EVERGY METRO

INTEGRATED RESOURCE ANALYSIS

INTEGRATED RESOURCE PLAN

4 CSR 240-22.060

APRIL 2021

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VOLUME 6: INTEGRATED RESOURCE ANALYSIS

PURPOSE: This rule requires the utility to design alternative resource plans to meet the planning objectives identified in 4 CSR 240-22.010(2) and sets minimum standards for the scope and level of detail required in resource plan analysis, and economically equivalent analysis of alternative resource plans. This rule also requires the utility to identify the critical uncertain factors that affect the performance of alternative resource plans and establishes minimum standards for the methods used to assess the risks associated with these uncertainties.

SECTION 1: RESOURCE PLANNING OBJECTIVES

(1) Resource Planning Objectives. The utility shall design alternative resource plans to satisfy at least the objectives and priorities identified in 4 CSR 240-22.010(2). The utility may identify additional planning objectives that alternative resource plans will be designed to meet. The utility shall describe and document its additional planning objectives and its guiding principles to design alternative resource plans that satisfy all of the planning objectives and priorities.

The fundamental objective of all the alternative resource plans is to provide the public with energy services that are safe, reliable and efficient. The plans comply with current legal mandates in a manner that serves the public interest and is consistent with state energy and environmental policies.

All Alternative Resource Plans (ARPs) developed for the IRP consider the impact of future renewable generation requirements for Evergy Metro. In Missouri, these requirements are based on Rule 4 CSR 240-20.100 which requires that an electric utility's compliance with the Renewable Energy Standard (RES) is based on total retail electric sales, or total retail electric energy usage, delivered in each year to its Missouri retail customers. For the state of Kansas, pursuant to Kansas statues and standards, an affected utility is required to provide net renewable generation

capacity based on its Kansas retail one-hour peak demand averaged over the previous three calendar years. The specific renewable portfolio and RES requirements are provided in Section 3.1 below.

Other criteria considered in ARP development include various levels of demand-side management (DSM) programs, coal unit retirements, alternative generation options and the Southwest Power Pool's reserve margin requirements. Other factors were also analyzed but were determined not critical to ARP development. Details of these additional factors and how they were examined are given in Section 5: of this document.

As required by Rule 22.010(2), demand-side resources were analyzed on an equivalent basis with supply-side resources.

Net present value of revenue requirements (NPVRR) of each plan including probable environmental costs (PEC) was calculated. Minimization of NPVRR with PEC was used as the primary criteria for determining the ordinal preference of a particular plan. Risks associated with critical uncertain factors, those associated with new or more stringent legal mandates are included in the integrated analysis of the resource planning process. Rate increases associated with the alternative resource plans are determined in the analysis as well. All performance measures are detailed in Section 2: of this document.

SECTION 2: PERFORMANCE MEASURES

(2) Specification of Performance Measures. The utility shall specify, describe, and document a set of quantitative measures for assessing the performance of alternative resource plans with respect to resource planning objectives.

(A) These performance measures shall include at least the following:

1. Present worth of utility revenue requirements, with and without any rate of return or financial performance incentives for demand-side resources the utility is planning to request;

Annual Revenue Requirement is calculated by totaling all expenses of the company in a year plus the return on rate base. The rate base increases as capital expenditures grow and plant is placed into service but is reduced by depreciation and amortization of assets. This measure includes the total operating cost and any costs associated with probable environmental compliance.

The NPVRR is calculated by applying the discount rate consistent with rule 4 CSR 240-22.060 (2) (B) to the future estimated Annual Revenue Requirement to estimate the total future requirement on a present value basis. This value is the primary measure of plan financial performance.

DSM expenditures have been expensed in the year that they are incurred, so there is no increase to rate base for these outlays. The impact of DSM assumed financial performance incentives has been shown in the performance measures.

2. Present worth of probable environmental costs;

The Present Worth of Probable Environmental Costs are determined by removing all capital and O&M costs from future environmental retrofits to estimate the cost of utility operations absent environmental expenditures. These results are

compared to the NPVRR of the plans with environmental costs to determine the cost of these laws on total company operation and financial performance.

CO_2 credits are assumed to be a market risk. In the integrated analysis, endpoints contain different assumptions of CO_2 credit prices or no CO_2 market at all. Therefore, the analysis of plans without PEC is calculated both with and without a CO_2 market.

3. Present worth of out-of-pocket costs to participants in demand-side programs and demand-side rates;

DSM program costs are an input to the integrated analysis. As such it is an exogenous driver of each plan and does not exhibit variability within the analysis of an individual plan. The present value of these programs is calculated using the estimated future program costs and applying the discount rate consistent with rule 4 CSR 240-22.060 (2) (B). Out-of-pocket costs to participants are provided in Table 1 below:

Table 1: DSM Out of Pocket Costs

DSM Level	NPV
MAP	$78,349,414
RAP	$37,040,287
RAP-	$29,776,798
MEEIA 3 Only	$6,369,473

4. Levelized annual average rates;

Annual average rates are calculated by dividing the total estimated annual revenue requirement, calculated as described earlier in this section, by the forecasted total retail energy sales volume. The levelized value is the simple average of the 20-year estimate of annual rates.

5. Maximum single-year increase in annual average rates;

Single year increases (and decreases) in rates are developed as year-over-year percent change to the rate calculation as described earlier in this section. The maximum value is determined from the highest year-over-year percent change.

6. Financial ratios (e.g., pretax interest coverage, ratio of total debt to total capital, ratio of net cash flow to capital expenditures) or other credit metrics indicative of the utility's ability to finance alternative resource plans; and

The Company uses two financial metrics; pretax times interest earned, and total debt to total capital.

7. Other measures that utility decision makers believe are appropriate for assessing the performance of alternative resource plans relative to the planning objectives identified in 4 CSR 240-22.010(2).

The Company finds that the required financial measures provide an appropriate indication of financial performance. No additional measures are proposed

(B) All present worth and levelization calculations shall use the utility discount rate and all costs and benefits shall be expressed in nominal dollars.

For all purposes in this analysis, a discount rate of 7.13% has been utilized.

SECTION 3: ALTERNATIVE RESOURCE PLANS

(3) Development of Alternative Resource Plans. The utility shall use appropriate combinations of candidate demand-side resources and supply-side resources to develop a set of alternative resource plans, each of which is designed to achieve one (1) or more of the planning objectives identified in 4 CSR 240-22.010(2). Demand-side resources are the demand-side candidate resource options and portfolios developed in 4 CSR 240-22.050(6). Supply-side resources are the supply-side candidate resource options developed in 4 CSR 240-22.040(4). The goal is to develop a set of alternative plans based on substantively different mixes of supply-side resources and demand-side resources and variations in the timing of resource acquisition to assess their relative performance under expected future conditions as well as their robustness under a broad range of future conditions.

Alternative Resource Plans were developed using a combination of various supply-side resources, demand-side resources, and resource addition timings.

3.1 DEVELOPMENT OF ALTERNATIVE RESOURCE PLANS

(A) The utility shall develop, and describe and document, at least one (1) alternative resource plan, and as many as may be needed to assess the range of options for the choices and timing of resources, for each of the following cases. Each of the alternative resource plans for cases pursuant to paragraphs (3)(A)1.–(3)(A)5. shall provide resources to meet at least the projected load growth and resource retirements over the planning period in a manner specified by the case. The utility shall examine cases that—

1. Minimally comply with legal mandates for demand-side resources, renewable energy resources, and other mandated energy resources. This constitutes the compliance benchmark resource plan for planning purposes;

All Alternative Resource Plans comply with the Missouri renewable energy mandates (Missouri Renewable Energy Standard). One Alternative Resource Plan, MAACA, limits solar additions to the amount of solar capacity currently expected to meet solar compliance. Evergy Metro is currently expected to be compliant with non-solar RES requirements through 2040, therefore no Alternative Resource Plan included non-solar resources to meet RES compliance.

Since there is no mandated DSM requirement, the minimally compliant plan assumes no additional DSM beyond what is currently in progress as part of Evergy Metro's MEEIA Cycle III approved programs. This scenario was modeled in Alternative Resource Plan MCGDU

A recap of the current Missouri RES model outlining renewable non-solar additions is provided in Table 2 below:

Table 2: Evergy Metro Non-Solar Renewable Requirements

Year	Evergy Metro Missouri Retail Electric Sales (MWh)	Missouri RES Requirement	Evergy Metro Missouri Requirement (MWh)
2021	8,340,227	14.7%	1,226,013
2022	8,280,527	14.7%	1,217,237
2023	8,232,371	14.7%	1,210,158
2024	8,189,627	14.7%	1,203,875
2025	8,191,670	14.7%	1,204,176
2026	8,191,947	14.7%	1,204,216
2027	8,195,037	14.7%	1,204,670
2028	8,203,800	14.7%	1,205,959
2029	8,211,719	14.7%	1,207,123
2030	8,222,078	14.7%	1,208,645
2031	8,260,929	14.7%	1,214,357
2032	8,324,581	14.7%	1,223,713
2033	8,391,359	14.7%	1,233,530
2034	8,459,266	14.7%	1,243,512
2035	8,521,821	14.7%	1,252,708
2036	8,578,554	14.7%	1,261,048
2037	8,638,898	14.7%	1,269,918
2038	8,690,568	14.7%	1,277,514
2039	8,740,829	14.7%	1,284,902
2040	8,787,914	14.7%	1,291,823

2. Utilize only renewable energy resources, up to the maximum potential capability of renewable resources in each year of the planning horizon, if that results in more renewable energy resources than the minimally compliant plan. This constitutes the aggressive renewable energy resource plan for planning purposes;

Alternative Resource Plan ENOFX was developed to meet this rule.

3. Utilize only demand-side resources, up to the maximum achievable potential of demand-side resources in each year of the planning horizon, if that results in more demand-side resources than the minimally compliant

plan. This constitutes the aggressive demand-side resource plan for planning purposes;

Any Evergy Metro Alternative Resource Plan that has a letter “A” as the fourth character utilized Maximum Achievable Potential (MAP) DSM.

4. In the event that legal mandates identify energy resources other than renewable energy or demand-side resources, utilize only the other energy resources, up to the maximum potential capability of the other energy resources in each year of the planning horizon, if that results in more of the other energy resources than the compliance benchmark resource plan. For planning purposes, this constitutes the aggressive legally-mandated other energy resource plan;

No other legal mandates have been identified.

5. Optimally comply with legal mandates for demand-side resources, renewable energy resources, and other targeted energy resources. This constitutes the optimal compliance resource plan, where every legal mandate is at least minimally met, but some resources may be optimally utilized at levels greater than the mandated minimums;

All Alternative Resource Plans comply with the renewable energy mandates (Missouri RES) and demand-side mandates.

6. Any other plan specified by the commission as a special contemporary issue pursuant to 4 CSR 240-22.080(4);

Please see the Special Contemporary Issue responses in Volume 8 for the additional Alternative Resource Plans modeled.

7. Any other plan specified by commission order; and

Based upon Unanimous Partial Stipulation and Agreement from File No, EO-2020-0263, Evergy Metro “*agrees that for every modeled plan with assumed sales of*

excess capacity, the company shall model a plan that is identical in all other respects but which does not include the assumed sales of excess capacity. For each modeled plan that includes sales of excess capacity, Evergy agrees it will provide documentation as to the amount of capacity it modeled to be sold, the price of the capacity and energy used along with how it determined these assumptions, and the result of the models run with and without excess capacity sales."

The results are provided in Appendix 6A: Response to Unanimous Partial Stipulation and Agreement from File No. EO-2020-0263.

