7%
Don't Know	10	

Table 145. Survey Question I19 Responses (n=8)

What did the contractor say was different?		
Response	Count of Response	Percent of Respondents
Checked airflow	4	50.00%
Checked/adjusted refrigerant charge	4	50.00%

Cleaned indoor coil	2	25.00%
Cleaned outdoor coil	4	50.00%
Includes a test and report that identifies the efficiency of my system and maintenance or replacement	4	50.00%
It was a more in-depth check of the system	6	75.00%
Other differences	1	12.50%
Don't Know	0	

Table 146. Survey Question I20 Responses (n=30)

If the \$75 rebate provided by Ameren Missouri had not been available, what would you have done?		
Response	Count of Response	Percent of Respondents
Purchased a tune-up at full cost	8	26.7%
Purchased a less in-depth, less expensive tune-up	9	30.0%
Done nothing at all	13	43.3%
Don't Know	7	

Table 147. Survey Question I21 Responses (n=34)

Without the rebate, when would you have had the tune-up performed?		
Response	Count of Response	Percent of Respondents
At the same time	11	32.4%
Later in the same year	7	20.6%
In one to two years	8	23.5%
More than two years	1	2.9%
Would not have tune-up performed	7	20.6%
Don't Know	3	

J. Satisfaction with Ameren Missouri

Table 148. Survey Question J1 Responses (n=524)

Thinking about your overall experiences with Ameren Missouri as your utility, how satisfied would you say you are with Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Very satisfied	387	73.9%
Somewhat satisfied	132	25.2%
Not too satisfied	3	0.6%
Not satisfied at all	2	0.4%
Don't Know	5	

Table 149. Survey Question J2 Responses (n=495)

Why are you "[RATING FROM 1]" with Ameren Missouri as your utility? (Check all that apply.)		
Response	Count of Response	Percent of Respondents
Satisfied with the reliable and dependable service	322	65.1%
Satisfied with the customer service	221	44.6%
Satisfied with the outage response	190	38.4%
Satisfied with utility rates	108	21.8%
The incentive/rebate for my equipment or tune-up	267	53.9%
Dissatisfied with the utility rates	64	12.9%
Dissatisfied with the reliability of service	7	1.4%
Dissatisfied with infrastructure maintenance	11	2.2%
Dissatisfied with customer service	5	1.0%
Other	25	5.1%
Don't Know	23	

Table 150. Survey Question J3 Responses (n=508)

Based on your experience with the Heating and Cooling Program, would you say your satisfaction with Ameren Missouri has:		
Response	Count of Response	Percent of Respondents
Stayed about the same, or	273	53.7%
Increased	229	45.1%
Decreased?	6	1.2%
Don't Know	18	

Table 151. Survey Question K1 Responses (n=523)

Is the energy used in your home . . .		
Response	Count of Response	Percent of Respondents
All electric,	98	18.7%
Natural gas and electric,	407	77.8%
Some other combination of energy sources?	18	3.4%
Don't Know	2	

Table 152. Survey Question K2 Responses (n=506)

Is your hot water heater electric or gas?		
Response	Count of Response	Percent of Respondents
Electric	132	26.1%
Gas	374	73.9%

Don't Know	18	
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Table 153. Survey Question K3 Responses (n=523)

Which of the following best describes your home or residence?		
Response	Count of Response	Percent of Respondents
Single-family home (not a duplex, townhome, or apartment)	473	90.4%
Manufactured or modular home	3	0.6%
Mobile home	1	0.2%
Row house or townhome	11	2.1%
Two or three family attached residence	14	2.7%
Condominium	15	2.9%
Other (Please specify)	6	1.1%
Don't Know	1	

Table 154. Survey Question K4 Responses (n=519)

Do you own or rent this residence?		
Response	Count of Response	Percent of Respondents
Own	515	99.2%
Rent	4	0.8%
Don't Know	3	

Table 155. Survey Question K5 Responses (n=498)

Approximately how many square feet of living space does your home have? Don't include the basement unless it is a space that you consider "lived in."		
Response	Count of Response	Percent of Respondents
Less than 1,000 square feet	29	5.8%
1,000 to less than 1,500 square feet	116	23.3%
1,500 to less than 2,000 square feet	120	24.1%
2,000 to less than 2,500 square feet	85	17.1%
2,500 to less than 3,000 square feet	75	15.1%
3,000 or more square feet	73	14.7%
Don't Know	24	