8. Any additional alternative resource plans that the utility deems should be analyzed.

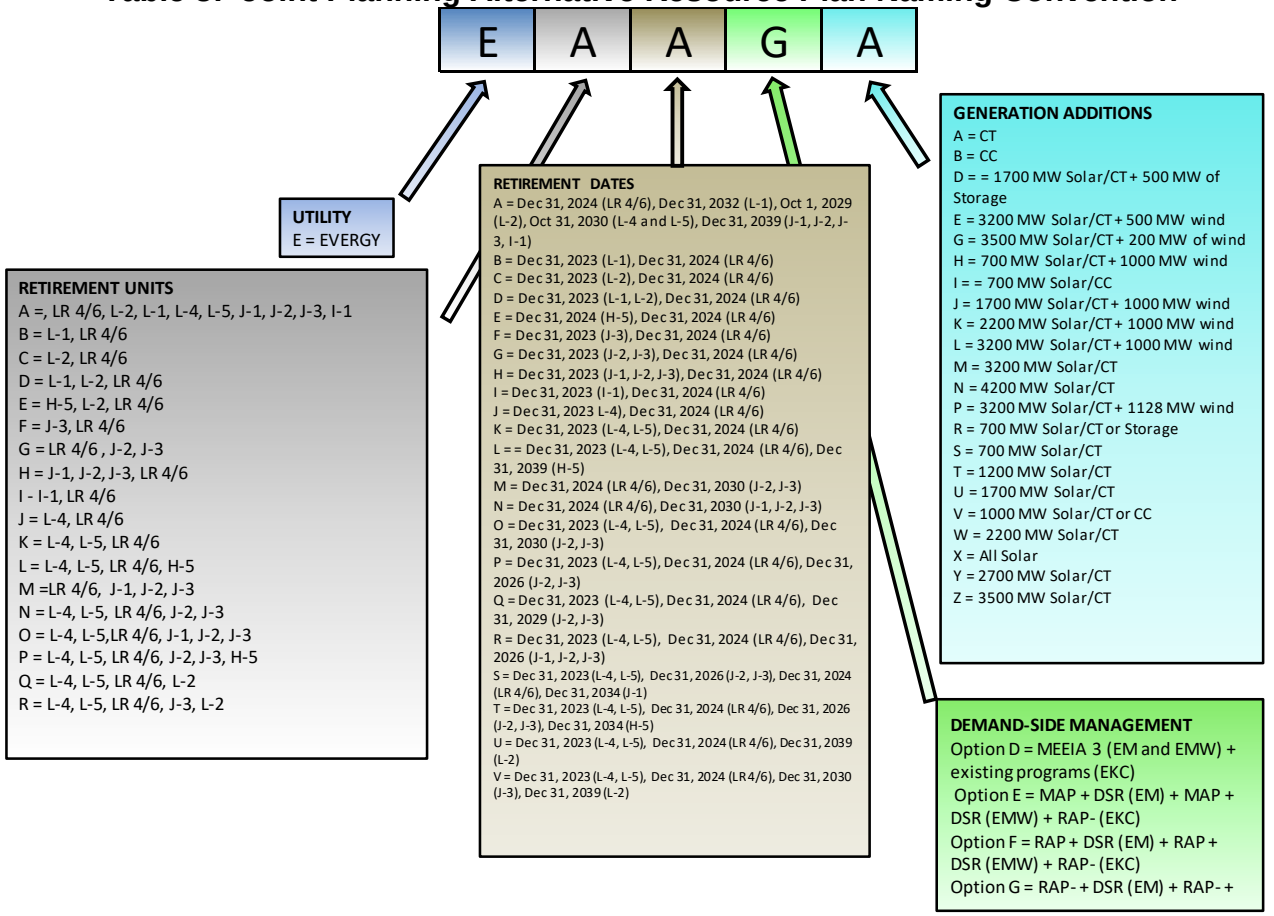
Evergy considers it prudent resource planning to develop and analyze alternative resource plans that are based upon Evergy Metro, Evergy Missouri West, and Evergy Kansas Central combined resources. Evaluating alternative resource plans on a joint planning basis can provide a platform to determine if joint planning "serves the public interest" as mandated in 4 CSR 240-22.010 Policy Objectives.

Joint planning Alternative Resource Plans were developed to reflect combinations of the Evergy Metro, Evergy Missouri West, and Evergy Kansas Central ARPs which utilize a combination of supply-side sources, demand-side resources and resource additions timing.

The NPVRR for each joint planning ARP was determined under the same 27 scenarios analyzed for the standalone companies. For example, electricity market prices, natural gas prices, CO_2 allowance prices, etc. were unchanged from the stand-alone company scenarios.

The plan naming convention utilized for the joint planning ARPs developed is shown in Table 3 and an overview of the joint planning ARPs is shown in Table 4 through Table 9 below.

Table 3: Joint Planning Alternative Resource Plan Naming Convention



Definitions:			
L-1: LaCygne-1	LR 4/6: Lake Road 4/6		CT - Combustion Turbine
L-2: LaCygne-2	I-1: Iatan-1		CC - Combined Cycle
H-5: Hawthorn-5	J-1: Jeffrey-1	RAP-: Realistic Achievable Potential Minus	
L-4: Lawrence-4	J-2: Jeffrey-2	DSR: Demand-Side Rates	
L-5: Lawrence-5	J-3: Jeffrey-3		

Table 4: Overview of Joint Planning Alternative Resource Plans

Plan Name	DSM Level	Retire	Renewable Additions		Generation Addition (if needed)
EAAGA	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	10 MW of Solar in 2027 and 13 MW in 2028	1 CT (233 MW) in 2031 1 CT (233 MW) in 2032 3 CT (699 MW) in 2033 1 CT (233 MW) in 2035 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 12 CT (2796 MW) in 2040
EAAGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
EBBGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*LaCygne-1: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	3 CT (699 MW) in 2031 1 CT (233 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
ECCGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*LaCygne-2: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
EDDGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*LaCygne 1&2: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 Lawrence 4&5: Dec 31, 2030 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	1 CT (233 MW) in 2024 1 CT (233 MW) in 2031 1 CT (233 MW) in 2032 1 CT (233 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
EEEGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Hawthorn-5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 ' LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	2 CT (466 MW) in 2031 1 CT (233 MW) in 2032 3 CT (699 MW) in 2033 1 CT (233 MW) in 2035 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 12 CT (2796 MW) in 2040
EFFFI	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Jeffrey 3: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1 & 2: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	1 CC (409 MW) in 2031 4 CT (932 MW) in 2033 2 CT (466 MW) in 2036 1 CT (233 MW) in 2038 1 CT (233 MW) in 2039 9 CT (2097 MW) in 2040
EFFFR	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	Jeffrey 3: Dec 31, 2023 Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1 & 2: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 233 MW of Storage in 2031	1 CT (233 MW) in 2031 4 CT (932 MW) in 2033 2 CT (466 MW) in 2036 1 CT (233 MW) in 2038 10 CT (2330 MW) in 2040

Table 5: Overview of Joint Planning Alternative Resource Plans (cont.)

Plan Name	DSM Level	Retire	Renewable Additions		Generation Addition (if needed)
EFFFS	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	Jeffrey 3: Dec 31, 2023 Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1 & 2: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	2 CT (466 MW) in 2031 4 CT (932 MW) in 2033 2 CT (466 MW) in 2036 1 CT (233 MW) in 2038 10 CT (2330 MW) in 2040
EFFGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	Jeffrey 3: Dec 31, 2023 Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1 & 2: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	2 CT (466 MW) in 2031 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 9 CT (2097 MW) in 2040
EGGGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Jeffrey 2&3: Dec 31, 2023* 'Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	1 CT (233 MW) in 2024 2 CT (466 MW) in 2030 2 CT (466 MW) in 2031 1 CT (233 MW) in 2032 3 CT (699 MW) in 2033 1 CT (233 MW) in 2035 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 6 CT (1398 MW) in 2040
EGMES	MAP + DSR (EM) + MAP + DSR (EMW) + RAP- (EKC)	Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 *Jeffrey 2&3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	3 CT (699 MW) in 2031 1 CT (233 MW) in 2032 3 CT (699 MW) in 2033 1 CT (233 MW) in 2035 1 CT (233 MW) in 2036 1 CT (233 MW) in 2038 7 CT (1631 MW) in 2040
EGMFU	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 *Jeffrey 2&3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2031 and 2036	3 CT (699 MW) in 2031 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 6 CT (1398 MW) in 2040
EGMGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 *Jeffrey 2&3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	5 CT (1165 MW) in 2031 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 6 CT (1398 MW) in 2040
EHHGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Jeffrey 1,2,3: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	4 CT (932 MW) in 2024 2 CT (466 MW) in 2030 2 CT (466 MW) in 2031 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 3 CT (699 MW) in 2040
EIIGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Iatan-1: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	2 CT (466 MW) in 2031 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (466 MW) in 2036 1 CT (466 MW) in 2037 1 CT (466 MW) in 2039 9 CT (2097 MW) in 2040

Table 6: Overview of Joint Planning Alternative Resource Plans (cont.)

Plan Name	DSM Level	Retire	Renewable Additions		Generation Addition (if needed)
EJJGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Lawrence-4: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 5: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
EKKFS	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	3 CT (699 MW) in 2033 2 CT (466 MW) in 2036 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
EKKGS	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
EKKGT	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2031	3 CT (699 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
EKKGU	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2031 and 2036	3 CT (699 MW) in 2033 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
ELLGT	RAP- + DSR (EM) + RAP- + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039 *Hawthorn-5: Dec 31, 2039*	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2031	3 CT (699 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 14 CT (3262 MW) in 2040
EMNFU	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 Lawrence 4&5: Dec 31, 2030 *Jeffrey 1,2&3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2031 and 2036	6 CT (1398 MW) in 2031 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 4 CT (932 MW) in 2040
ENOFD	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 *Jeffrey 2 & 3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Storage in 2031 500 MW of Solar in 2031 and 2036	1 CT (233 MW) in 2031 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 7 CT (1631 MW) in 2040

Table 7: Overview of Joint Planning Alternative Resource Plans (cont.)

Plan Name	DSM Level	Retire	Renewable Additions		Generation Addition (if needed)
ENOFS	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 *Jeffrey 2 & 3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	5 CT (1165 MW) in 2031 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 7 CT (1631 MW) in 2040
ENOFU	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 *Jeffrey 2 & 3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2031 and 2036	3 CT (699 MW) in 2031 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 6 CT (1398 MW) in 2040
ENOFX	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 *Jeffrey 2 & 3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2031 and 2036	1000 MW Solar in 2031 4000 MW Solar in 2032 8000 MW Solar in 2033 1000 MW Solar in 2034 2000 MW Solar in 2036 2000 MW Solar in 2037 2000 MW Solar in 2038 1000 MW Solar in 2039 14000 MW Solar in 2040
ENPFG	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* 'Lake Road 4/6: Dec 31, 2024 *Jeffrey 2 & 3: Dec 31, 2026* LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021 200 MW of Wind in 2025	350 MW of Solar in 2023 and 2024 600 MW of Solar in 2025, 2026, and 2027 500 MW of Solar in 2031 and 2036	1 CT (233 MW) in 2030 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 6 CT (1398 MW) in 2040
ENPFU	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* 'Lake Road 4/6: Dec 31, 2024 *Jeffrey 2 & 3: Dec 31, 2026* LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2031 and 2036	2 CT (466 MW) in 2027 3 CT (699 MW) in 2030 3 CT (699 MW) in 2033 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 6 CT (1398 MW) in 2040
ENPFZ	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* 'Lake Road 4/6: Dec 31, 2024 *Jeffrey 2 & 3: Dec 31, 2026* LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 600 MW of Solar in 2025, 2026, and 2027 500 MW of Solar in 2031 and 2036	2 CT (466 MW) in 2030 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 6 CT (1398 MW) in 2040

Table 8: Overview of Joint Planning Alternative Resource Plans (cont.)

Plan Name	DSM Level	Retire	Renewable Additions		Generation Addition (if needed)
ENQFZ	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-2: Oct 1, 2029 *Jeffrey 2 & 3: Dec 31, 2029* LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 600 MW of Solar in 2025, 2026, and 2027 500 MW of Solar in 2031 and 2036	2 CT (466 MW) in 2030 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 6 CT (1398 MW) in 2040
EORFE	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 *Jeffrey 1, 2 & 3: Dec 31, 2026* LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 600 MW of Solar in 2025, 2026, and 2027 500 MW of Solar in 2031 and 2036	500 MW of Storage in 2027 500 MW of Storage in 2030 1 CT (233 MW) in 2032 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 3 CT (699 MW) in 2040
EORFZ	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	Lawrence-4&5: Dec 31, 2023 Lake Road 4/6: Dec 31, 2024 *Jeffrey 1,2 & 3: Dec 31, 2026* LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 600 MW of Solar in 2025, 2026, and 2027 500 MW of Solar in 2031 and 2036	2 CT (466 MW) in 2027 3 CT (699 MW) in 2030 4 CT (932 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 3 CT (699 MW) in 2040
EOSFZ	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	Lawrence-4&5: Dec 31, 2023 Lake Road 4/6: Dec 31, 2024 Jeffrey 2 & 3: Dec 31, 2026 LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 Jeffrey 1: Dec 31, 2034 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 600 MW of Solar in 2025, 2026, and 2027 500 MW of Solar in 2031 and 2036	2 CT (466 MW) in 2030 4 CT (932 MW) in 2033 3 CT (699 MW) in 2035 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 3 CT (699 MW) in 2040
EPTFZ	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 *Jeffrey 2 & 3: Dec 31, 2026* LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 *Hawthorn-5: Dec 31, 2034* Jeffrey 1: Dec 31, 2039 Iatan-1: Dec 31, 2039	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 600 MW of Solar in 2025, 2026, and 2027 500 MW of Solar in 2031 and 2036	2 CT (466 MW) in 2030 4 CT (932 MW) in 2033 3 CT (699 MW) in 2035 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 7 CT (1631 MW) in 2040
EQUFH	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039 *LaCygne-2: Dec 31, 2039*	128 MW of Wind in 2021 500 MW of Wind in 2025 and 2026	350 MW of Solar in 2023 and 2024	1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 14 CT (3262 MW) in 2040
EQUFJ	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039 *LaCygne-2: Dec 31, 2039*	128 MW of Wind in 2021 500 MW of Wind in 2025 and 2026	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2035 and 2036	15 CT (3495 MW) in 2040

Table 9: Overview of Joint Planning Alternative Resource Plans (cont.)

Plan Name	DSM Level	Retire	Renewable Additions		Generation Addition (if needed)
EQUFK	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039 *LaCygne-2: Dec 31, 2039*	128 MW of Wind in 2021 500 MW of Wind in 2025 and 2026	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2030, 2031, and 2032	15 CT (3495 MW) in 2040
EQUFS	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039 *LaCygne-2: Dec 31, 2039*	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024	1 CT (233 MW) in 2035 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 14 CT (3262 MW) in 2040
EQUFW	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 LaCygne-1: Dec 31, 2032 Jeffrey 1, 2 & 3: Dec 31, 2039 Iatan-1: Dec 31, 2039 *LaCygne-2: Dec 31, 2039*	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2030, 2031, and 2032	1 CT (233 MW) in 2038 15 CT (3495 MW) in 2040
ERVDL	MEEIA 3 (EM) + MEEIA 3 (EMW) + Existing Programs (EKC)	Lawrence-4&5: Dec 31, 2023 Lake Road 4/6: Dec 31, 2024 Jeffrey 3: Dec 31, 2030 LaCygne-1: Dec 31, 2032 Jeffrey 1 & 2: Dec 31, 2039 Iatan-1: Dec 31, 2039 LaCygne-2: Dec 31, 2039	128 MW of Wind in 2021 500 MW of Wind in 2025 and 2026	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2028, 2029, 2030, 2031, and 2032	4 CTs (932 MW) in 2033 1 CT (233 MW) in 2035 1 CT (233 MW) in 2036 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040
ERVFL	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 *Jeffrey 3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1 & 2: Dec 31, 2039 Iatan-1: Dec 31, 2039 *LaCygne-2: Dec 31, 2039*	128 MW of Wind in 2021 500 MW of Wind in 2025 and 2026	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2028, 2029, 2030, 2031, and 2032	1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 12 CT (2796 MW) in 2040
ERVFM	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 *Jeffrey 3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1 & 2: Dec 31, 2039 Iatan-1: Dec 31, 2039 *LaCygne-2: Dec 31, 2039*	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2028, 2029, 2030, 2031, and 2032	1 CT (233 MW) in 2035 1 CT (233 MW) in 2036 1 CT (233 MW) in 2037 1 CT (233 MW) in 2039 12 CT (2796 MW) in 2040
ERVFN	RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)	*Lawrence-4&5: Dec 31, 2023* Lake Road 4/6: Dec 31, 2024 *Jeffrey 3: Dec 31, 2030* LaCygne-1: Dec 31, 2032 Jeffrey 1 & 2: Dec 31, 2039 Iatan-1: Dec 31, 2039 *LaCygne-2: Dec 31, 2039*	128 MW of Wind in 2021	350 MW of Solar in 2023 and 2024 500 MW of Solar in 2028, 2029, 2030, 2031, 2032, 2035, and 2036	1 CT (233 MW) in 2035 1 CT (233 MW) in 2037 1 CT (233 MW) in 2038 12 CT (2796 MW) in 2040

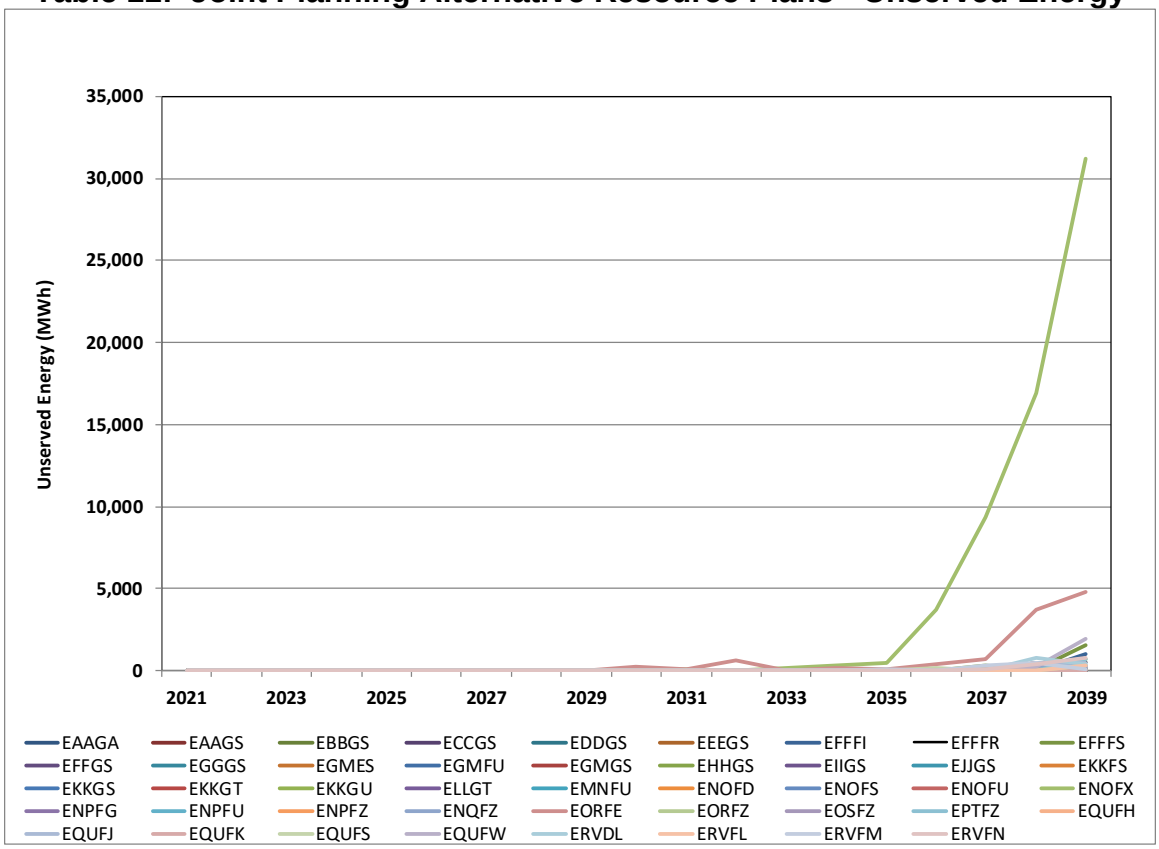
The resulting expected value NPVRR for each of the joint planning ARPs is detailed in Table 10 below.

Table 10: Joint Planning Alternative Resource Plan Results

Rank (L-H)	Plan	NPVRR ($mm)	Delta	Rank (L-H)	Plan	NPVRR ($mm)	Delta
1	ERVFL	$58,984	$0	23	EFFFI	$59,993	$1,008
2	ERVDL	$59,021	$37	24	EGGGS	$60,005	$1,021
3	ENPFG	$59,223	$239	25	EFFFS	$60,027	$1,043
4	ENPFZ	$59,308	$324	26	EKKGT	$60,027	$1,043
5	ERVFN	$59,329	$344	27	EGMGS	$60,045	$1,061
6	EOSFZ	$59,388	$404	28	EFFGS	$60,046	$1,062
7	EQUFK	$59,388	$404	29	ELLGT	$60,050	$1,065
8	EORFZ	$59,389	$405	30	EQUFS	$60,064	$1,080
9	ERVFM	$59,391	$407	31	EFFFR	$60,125	$1,140
10	ENQFZ	$59,402	$418	32	EKKFS	$60,142	$1,158
11	EPTFZ	$59,464	$480	33	ECCGS	$60,158	$1,174
12	EQUFJ	$59,503	$519	34	EKKGS	$60,165	$1,180
13	EQUFH	$59,631	$647	35	EBBGS	$60,183	$1,199
14	ENOFU	$59,716	$732	36	EDDGS	$60,206	$1,222
15	EGMFU	$59,773	$789	37	EAAGS	$60,206	$1,222
16	EQUFW	$59,777	$793	38	EJJGS	$60,224	$1,240
17	ENPFU	$59,789	$805	39	EHHGS	$60,229	$1,245
18	EMNFU	$59,794	$810	40	EIIGS	$60,334	$1,349
19	EORFE	$59,875	$891	41	EEEGS	$60,400	$1,416
20	EKKGU	$59,951	$967	42	EGMES	$60,411	$1,426
21	ENOFD	$59,956	$972	43	EAAGA	$60,465	$1,481
22	ENOFS	$59,976	$992	44	ENOFX	$61,928	$2,944

Table 11 below represents the calculated unserved energy for each of the Alternative Resource Plans (ARP) evaluated. It should be noted that the ARP with a large amount of unserved energy assumed solar-only additions to meet needed capacity requirements.

Table 11: Joint Planning Alternative Resource Plans - Unserved Energy



(B) The alternative resource plans developed at this stage of the analysis shall not include load-building programs, which shall be analyzed as required by 4 CSR 240-22.070(5).

No load-building programs have been included as a resource in any alternative resource plan.

(C) The utility shall include in its development of alternative resource plans the impact of—

1. The potential retirement or life extension of existing generation plants;

Evergy Metro modeled several Alternative Resource Plans which included potential retirement of existing generation. Additionally, Evergy Metro modeled Alternative Resource Plans which extended the book life date of LaCygne Unit 2 from October 2029 to December 2039.

2. The addition of equipment and other retrofits on generation plants to meet environmental requirements; and

Retrofits and other actions potentially expected to comply with currently proposed environmental regulations and assumed compliance dates are modeled for Evergy Metro's remaining coal units. The following table provides current assumptions regarding these expected environmental regulations and the retrofits and actions being presumed to meet compliance.

Table 12: Retrofits and Actions due to Environmental Regulations

Environmental Driver	Emittant	Compliance Year (Expected)	Status	Retrofit	Stations/Units
Clean Water Act 316(b) Fish Impingement	-	2025-2028	Final Rule May 2014	Modified Traveling Screens	Iatan 1 Hawthorn 5
Coal Combustion Residual (CCR) - Part A	Ash/Water	2021	Final Rule August 2020	Cease Waste Flows Into Unlined Impoundments	La Cygne

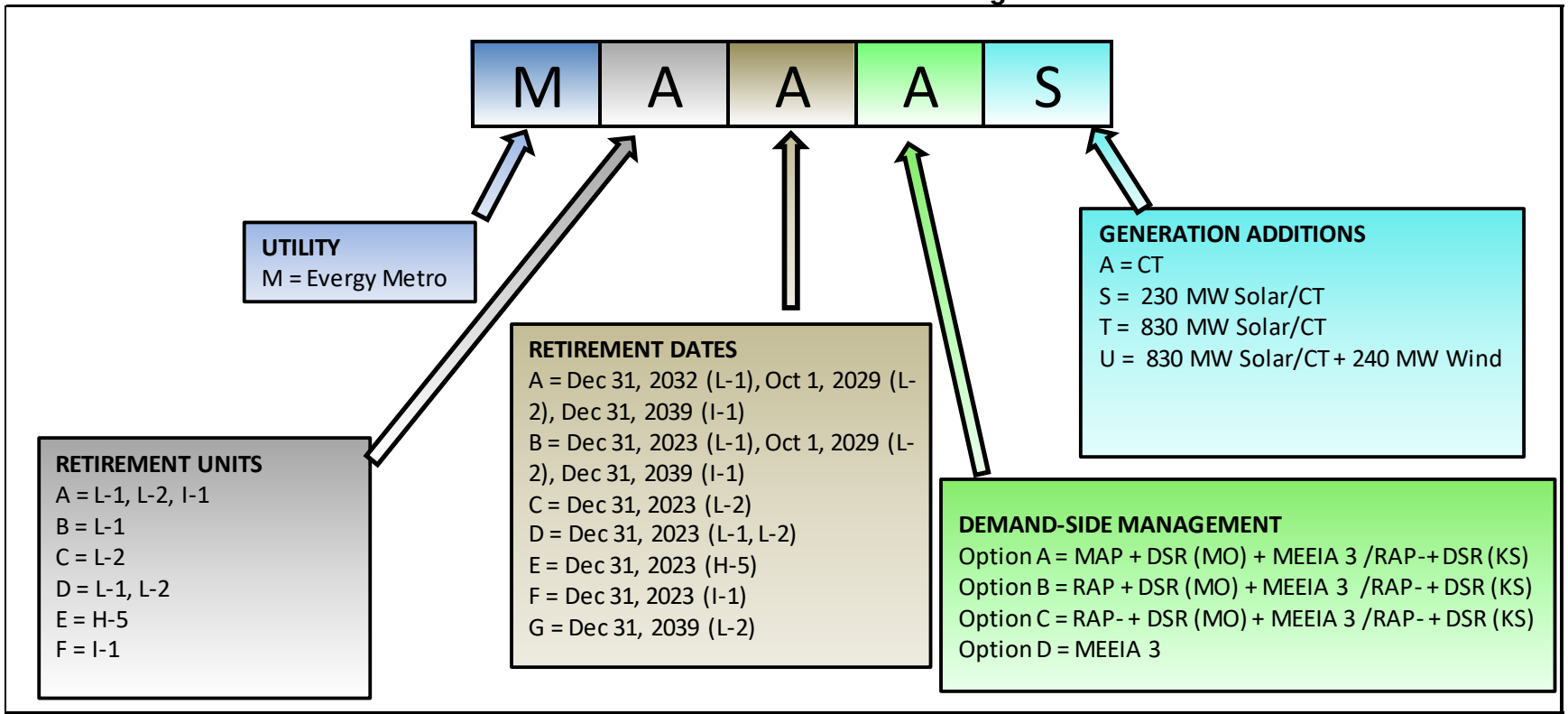
3. The conclusion of any currently implemented demand-side resources.