Table 156. Survey Question K6 Responses (n=513)

When was your home built?		
Response	Count of Response	Percent of Respondents
After 2008	11	2.1%

2005-2008	23	4.5%
2001-2004	33	6.4%
1980-2000	192	37.4%
Before 1980	254	49.5%
Don't Know	10	

Appendix B. Follow-Up Survey Responses

This appendix provides the responses to questions in the Heating and Cooling Program Follow-Up Survey. This survey was sent by email to PY17 HVAC participants between six months after installing their equipment. In PY17 588 respondents completed this survey.

The tables below provide the number of responses to answers to the survey questions. They also provide the percentage of the various responses, where the denominator is the total number of respondents who answered the question, not including respondents who replied “don’t know”. We did not report initial screening questions that would have caused a respondent to be terminated from the survey. We do not report spillover questions because the analysis is done in a dynamic function and not based on raw frequencies.

A. All HVAC Measures – Verification and Program Awareness

Table 4. Survey Question A8a Responses (n=518)

Prior to this survey, were you aware that the rebate you received after installing your new high efficiency [MEASURETYPE] was provided by Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Yes	483	93.2%
No	35	6.8%
Don't Know	17	

Table 5. Survey Question A8b Responses (n=48)

Prior to this survey, were you aware that the rebate you received after your tune-up was provided by Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Yes	43	91.5%
No	4	8.5%
Don't Know	1	

B. All HVAC Measures - Purchase Patterns and Decision-making

Table 6. Survey Question B1 Responses (n=536)

What was the primary reason you purchased a new [MeasureType]?		
Response	Count of Response	Percent of Respondents
To replace aging equipment	278	51.9%

To help the environment	2	0.4%
The equipment is for a newly constructed home	8	1.5%
To improve the safety of my home	1	0.2%
To save money on energy costs	33	6.2%
To improve the comfort of my home	12	2.2%
The purchase was part of a larger home renovation	5	0.9%
To replace broken equipment	191	35.6%
Other reason, please specify:	6	1.1%
Don't Know	0	

Table 7. Survey Question B2 Responses (n=48)

What motivated you to purchase the tune-up service?		
Response	Count of Response	Percent of Respondents
My air conditioner stopped working (i.e., unit failed)	2	4.2%
To lower energy bill, save money on bills	17	35.4%
It didn't cost much	7	14.6%
Reminded by Ameren Missouri advertising	6	12.5%
Reminded by advertising other than Ameren Missouri	7	14.6%
My air conditioner was working, but was having problems (i.e., wasn't cooling properly or was making	4	8.3%
Was included in my maintenance contract or part of a regularly scheduled check up	2	4.2%
To take advantage of the rebate	25	52.1%
It was time for a tune-up	20	41.7%
To ensure that it lasts longer	14	29.2%
To find out if it needs any repairs	14	29.2%
To keep my air conditioner running efficiently	27	56.3%
To save energy	14	29.2%
Don't Know	0	

C. All HVAC Measures – Participant Satisfaction

Table 8. Survey Question C1 Responses (n=582)

How satisfied are you with the contractor you worked with?		
Response	Count of Response	Percent of Respondents
Very satisfied	516	88.7%
Somewhat satisfied	52	8.9%
Not too satisfied	10	1.7%
Not satisfied at all	4	0.7%
Don't Know	1	

Table 9. Survey Question C2 Responses (n=573)

Why are you [RATING FROM C1] with the contractor?		
Response	Count of Response	Percent of Respondents
Satisfied with the efficiency of the contractor	287	50.1%
Dissatisfied with the level of communication from the contractor	12	2.1%
Dissatisfied with the installation of the equipment	4	0.7%
Dissatisfied with the contractor's ability to resolve a problem	3	0.5%
Dissatisfied with delays installing equipment	6	1.0%
Other reason, please specify:	34	5.9%
Satisfied with the reliability of the contractor	283	49.4%
Satisfied with the quality of work	384	67.0%
Satisfied with the cleanliness of the job site	257	44.9%
Satisfied with customer care	278	48.5%
Satisfied with the cost/warranty of the equipment	228	39.8%
Long-standing relationship with the contractor	170	29.7%
Satisfied with the equipment the contractor installed	305	53.2%
Dissatisfied with the quality of work	13	2.3%
Don't know	4	