Alternative Resource Plan MCGDU was developed to evaluate this rule, which consists of Evergy Metro MEEIA Cycle III DSM only.

(D) The utility shall provide a description of each alternative resource plan including the type and size of each demand-side resource and supply-side resource addition and a listing of the sequence and schedule for the end of life of existing resources and for the acquisition of each new resource.

Alternative Resource Plans were developed using a combination of various supply-side resources, demand-side resources, resource addition quantities and timing differences. The plan naming convention utilized for Evergy Metro's Alternative Resource Plans developed is shown in Table 13 below:

Table 13: Alternative Resource Plan Naming Convention



Definitions:

L-1: LaCygne-1
L-2: LaCygne-2
H-5: Hawthorn-5
I-1: Iatan-1

MEEIA: Missouri Energy Efficiency Investment Act
RAP: Realistic Achievable Potential
CT - Combustion Turbine

MAP: Maximum Achievable Potential
RAP-: Realistic Achievable Potential Minus
DSR: Demand-Side Rates

Several Alternative Resource Plans were developed for Evergy Metro integrated resource analysis. The following tables, Table 14 and Table 15, provide an overview of the Alternative Resource Plans. Note that wind and solar additions shown are based on nameplate capacity. Each individual plan is shown in Table 16 through Table 30 below.

Table 14: Overview of Alternative Resource Plans

Plan Name	DSM Level	Retire	Renewable Additions		Generation Addition (if needed)
MAAAS	MAP + DSR (MO) /RAP- + DSR (KS)	LaCygne-1: Dec 31, 2032 LaCygne-2: Oct 1, 2029 Iatan-1: Dec 31, 2039		230 MW Solar (2024)	3 CT (699 MW) in 2040
MAABS	RAP + DSR (MO) /RAP- + DSR (KS)	LaCygne-1: Dec 31, 2032 LaCygne-2: Oct 1, 2029 Iatan-1: Dec 31, 2039		230 MW Solar (2024)	1 CT (233 MW) in 2038 2 CT (466 MW) in 2040
MAACA	RAP- + DSR (MO) /RAP- + DSR (KS)	LaCygne-1: Dec 31, 2032 LaCygne-2: Oct 1, 2029 Iatan-1: Dec 31, 2039		13 MW Solar (2028)	1 CT (233 MW) in 2035 1 CT (233 MW) in 2039 2 CT (466 MW) in 2040
MAACS	RAP- + DSR (MO) /RAP- + DSR (KS)	LaCygne-1: Dec 31, 2032 LaCygne-2: Oct 1, 2029 Iatan-1: Dec 31, 2039		230 MW Solar (2024)	1 CT (233 MW) in 2036 3 CT (699 MW) in 2040
MBBCS	RAP- + DSR (MO) /RAP- + DSR (KS)	*LaCygne-1: Dec 31, 2023* LaCygne-2: Oct 1, 2029 Iatan-1: Dec 31, 2039		230 MW Solar (2024)	1 CT (233 MW) in 2036 3 CT (699 MW) in 2040
MCCCS	RAP + DSR (MO) /RAP + DSR (KS)	LaCygne-2: Dec 31, 2023 LaCygne-1: Dec 31, 2032 Iatan-1: Dec 31, 2039		230 MW Solar (2024)	1 CT (233 MW) in 2036 3 CT (699 MW) in 2040
MCGBU	RAP + DSR (MO) /RAP- + DSR (KS)	LaCygne-1: Dec 31, 2032 LaCygne-2: Dec 31, 2039 Iatan-1: Dec 31, 2039	120 MW Wind (2025, 2026)	230 MW Solar (2024) 120 MW Solar (2028, 2029, 2030, 2031, 2032)	2 CT (466 MW) in 2040

Table 15: Overview of Alternative Resource Plans (cont.)

Plan Name	DSM Level	Retire	Renewable Additions		Generation Addition (if needed)
MCGCS	RAP- + DSR (MO) /RAP- + DSR (KS)	LaCygne-1: Dec 31, 2032 LaCygne-2: Dec 31, 2039 Iatan-1: Dec 31, 2039		230 MW Solar (2024)	4 CT (932 MW) in 2040
MCGCT	RAP- + DSR (MO) /RAP- + DSR (KS)	LaCygne-1: Dec 31, 2032 LaCygne-2: Dec 31, 2039 Iatan-1: Dec 31, 2039		230 MW Solar (2024) 120 MW Solar (2028, 2029, 2030, 2031, 2032)	3 CT (699 MW) in 2040
MCGCU	RAP- + DSR (MO) /RAP- + DSR (KS)	LaCygne-1: Dec 31, 2032 LaCygne-2: Dec 31, 2039 Iatan-1: Dec 31, 2039	120 MW Wind (2025, 2026)	230 MW Solar (2024) 120 MW Solar (2028, 2029, 2030, 2031, 2032)	3 CT (699 MW) in 2040
MCGDS	MEEIA 3	LaCygne-1: Dec 31, 2032 LaCygne-2: Dec 31, 2039 Iatan-1: Dec 31, 2039		230 MW Solar (2024)	1 CT (233 MW) in 2036 1 CT (233 MW) in 2039 3 CT (699 MW) in 2040
MCGDU	MEEIA 3	LaCygne-1: Dec 31, 2032 LaCygne-2: Dec 31, 2039 Iatan-1: Dec 31, 2039	120 MW Wind (2025, 2026)	230 MW Solar (2024) 120 MW Solar (2028, 2029, 2030, 2031, 2032)	1 CT (233 MW) in 2039 4 CT (932 MW) in 2040
MDDCS	RAP- + DSR (MO) /RAP- + DSR (KS)	*LaCygne-1: Dec 31, 2023* *LaCygne-2: Dec 31, 2023* Iatan-1: Dec 31, 2039		230 MW Solar (2024)	1 CT (233 MW) in 2036 3 CT (699 MW) in 2040
MEECS	RAP- + DSR (MO) /RAP- + DSR (KS)	Hawthorn-5: Dec 31, 2023 LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032 *Iatan*- 1: Dec 31, 2039		230 MW Solar (2024)	1 CT (233 MW) in 2032 1 CT (233 MW) in 2033 1 CT (233 MW) in 2036 1 CT (233 MW) in 2039 2 CT (466 MW) in 2040
MFFCS	RAP- + DSR (MO) /RAP- + DSR (KS)	Iatan-1: Dec 31, 2023 LaCygne-2: Oct 1, 2029 LaCygne-1: Dec 31, 2032		230 MW Solar (2024)	2 CT (466 MW) in 2033 1 CT (233 MW) in 2036

Table 16: Alternative Resource Plan MAAAS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			252	
2024	0		230	328	
2025	0			382	
2026	0			429	
2027	0			470	
2028	0			506	
2029	0			536	331
2030	0			563	
2031	0			578	
2032	0			584	373
2033	0			587	
2034	0			591	
2035	0			593	
2036	0			599	
2037	0			607	
2038	0			616	
2039	0			624	490
2040	699			629	

Plan MAAAS assumes retirements of LaCygne-2 in 2029, LaCygne-1 in 2032, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option A, 3 CT's (699 MW) in 2040.

Table 17: Alternative Resource Plan MAABS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			151	
2024	0		230	209	
2025	0			256	
2026	0			298	
2027	0			335	
2028	0			369	
2029	0			398	331
2030	0			421	
2031	0			431	
2032	0			432	373
2033	0			432	
2034	0			434	
2035	0			434	
2036	0			436	
2037	0			439	
2038	233			444	
2039	0			447	490
2040	466			449	

Plan MAABS assumes retirements of LaCygne-2 in 2029, LaCygne-1 in 2032, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option B, 1 CT (233 MW) in 2038, 2 CT's (466 MW) in 2040.

Table 18: Alternative Resource Plan MAACA

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	
2024	0			196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0		13	333	
2029	0			357	331
2030	0			377	
2031	0			384	
2032	0			382	373
2033	0			380	
2034	0			379	
2035	233			377	
2036	0			376	
2037	0			376	
2038	0			378	
2039	233			379	490
2040	466			379	

Plan MAACA assumes retirements of LaCygne-2 in 2029, LaCygne-1 in 2032, and Iatan-1 in 2039, 13 MW of new solar in 2028, DSM Option C, 1 CT (233 MW) in 2035, 1 CT (233 MW) in 2039, 2 CT's (466 MW) in 2040.

Table 19: Alternative Resource Plan MAACS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	
2024	0		230	196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0			333	
2029	0			357	331
2030	0			377	
2031	0			384	
2032	0			382	373
2033	0			380	
2034	0			379	
2035	0			377	
2036	233			376	
2037	0			376	
2038	0			378	
2039	0			379	490
2040	699			379	

Plan MAACS assumes retirements of LaCygne-2 in 2029, LaCygne-1 in 2032, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option C, 1 CT (233 MW) in 2036, 3 CT's (699 MW) in 2040.

Table 20: Alternative Resource Plan MBBCS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	373
2024	0		230	196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0			333	
2029	0			357	331
2030	0			377	
2031	0			384	
2032	0			382	
2033	0			380	
2034	0			379	
2035	0			377	
2036	233			376	
2037	0			376	
2038	0			378	
2039	0			379	490
2040	699			379	

Plan MBBCS assumes retirements of LaCygne-1 in 2023, LaCygne-2 in 2029, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option C, 1 CT (233 MW) in 2036, 3 CT's (699 MW) in 2040.

Table 21: Alternative Resource Plan MCCCS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	331
2024	0		230	196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0			333	
2029	0			357	
2030	0			377	
2031	0			384	
2032	0			382	373
2033	0			380	
2034	0			379	
2035	0			377	
2036	233			376	
2037	0			376	
2038	0			378	
2039	0			379	490
2040	699			379	

Plan MCCCS assumes retirements of LaCygne-2 in 2023, LaCygne-1 in 2032, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option C, 1 CT (233 MW) in 2036, 3 CT's (699 MW) in 2040.

Table 22: Alternative Resource Plan MCGBU

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			151	
2024	0		230	209	
2025	0	120		256	
2026	0	120		298	
2027	0			335	
2028	0		120	369	
2029	0		120	398	
2030	0		120	421	
2031	0		120	431	
2032	0		120	432	373
2033	0			432	
2034	0			434	
2035	0			434	
2036	0			436	
2037	0			439	
2038	0			444	
2039	0			447	821
2040	466			449	

Plan MCGBU assumes retirements of LaCygne-1 in 2032, LaCygne-2 in 2039, and Iatan-1 in 2039, 230 MW of new solar in 2024, 120 MW of new solar in 2028, 2029, 2030, 2031, and 2032, 120 MW of new wind in 2025 and 2026. DSM Option B, 2 CT's (466 MW) in 2040.

Table 23: Alternative Resource Plan MCGCS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	
2024	0		230	196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0			333	
2029	0			357	
2030	0			377	
2031	0			384	
2032	0			382	373
2033	0			380	
2034	0			379	
2035	0			377	
2036	0			376	
2037	0			376	
2038	0			378	
2039	0			379	821
2040	932			379	

Plan MCGCS assumes retirements of LaCygne-1 in 2032, LaCygne-2 in 2039, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option C, 4 CT's (932 MW) in 2040.

Table 24: Alternative Resource Plan MCGCT

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	
2024	0		230	196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0		120	333	
2029	0		120	357	
2030	0		120	377	
2031	0		120	384	
2032	0		120	382	331
2033	0			380	
2034	0			379	
2035	0			377	
2036	0			376	
2037	0			376	
2038	0			378	
2039	0			379	821
2040	699			379	

Plan MCGCT assumes retirements of LaCygne-1 in 2032, LaCygne-2 in 2039, and Iatan-1 in 2039, 230 MW of new solar in 2024, 120 MW of new solar in 2028, 2029, 2030, 2031, and 2032. DSM Option C, 3 CT's (699 MW) in 2040.

Table 25: Alternative Resource Plan MCGCU

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	
2024	0		230	196	
2025	0	120		237	
2026	0	120		273	
2027	0			305	
2028	0		120	333	
2029	0		120	357	
2030	0		120	377	
2031	0		120	384	
2032	0		120	382	373
2033	0			380	
2034	0			379	
2035	0			377	
2036	0			376	
2037	0			376	
2038	0			378	
2039	0			379	821
2040	699			379	

Plan MCGCU assumes retirements of LaCygne-1 in 2032, LaCygne-2 in 2039, and Iatan-1 in 2039, 230 MW of new solar in 2024, 120 MW of new solar in 2028, 2029, 2030, 2031, and 2032, 120 MW of new wind in 2025 and 2026. DSM Option C, 3 CT's (699 MW) in 2040.

Table 26: Alternative Resource Plan MCGDS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			40	
2024	0		230	41	
2025	0			41	
2026	0			41	
2027	0			40	
2028	0			39	
2029	0			40	
2030	0			40	
2031	0			32	
2032	0			18	373
2033	0			10	
2034	0			8	
2035	0			7	
2036	233			6	
2037	0			5	
2038	0			5	
2039	233			3	821
2040	699			1	

Plan MCGDS assumes retirements of LaCygne-1 in 2032, LaCygne-2 in 2039, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option D, 1 CT (233 MW) in 2036, 1 CT (233 MW) in 2039, 3 CT's (699 MW) in 2040.

Table 27: Alternative Resource Plan MCGDU

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			40	
2024	0		230	41	
2025	0	120		41	
2026	0	120		41	
2027	0			40	
2028	0		120	39	
2029	0		120	40	
2030	0		120	40	
2031	0		120	32	
2032	0		120	18	373
2033	0			10	
2034	0			8	
2035	0			7	
2036	0			6	
2037	0			5	
2038	0			5	
2039	233			3	821
2040	932			1	

Plan MCGDU assumes retirements of LaCygne-1 in 2032, LaCygne-2 in 2039, and Iatan-1 in 2039, 230 MW of new solar in 2024, 120 MW of new solar in 2028, 2029, 2030, 2031, and 2032, 120 MW of new wind in 2025 and 2026. DSM Option D, 1 CT (233 MW) in 2039, 4 CT's (932 MW) in 2040.

Table 28: Alternative Resource Plan MDDCS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	704
2024	0		230	196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0			333	
2029	0			357	
2030	0			377	
2031	0			384	
2032	0			382	
2033	0			380	
2034	0			379	
2035	0			377	
2036	233			376	
2037	0			376	
2038	0			378	
2039	0			379	490
2040	699			379	

Plan MDDCS assumes retirements of LaCygne-1 and LaCygne-2 in 2023, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option C, 1 CT (233 MW) in 2036, 3 CT's (699 MW) in 2040.

Table 29: Alternative Resource Plan MEECS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	564
2024	0		230	196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0			333	
2029	0			357	331
2030	0			377	
2031	0			384	
2032	233			382	373
2033	233			380	
2034	0			379	
2035	0			377	
2036	233			376	
2037	0			376	
2038	0			378	
2039	233			379	490
2040	466			379	

Plan MEECS assumes retirements of Hawthorn-5 in 2023, LaCygne-2 in 2029, LaCygne-1 in 2032, and Iatan-1 in 2039, 230 MW of new solar in 2024, DSM Option C, 1 CT (233 MW) in 2032, 1 CT (233 MW) in 2033, 1 CT (233 MW) in 2036, 2 CT’s (466 MW) in 2040.

Table 30: Alternative Resource Plan MFFCS

Year	CT's (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			29	
2022	0			48	
2023	0			146	490
2024	0		230	196	
2025	0			237	
2026	0			273	
2027	0			305	
2028	0			333	
2029	0			357	331
2030	0			377	
2031	0			384	
2032	0			382	373
2033	466			380	
2034	0			379	
2035	0			377	
2036	233			376	
2037	0			376	
2038	0			378	
2039	0			379	
2040	0			379	

Plan MFFCS assumes retirements of Iatan-1 in 2023, LaCygne-2 in 2029, LaCygne-1 in 2032, 230 MW of new solar in 2024, DSM Option C, 2 CT (466 MW) in 2033, 1 CT (233 MW) in 2036.

SECTION 4: ANALYSIS OF RESOURCE PLAN

(4) Analysis of Alternative Resource Plans.

The utility shall describe and document its assessment of the relative performance of the alternative resource plans by calculating for each plan the value of each performance measure specified pursuant to section (2). This calculation shall assume values for uncertain factors that are judged by utility decision makers to be most likely. The analysis shall cover a planning horizon of at least twenty (20) years and shall be carried out on a year by year basis in order to assess the annual and cumulative impacts of alternative resource plans. The analysis shall be based on the assumption that rates will be adjusted annually, in a manner that is consistent with Missouri law. The analysis shall treat supply-side and demand-side resources on a logically-consistent and economically-equivalent basis, such that the same types or categories of costs, benefits, and risks shall be considered and such that these factors shall be quantified at a similar level of detail and precision for all resource types. The utility shall provide the following information:

(A) A summary tabulation that shows the performance of each alternative resource plan as measured by each of the measures specified in section (2) of this rule;

The expected value of each plan's performance measures is provided below:

Table 31: Expected Value Plan Performance Measures

Plan	NPVRR ($MM)	Probable Environmental Costs ($MM)	DSM Performance Incentive Costs ($MM)	Levelized Annual Rates ($/KW-hr)	Maximum Rate Increase	Times Interest Earned	Total Debt to Capital
MCGDU	18,655	1,098	6.37	0.112	9.76%	4.23	47.46
MCGCU	18,702	1,038	29.78	0.114	8.34%	4.21	47.46
MCGBU	18,716	1,019	37.04	0.115	6.67%	4.20	47.46
MCGCT	18,724	1,140	29.78	0.115	8.38%	4.13	47.46
MDDCS	18,728	1,176	29.78	0.115	8.32%	4.00	47.46
MBBCS	18,754	1,188	29.78	0.115	8.30%	4.01	47.46
MCCCS	18,774	1,210	29.78	0.116	8.29%	4.01	47.46
MCGDS	18,784	1,343	6.37	0.113	8.61%	4.04	47.46
MAABS	18,787	1,207	37.04	0.116	7.35%	4.00	47.46
MCGCS	18,789	1,284	29.78	0.116	10.14%	4.01	47.46
MAACS	18,795	1,224	29.78	0.116	8.28%	4.02	47.46
MFFCS	18,840	1,116	29.78	0.116	7.27%	4.03	47.46
MAACA	18,855	1,284	29.78	0.116	8.24%	3.98	47.46
MEECS	18,908	1,080	29.78	0.117	7.50%	4.08	47.46
MAAAS	19,058	1,169	78.35	0.120	8.24%	4.01	47.46

(B) For each alternative resource plan, a plot of each of the following over the planning horizon:

1. The combined impact of all demand-side resources on the base-case forecast of summer and winter peak demands;

The combined impact of all demand-side resources on the base-case forecast of summer and winter peak demands is shown in the following charts.