Table 10. Survey Question C3 Responses (n=554)

How satisfied are you with the time it took to receive your rebate in the mail?		
Response	Count of Response	Percent of Respondents
Very satisfied	414	74.7%
Somewhat satisfied	123	22.2%
Not too satisfied	16	2.9%
Not satisfied at all	1	0.2%
Don't Know	18	

Table 11. Survey Question C4 Responses (n=526)

How satisfied are you with the performance of your new [MeasureType]?		
Response	Count of Response	Percent of Respondents
Very satisfied	475	90.3%
Somewhat satisfied	47	8.9%
Not too satisfied	1	0.2%
Not satisfied at all	3	0.6%
Don't Know	6	

Table 12. Survey Question C5 Responses (n=519)

Why are you [RATING FROM C4] with the performance of your new [MEASURETYPE]?		
Response	Count of Response	Percent of Respondents
Satisfied with energy/cost savings experienced after installation	248	47.8%
Installation problems (including under-sizing or oversizing units)	2	0.4%
High cost of unit	11	2.1%
Unit did not provide a satisfactory return on investment	9	1.7%
Unit works without ducts	5	1.0%
Unit is noisier than the previous one	10	1.9%
Did not notice energy/cost savings after installation	17	3.3%
Poor performance of unit (including insufficient cooling, temperature fluctuations, and condensation)	3	0.6%
Satisfactory overall operation and performance of the unit	323	62.2%
Unit provides effective cooling	292	56.3%
Unit is quieter than the previous one	199	38.3%
Unit provides effective heating	28	5.4%
Other, please specify:	17	3.3%
Don't know	4	

Table 13. Survey Question C6 Responses (n=570)

Thinking about your overall satisfaction with Ameren Missouri's Heating and Cooling Program, would you say you are:		
Response	Count of Response	Percent of Respondents
Very satisfied	494	86.7%
Somewhat satisfied	71	12.5%
Not too satisfied	3	0.5%
Not satisfied at all	2	0.4%
Don't Know	5	

Table 14. Survey Question C7 Responses (n=560)

Why are you [RATING FROM C6] with Ameren Missouri's Heating and Cooling Program?		
Response	Count of Response	Percent of Respondents
Satisfied with the rebates	331	59.1%
Overall positive program experience	306	54.6%
The program met my expectations	217	38.8%
Satisfied with the environmental benefits of the program	185	33.0%
Satisfied with the contractor	200	35.7%
Dissatisfied with the rebates	1	0.2%
Dissatisfied with delays in rebate processing	10	1.8%
Dissatisfied with the contractor	6	1.1%
Other reason, please specify:	24	4.3%
Don't know	3	

Table 15. Survey Question C8 Responses (n=551)

Would you recommend Ameren Missouri's Heating and Cooling Program to friends or family members?		
Response	Count of Response	Percent of Respondents
Yes	549	99.6%
No	2	0.4%
Don't Know	15	

E. Central Air Conditioner Questions

Table 16. Survey Question E2 Responses (n=401)

Do you have any of the following currently installed in addition to your new efficient air conditioner at your home?		
Response	Count of Response	Percent of Respondents
Air Source Heat Pump	5	1.2%
Standard-efficiency gas furnace	100	24.9%
High-efficiency electric furnace	10	2.5%
Standard-efficiency electric furnace	5	1.2%
Baseboard electric system	5	1.2%
Window air conditioner unit(s)	14	3.5%
Ductless Heat Pump	3	0.7%
Standard-efficiency air conditioner	25	6.2%
Room air conditioner(s)	8	2.0%
Another high-efficiency air conditioner	22	5.5%
Space heater(s)	50	12.5%
High-efficiency gas furnace	168	41.9%
None of the above	84	20.9%
Don't know	30	

Table 17. Survey Question E3 Responses (n=390)

What type of thermostat do you use to control your heating and cooling equipment?		
Response	Count of Response	Percent of Respondents
Smart thermostat (may be called learning thermostat)	95	24.4%
Programmable thermostat	246	63.1%
Manual thermostat	49	12.6%
Don't Know	6	

Table 18. Survey Question E4 Responses (n=387)

Did you install this thermostat when you installed your new air conditioning system?		
Response	Count of Response	Percent of Respondents
Yes	226	58.4%
No	161	41.6%
Don't Know	3	

Table 19. Survey Question E5 Responses (n=221)

What type of thermostat did you have before installing the new thermostat?		
Response	Count of Response	Percent of Respondents
Smart thermostat (may be called learning thermostat)	13	5.9%
Programmable thermostat	124	56.1%
Manual thermostat	84	38.0%
Don't Know	5	

Table 20. Survey Question E6 Responses (n=430)

What type of cooling system did you replace and remove when installing your new efficient air conditioning system?		
Response	Count of Response	Percent of Respondents
Nothing	1	0.2%
I kept my cooling system	3	0.7%
Ground source heat pump	1	0.2%
Central air-conditioning	414	96.3%
Air source heat pump	4	0.9%
Room air conditioning unit(s)	1	0.2%
Window air conditioning unit(s)	2	0.5%
Other (please specify)	4	0.9%
Don't Know	12	

F. Heat Pumps

Table 21. Survey Question F1 Responses (n=70)

Did you install your heat pump in a newly constructed home or in an existing home?		
Response	Count of Response	Percent of Respondents
Existing home	62	88.6%
Newly constructed home	8	11.4%
Don't Know	0	

Table 22. Survey Question F2 Responses (n=69)

For what purpose did you install your heat pump?		
Response	Count of Response	Percent of Respondents
Primarily heating	4	5.8%
Both heating and cooling	63	91.3%
Primarily cooling	2	2.9%
Don't Know	0	

Table 23. Survey Question F3 Responses (n=63)

What type of heating system did you replace and remove before you installed the heat pump?		
Response	Count of Response	Percent of Respondents
Electric baseboard heat	1	1.6%
Electric forced air furnace	25	39.7%
Gas heating system (boiler, furnace)	2	3.2%
Air Source Heat Pump	19	30.2%
Ground source heat pump	2	3.2%
Nothing - this is new construction	8	12.7%
I kept my previous heating system	3	4.8%
Other (please specify)	3	4.8%
Don't Know	6	

Table 24. Survey Question F4 Responses (n=62)

What type of cooling system did you replace and remove before you installed the heat pump?		
Response	Count of Response	Percent of Respondents
Ground Source Heat Pump	2	3.2%
Central air conditioning system	30	48.4%
Air Source Heat Pump	18	29.0%
Window air conditioning unit(s)	1	1.6%

I kept my cooling system	2	3.2%
I didn't have a cooling system	5	8.1%
Other (please specify)	4	6.5%
Don't Know	5	

Table 25. Survey Question F5 Responses (n=51)

Do you have any of the following currently installed in addition to your new heat pump at your home?		
Response	Count of Response	Percent of Respondents
Air Source Heat Pump	6	11.8%
High-efficiency gas furnace	2	3.9%
Standard-efficiency gas furnace	3	5.9%
High-efficiency electric furnace	3	5.9%
Standard-efficiency electric furnace	2	3.9%
Ground Source Heat Pump	1	2.0%
Standard-efficiency air conditioner	1	2.0%
Another high-efficiency air conditioner	1	2.0%
Space heater(s)	4	7.8%
None of the above	32	62.7%
Don't Know	11	

Table 26. Survey Question F6 Responses (n=55)

Why did you choose to install an air source heat pump?		
Response	Count of Response	Percent of Respondents
I wanted a higher efficiency electric heating system	32	58.2%
I wanted a higher-efficiency cooling system	25	45.5%
It is more "green" than any other heating/cooling options	6	10.9%
I wanted to reduce fossil fuel consumption	2	3.6%
I wanted to save money on my utility bills	31	56.4%
I wanted to take advantage of Ameren's rebate	20	36.4%
Other (please specify)	2	3.6%
Don't Know	2	