Chart 1: Demand Side Impact - DSM Option A

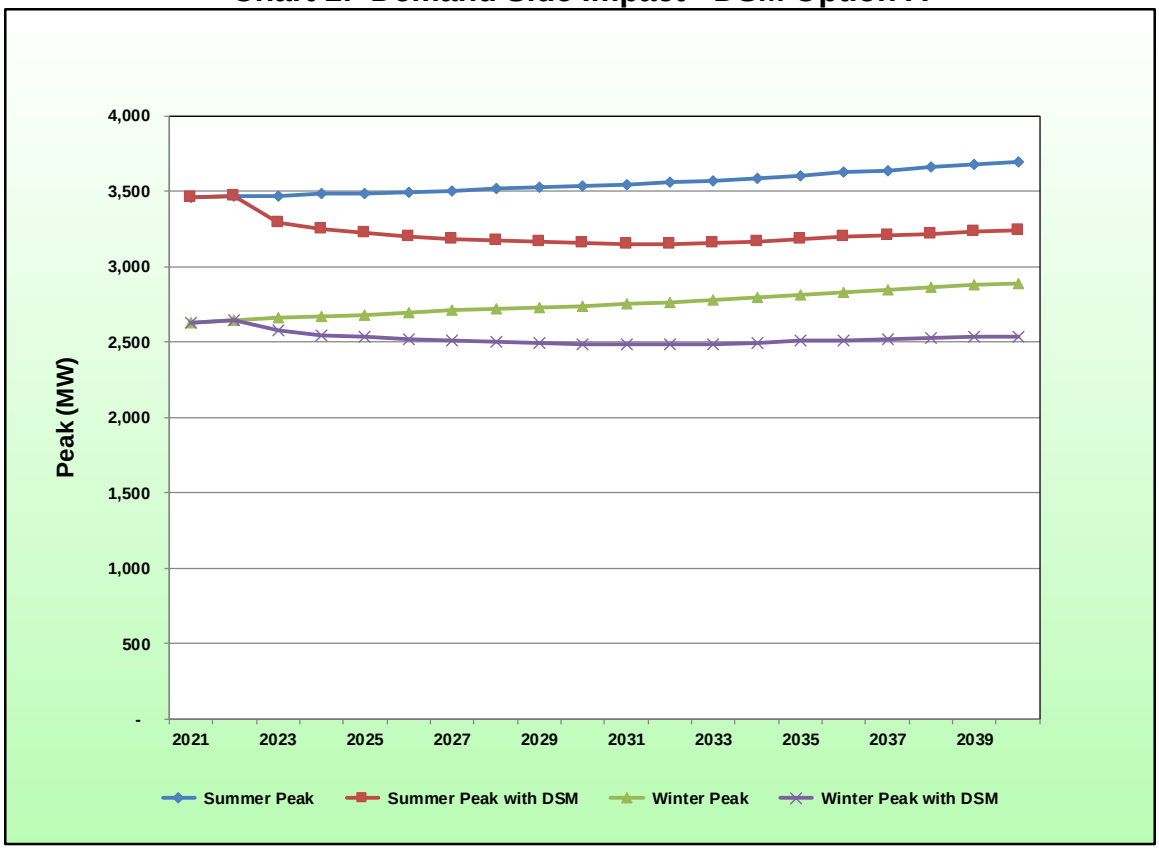


Chart 2: Demand Side Impact - DSM Option B

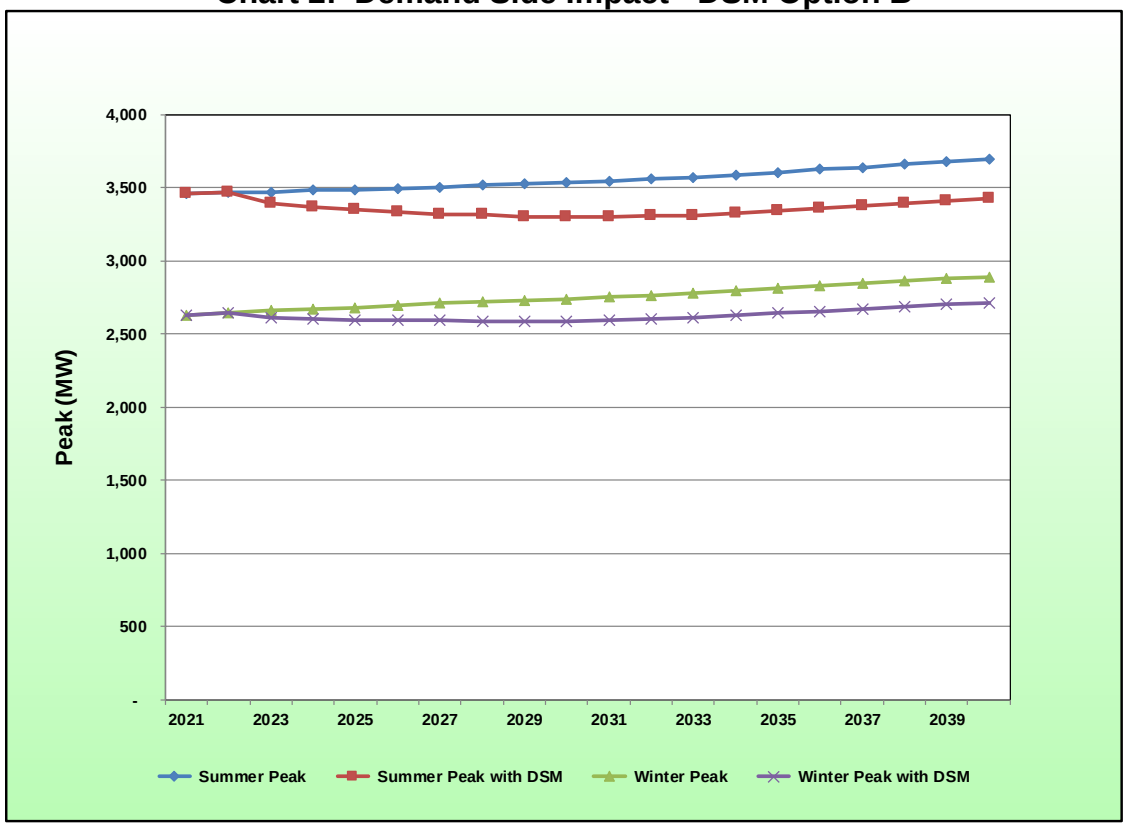


Chart 3: Demand Side Impact - DSM Option C

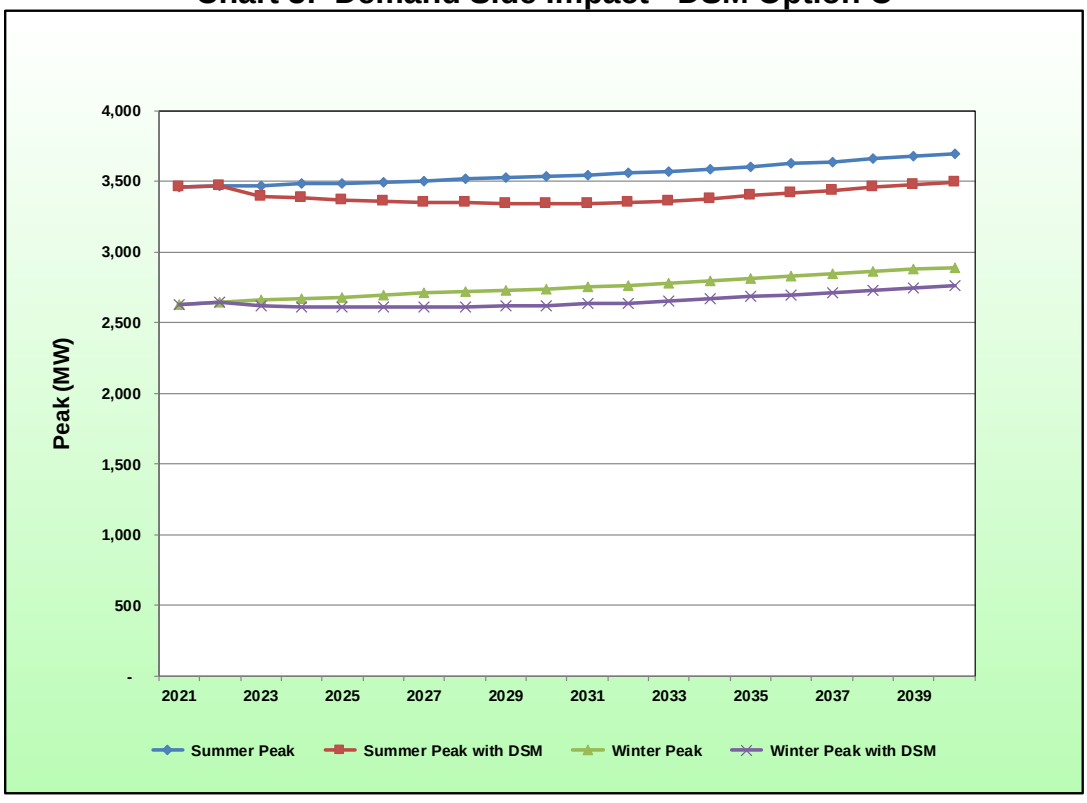
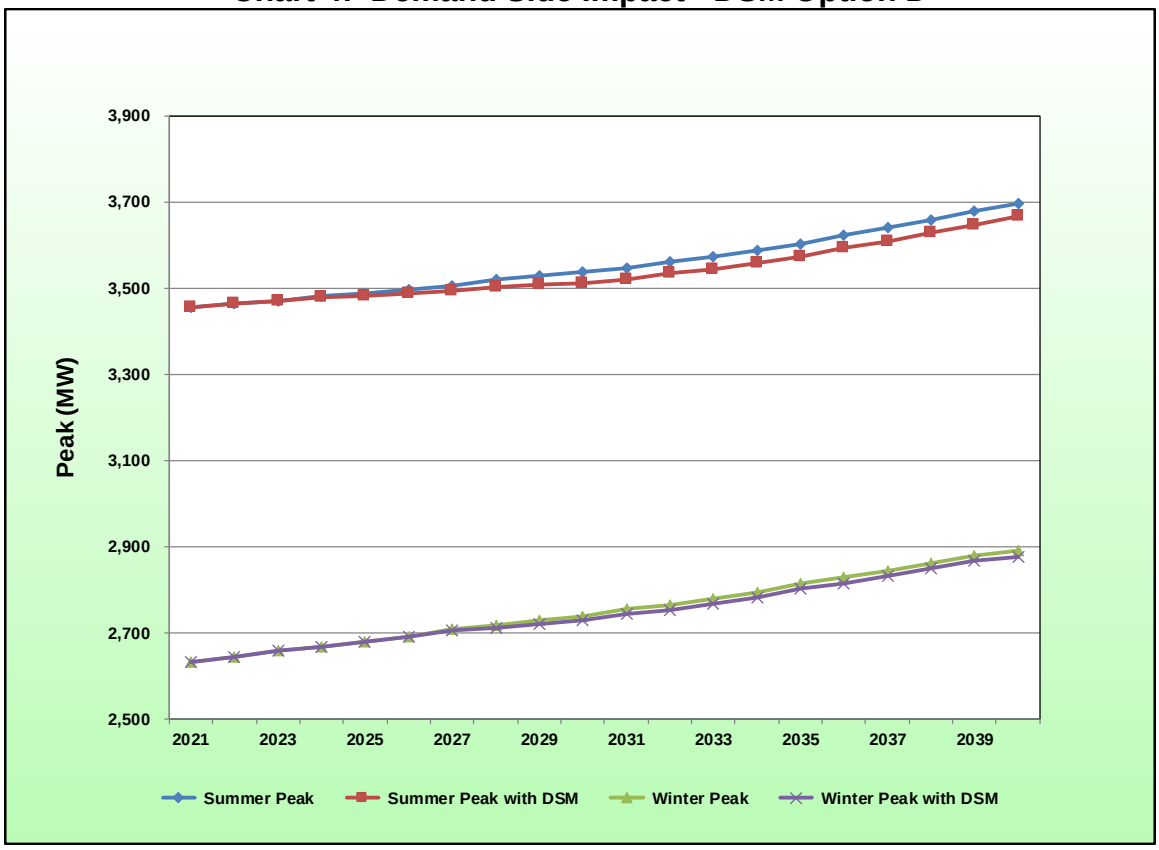


Chart 4: Demand Side Impact - DSM Option D



2. The composition, by program and demand-side rate, of the capacity provided by demand-side resources;

The following charts illustrate the combined capacity supplied by the levels of DSM programs associated with the Alternative Resource Plans.