Table 27. Survey Question F7 Responses (n=2)

Before you selected your [MEASURETYPE], did you consider installing an air source heat pump?		
Response	Count of Response	Percent of Respondents
No	2	100.0%
Don't Know	2	

Table 28. Survey Question F8 Responses (n=4)

Why did you specifically choose to install a ground source heat pump?		
Response	Count of Response	Percent of Respondents
It is the most efficient possible option	2	50.0%
To save money on my heating and cooling bills	2	50.0%
To replace my existing ground-source heat pump	2	50.0%
To increase the resale value of my home	1	25.0%
It provides more heat at low outdoor temperatures than an air source heat pump	1	25.0%
Don't Know	0	

Table 29. Survey Question F9 Responses (n=7)

Why did you specifically choose to install a ductless heat pump?		
Response	Count of Response	Percent of Respondents
I wanted to install a Heat Pump but I did not have the duct work to install other types of heat pump	1	14.3%
It was the easiest way to install a Heat Pump at my home	1	14.3%
To save money on my heating and cooling bills	3	42.9%
To increase the resale value of my home	1	14.3%
I wanted a higher efficiency electric heating system	1	14.3%
I wanted a high-efficiency cooling system	2	28.6%
It is more "green" than any other heating/cooling options	3	42.9%
Don't Know	0	

Table 30. Survey Question F10 Responses (n=68)

At what point did you determine the exact model and brand of heat pump that you wanted to buy?
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Response	Count of Response	Percent of Respondents
I knew which model I wanted before calling a contractor	2	2.9%
I decided after the contractor provided me with options	66	97.1%
Don't Know	2	

Table 31. Survey Question F11 Responses (n=69)

Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply.		
Response	Count of Response	Percent of Respondents
Price	19	27.5%
Quality/reputation	29	42.0%
Cost savings on energy bills	42	60.9%
The store representative recommended it to me	5	7.2%
My contractor or installer recommended it to me	44	63.8%
It qualified for an Ameren Missouri rebate	39	56.5%
It had specific features I was looking for	15	21.7%
Impact on the environment	14	20.3%
It was available when I needed it	11	15.9%
Other (please specify)	1	1.4%
Don't Know	1	

Table 32. Survey Question F12 Responses (n=54)

If you had to choose just one, which factor would you say was the most important in your decision...		
Response	Count of Response	Percent of Respondents
The store representative recommended it to me	1	1.9%
Quality/reputation	7	13.0%
Price	2	3.7%
My contractor or installer recommended it to me	19	35.2%
It was available when I needed it	2	3.7%
It qualified for an Ameren Missouri rebate	7	13.0%
It had specific features I was looking for	2	3.7%
Impact on the environment	1	1.9%
Cost savings on energy bills	13	24.1%
Don't Know	0	

Table 33. Survey Question F13 Responses (n=61)

What type of thermostat do you use to control your heating and cooling equipment?		
Response	Count of Response	Percent of Respondents
Smart thermostat (may be called learning thermostat)	27	44.3%
Programmable thermostat	28	45.9%
Manual thermostat	6	9.8%
Don't Know	4	

Table 34. Survey Question F14 Responses (n=61)

Did you install this thermostat when you installed your new air conditioning system?		
Response	Count of Response	Percent of Respondents
Yes	52	85.2%
No	9	14.8%
Don't Know	0	

Table 35. Survey Question F15 Responses (n=47)

What type of thermostat did you have before installing the new thermostat?		
Response	Count of Response	Percent of Respondents
Smart thermostat (may be called learning thermostat)	3	6.4%
Programmable thermostat	23	48.9%
Manual thermostat	21	44.7%
Don't Know	3	

G. Furnace Fan Questions

Table 36. Survey Question G1 Responses (n=1)

What type of heating system do you have?		
Response	Count of Response	Percent of Respondents
Gas furnace	1	100.0%
Don't Know	0	

Table 37. Survey Question G2 Responses (n=1)

What type of cooling system do you have?		
Response	Count of Response	Percent of Respondents
Central air conditioner	1	100.0%
Don't Know	0	

Table 38. Survey Question G3 Responses (n=1)

Your new furnace fan (with a high efficiency variable speed motor for your heating and cooling system) is able to vary speed to change the airflow that your heating and cooling system delivers. Did your previous fan have this ability?		
Response	Count of Response	Percent of Respondents
No	1	100.0%
Don't Know	0	

Table 39. Survey Question G4 Responses (n=1)

Why did you decide to install a new furnace fan?		
Response	Count of Response	Percent of Respondents
My previous fan motor was working, but was having problems (i.e., wasn't cooling properly or was making noise)	1	100.0%
Don't Know	0	

Table 40. Survey Question G5 Responses (n=1)

What type of thermostat do you use to control your heating and cooling equipment?		
Response	Count of Response	Percent of Respondents
Programmable thermostat	1	100.0%
Don't Know	0	

Table 41. Survey Question G6 Responses (n=1)

Did you install this thermostat when you installed your new air conditioning system?		
Response	Count of Response	Percent of Respondents
No	1	100.0%
Don't Know	0	

Table 42. Survey Question G8 Responses (n=1)

Do you operate your fan in "continuous" mode to circulate air?		
Response	Count of Response	Percent of Respondents
Yes	1	100.0%
Don't Know	0	

Table 43. Survey Question G10 Responses (n=1)

Would you say the time you operate your fan in circulation mode has...		
Response	Count of Response	Percent of Respondents
Increased?	1	100.0%
Don't Know	0	

Table 44. Survey Question G12 Responses (n=1)

At what point did you determine the exact model and brand you wanted to buy?		
Response	Count of Response	Percent of Respondents
I decided after the contractor provided me with option	1	100.0%
Don't Know	0	

Table 45. Survey Question G13 Responses (n=1)

Which factors were important in your decision to purchase the specific model and brand you selected? Please select all that apply.		
Response	Count of Response	Percent of Respondents
My contractor or installer recommended it to me	1	100.0%
It qualified for an Ameren Missouri rebate	1	100.0%
It was available when I needed it	1	100.0%
Don't Know	0	

Table 46. Survey Question G14 Responses (n=1)

If you had to choose just one, which factor would you say was the most important in your decision to purchase the specific model and brand you selected?		
Response	Count of Response	Percent of Respondents
It was available when I needed it	1	100.0%
Don't Know	0	

H. Tune-Ups

Table 47. Survey Question H1 Responses (n=37)

What type of equipment did the contractor tune up?		
Response	Count of Response	Percent of Respondents
Air Source Heat Pump	3	8.1%
Central air conditioner	36	97.3%
Other equipment, please specify	2	5.4%
Don't know	7	

Table 48. Survey Question H2 Responses (n=34)

Did your contractor provide you with a report identifying your cooling system's efficiency?		
Response	Count of Response	Percent of Respondents
Yes	27	79.4%
No	7	20.6%
Don't Know	10	

Table 49. Survey Question H3 Responses (n=39)

Did your contractor recommend any of the following (check all that apply)		
Response	Count of Response	Percent of Respondents
Replace your air conditioner unit or heat pump with a new high efficiency unit	2	5.1%
Make repairs to your duct work	1	2.6%
Suggest any other system improvements	4	10.3%
None of the above	32	82.1%
Don't Know	4	

Table 50. Survey Question H4 Responses (n=7)

Have you followed any of their recommendations? (check all that apply)		
Response	Count of Response	Percent of Respondents
Yes, I replaced my air conditioner unit or heat pump with a new high efficiency unit	1	14.3%
Yes, Starter was bad	1	14.3%

Yes, Furnace	1	14.3%
No	4	57.1%
Don't Know	0	

Table 51. Survey Question H5 Responses (n=1)

Why did you choose to tune-up your system rather than replace it? (check all that apply):		
Response	Count of Response	Percent of Respondents
I expect the system to last for the foreseeable future	1	100.0%
I don't want to invest money in a new system yet	1	100.0%
I never considered that as an option	1	100.0%
Don't Know	0	

Table 52. Survey Question H6 Responses (n=41)

How satisfied are you with the performance of your system since the tune-up? Are you...		
Response	Count of Response	Percent of Respondents
Very satisfied	32	78.0%
Somewhat satisfied	5	12.2%
Not too satisfied	2	4.9%
Not at all satisfied	2	4.9%
Don't Know	4	