Chart 5: Capacity Composition – DSM Option A

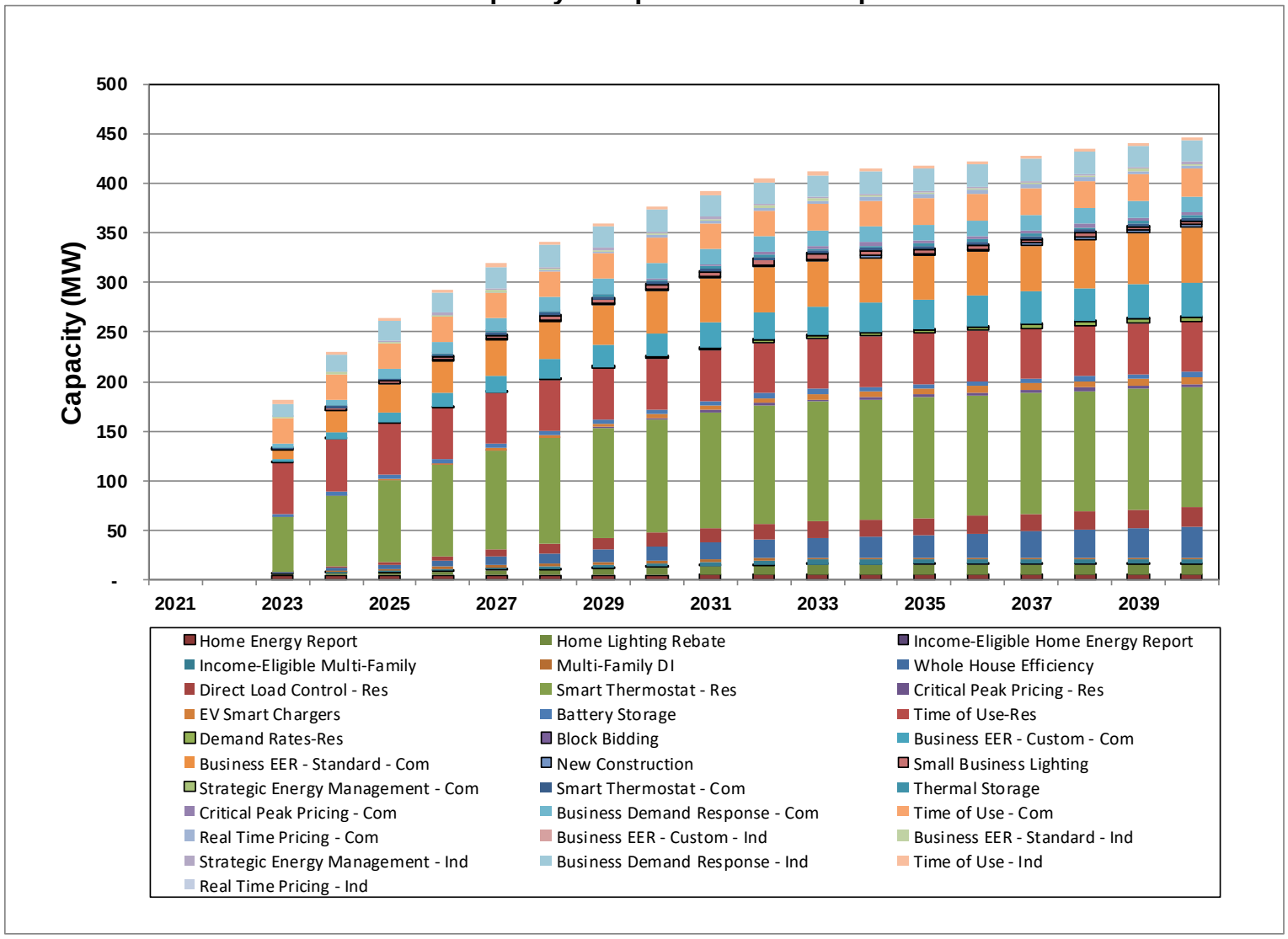


Chart 6: Capacity Composition – DSM Option B

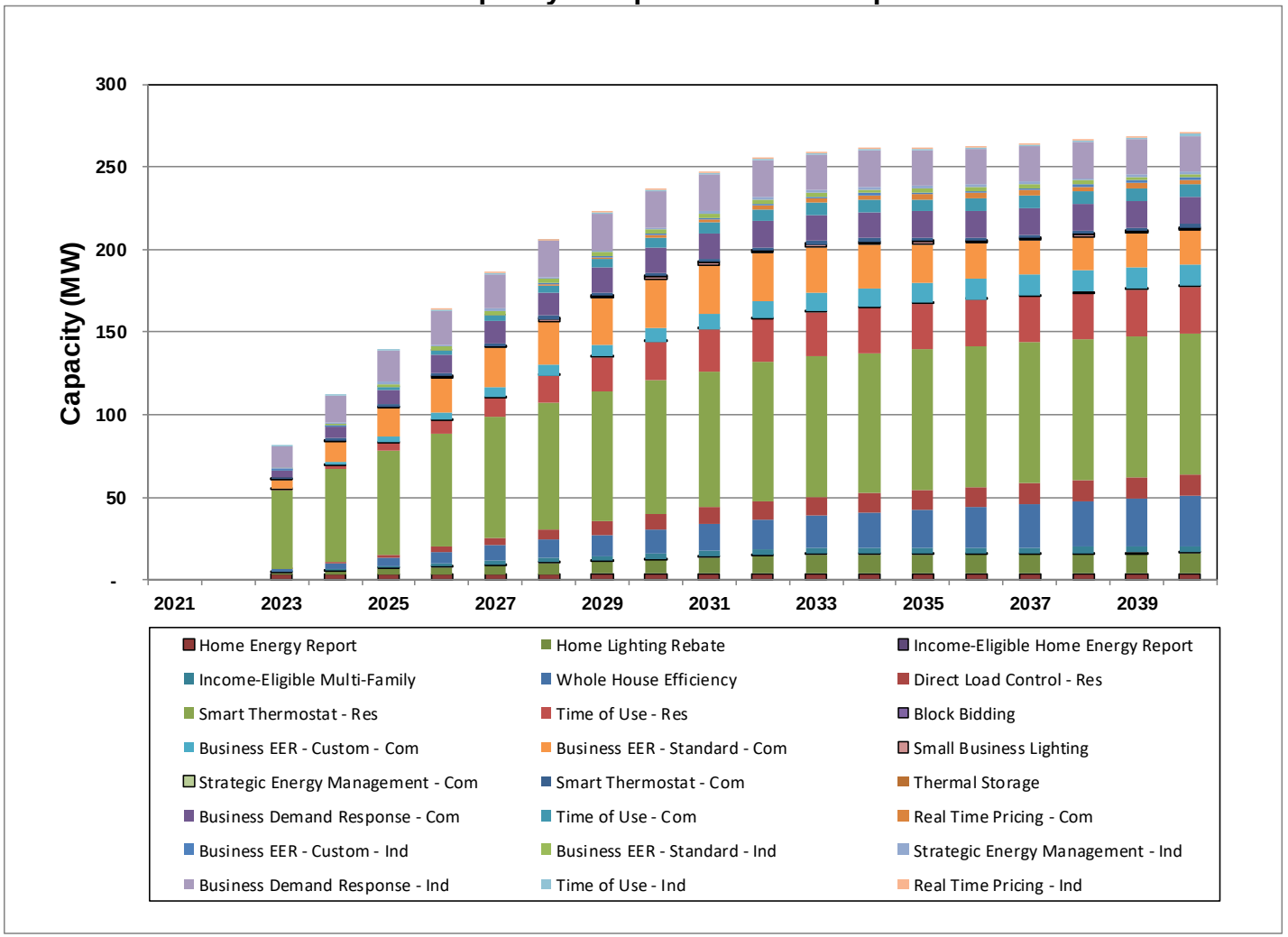


Chart 7: Capacity Composition – DSM Option C

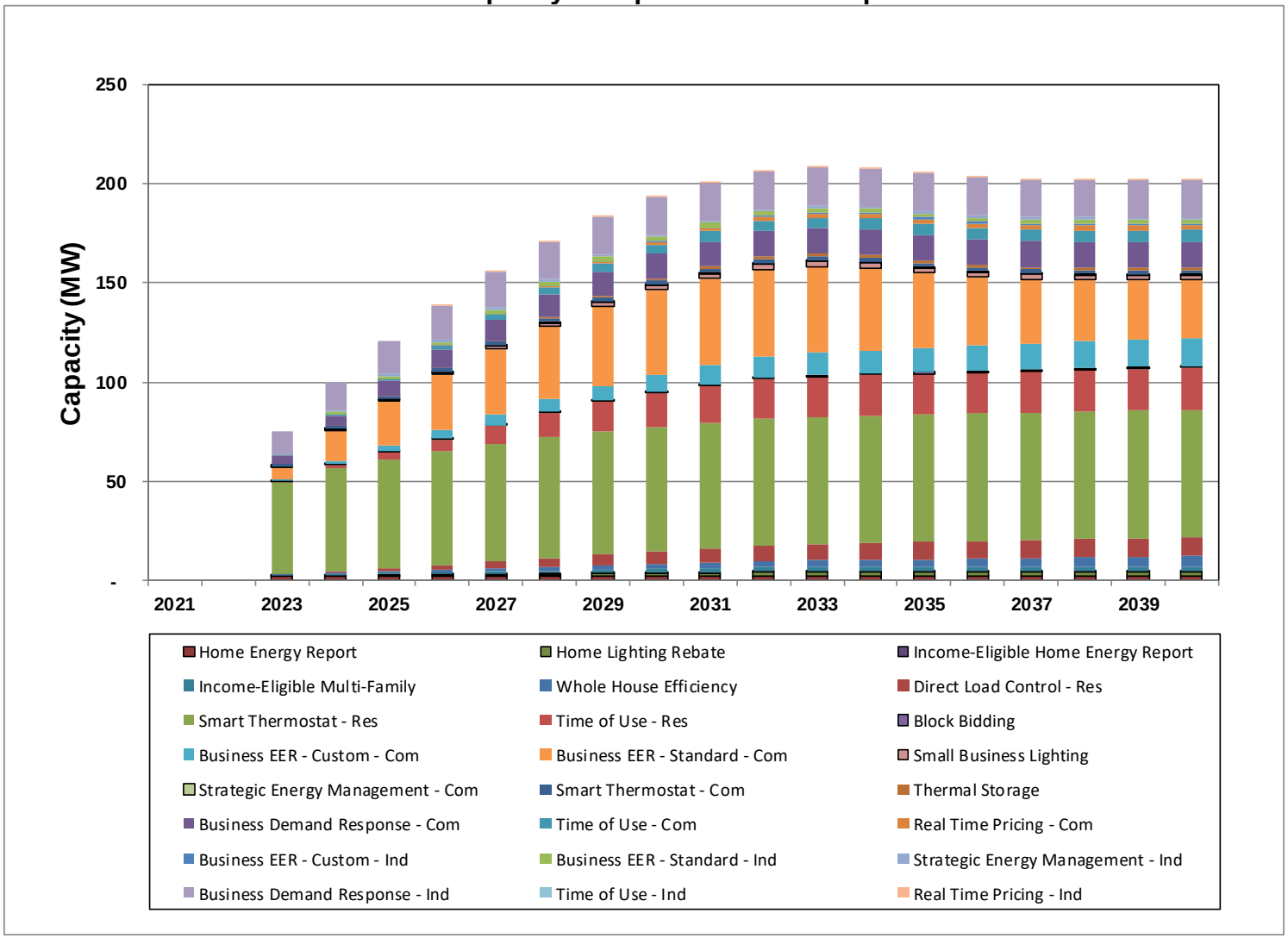
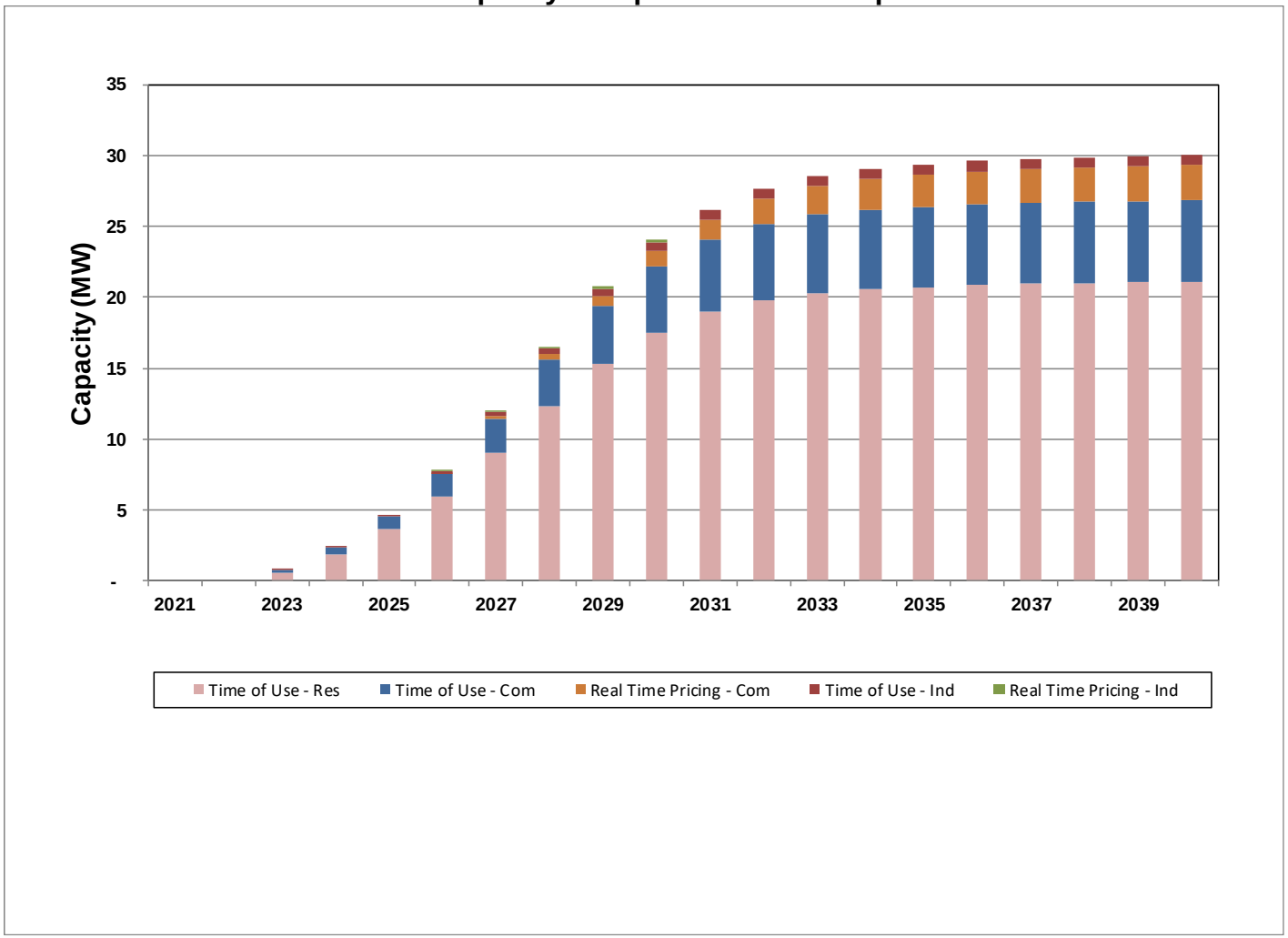


Chart 8: Capacity Composition – DSM Option D



3. The composition, by supply-side resource, of the capacity supplied to the transmission grid provided by supply-side resources. Existing supply-side resources may be shown as a single resource;

The following charts provide the supply-side resource composition for each Alternative Resource Plan.