Table 53. Survey Question H8 Responses (n=33)

Since you received your tune-up, what benefits have you noticed? (Check all that apply)		
Response	Count of Response	Percent of Respondents
Increased energy savings/lower electric bill	6	18.2%
Increased comfort	10	30.3%
Increased convenience or productivity	2	6.1%
Lower maintenance costs	4	12.1%
Improved air quality in the home	7	21.2%
Some other benefit, please specify:	1	3.0%
None of the above	14	42.4%
Don't Know	11	

I. Satisfaction with Ameren Missouri

Table 54. Survey Question I1 Responses (n=550)

Thinking about your overall experiences with Ameren Missouri as your utility, how satisfied would you say you are with Ameren Missouri?		
Response	Count of Response	Percent of Respondents
Very satisfied	396	72.0%
Somewhat satisfied	147	26.7%
Not too satisfied	5	0.9%
Not satisfied at all	2	0.4%
Don't Know	6	

Table 55. Survey Question I2 Responses (n=523)

Why are you "[RATING FROM I1]" with Ameren Missouri as your utility?		
Response	Count of Response	Percent of Respondents
Satisfied with the reliable and dependable service	298	57.0%
Satisfied with the customer service	178	34.0%
Satisfied with outage response	139	26.6%
Satisfied with utility rates	90	17.2%
The incentive/rebate for my equipment or tune-up	235	44.9%
Dissatisfied with the utility rates	59	11.3%
Dissatisfied with the reliability of service	12	2.3%
Dissatisfied with infrastructure maintenance	7	1.3%
Dissatisfied with customer service	5	1.0%
Other reasons, please specify:	33	6.3%
Don't know	22	

Table 56. Survey Question I3 Responses (n=540)

Based on your experience with the Heating and Cooling Program, would you say your satisfaction with Ameren Missouri has:		
Response	Count of Response	Percent of Respondents
Stayed about the same, or	300	55.6%
Increased	239	44.3%
Don't Know	13	2.4%
Decreased?	1	

J. All HVAC Participants Customer Demographics

Table 57. Survey Question J1 Responses (n=546)

Is the energy used in your home . . .		
Response	Count of Response	Percent of Respondents
All electric,	71	13.0%
Natural gas and electric	460	84.2%
Some other combination of energy sources?	15	2.7%
Don't Know	5	

Table 58. Survey Question J2 Responses (n=526)

Is your hot water heater electric or gas?		
Response	Count of Response	Percent of Respondents
Electric	107	20.3%
Gas	419	79.7%
Don't Know	25	

Table 59. Survey Question J3 Responses (n=551)

Which of the following best describes your home or residence?		
Response	Count of Response	Percent of Respondents
Single-family home (not a duplex, townhome, or apartment)	509	92.4%
Manufactured or modular home	1	0.2%
Row house or townhome	7	1.3%
Two or three family attached residence	13	2.4%
Condominium	19	3.4%
Apartment with four or more units	1	0.2%
Other (Please specify)	1	0.2%
Don't Know	0	

Table 60. Survey Question J4 Responses (n=547)

Do you own or rent this residence?		
Response	Count of Response	Percent of Respondents

Own	544	99.5%
Rent	3	0.5%
Don't Know	0	

Table 61. Survey Question J5 Responses (n=524)

Approximately how many square feet of living space does your home have? Don't include the basement unless it is a space that you consider "lived in."		
Response	Count of Response	Percent of Respondents
Less than 1,000 square feet	21	4.0%
1,000 to less than 1,500 square feet	114	21.8%
1,500 to less than 2,000 square feet	144	27.5%
2,000 to less than 2,500 square feet	87	16.6%
2,500 to less than 3,000 square feet	79	15.1%
3,000 or more square feet	79	15.1%
Don't Know	25	

Table 62. Survey Question J6 Responses (n=538)

When was your home built?		
Response	Count of Response	Percent of Respondents
After 2008	12	2.2%
2005-2008	32	5.9%
2001-2004	51	9.5%
1980-2000	190	35.3%
Before 1980	253	47.0%
Don't Know	9	