Table 32: Alternative Resource Plan MAAAS - Capacity

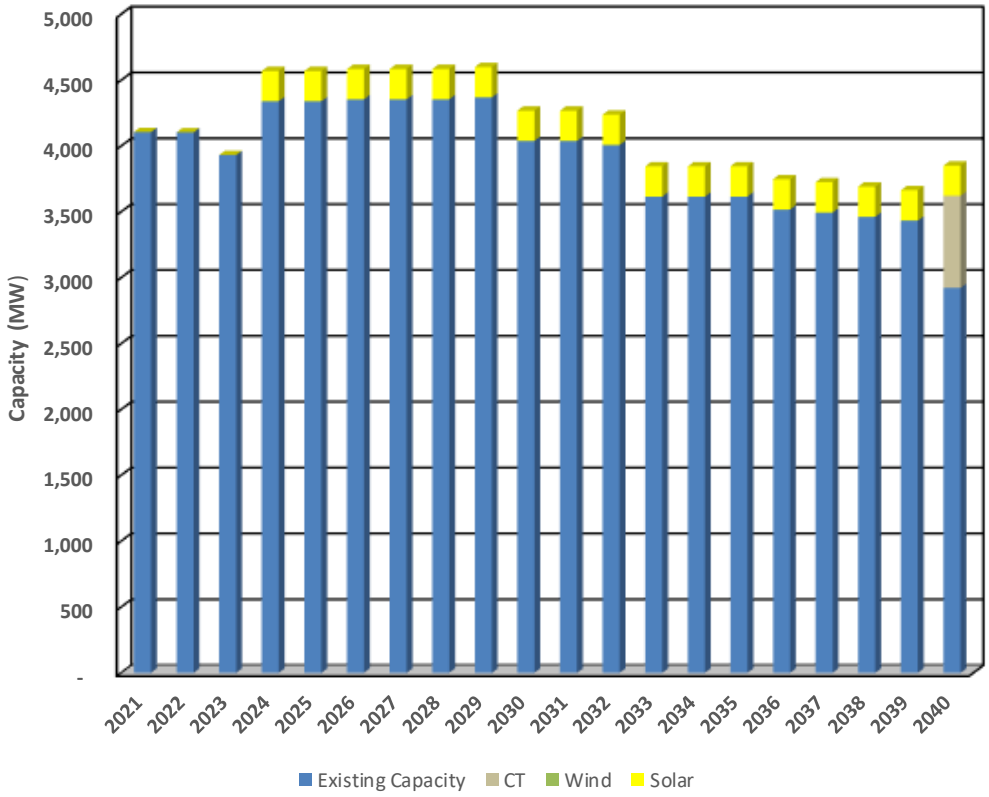


Table 33: Alternative Resource Plan MAABS - Capacity

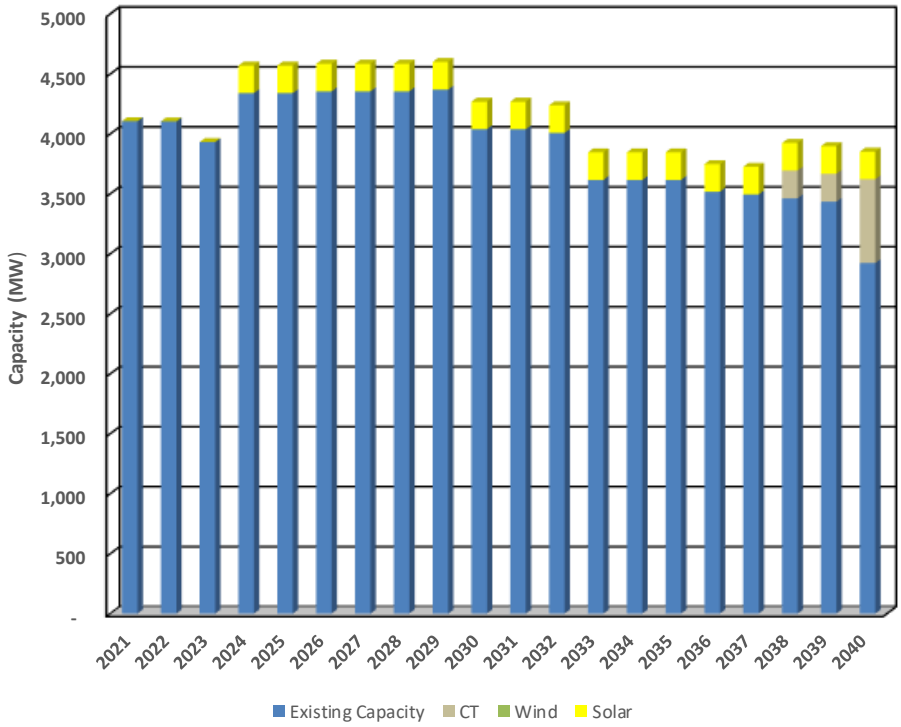


Table 34: Alternative Resource Plan MAACA – Capacity

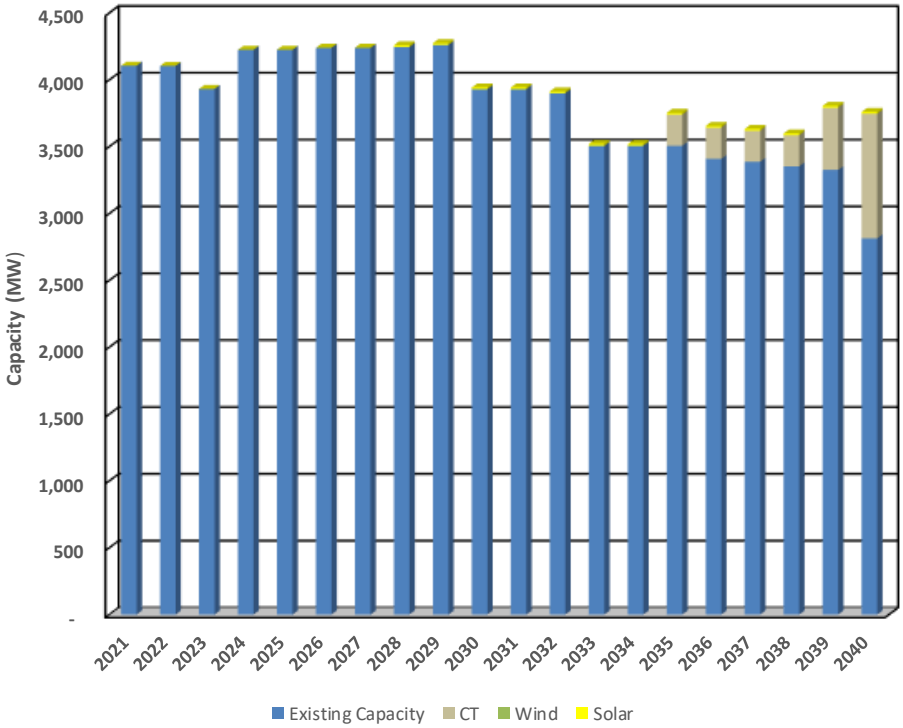


Table 35: Alternative Resource Plan MAACS - Capacity

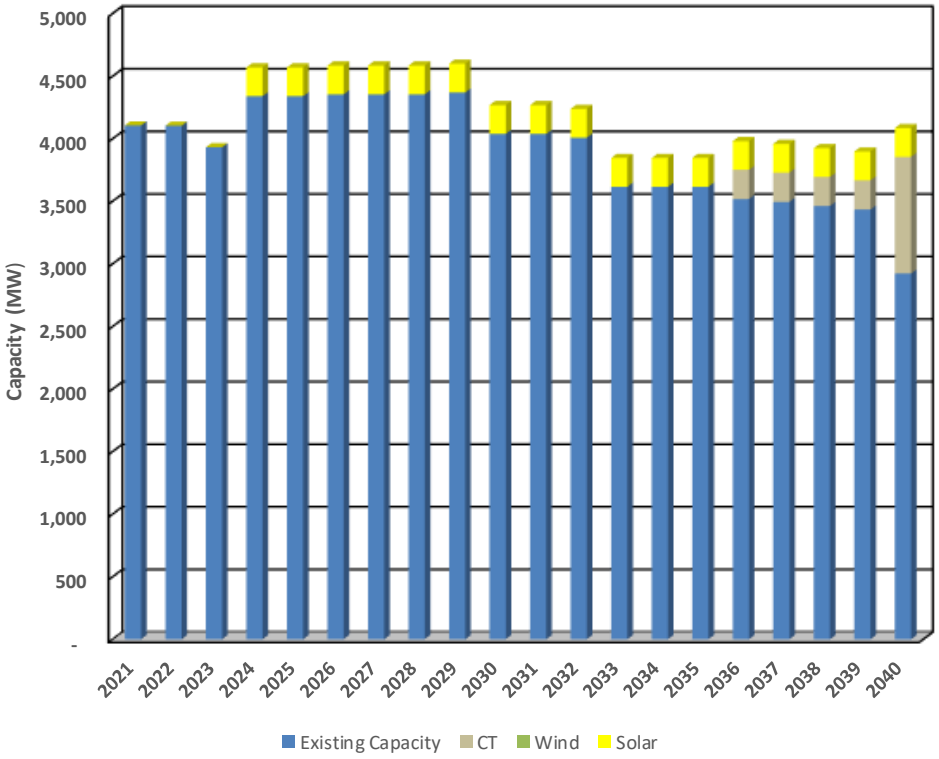


Table 36: Alternative Resource Plan MBBCS - Capacity

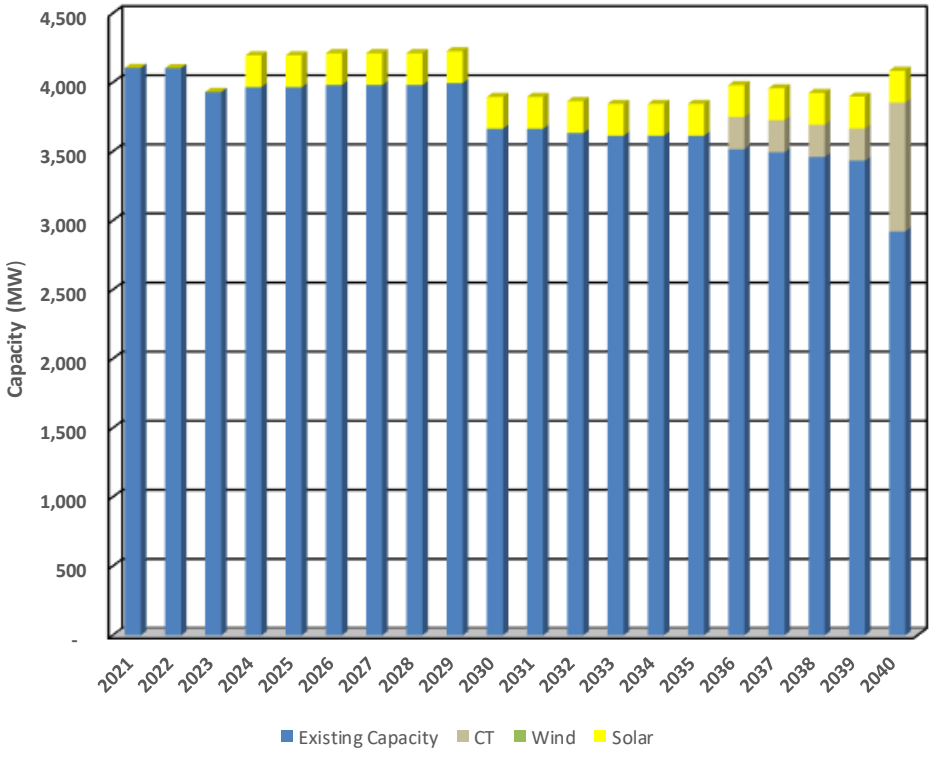


Table 37: Alternative Resource Plan MCCCS - Capacity

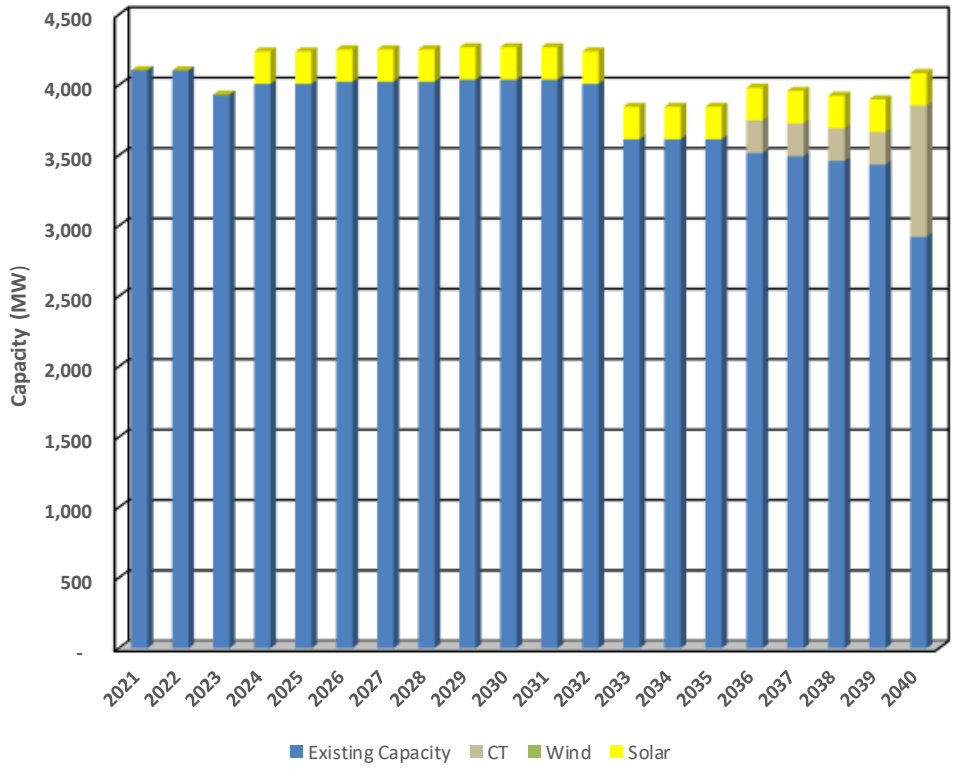


Table 38: Alternative Resource Plan MCGBU - Capacity

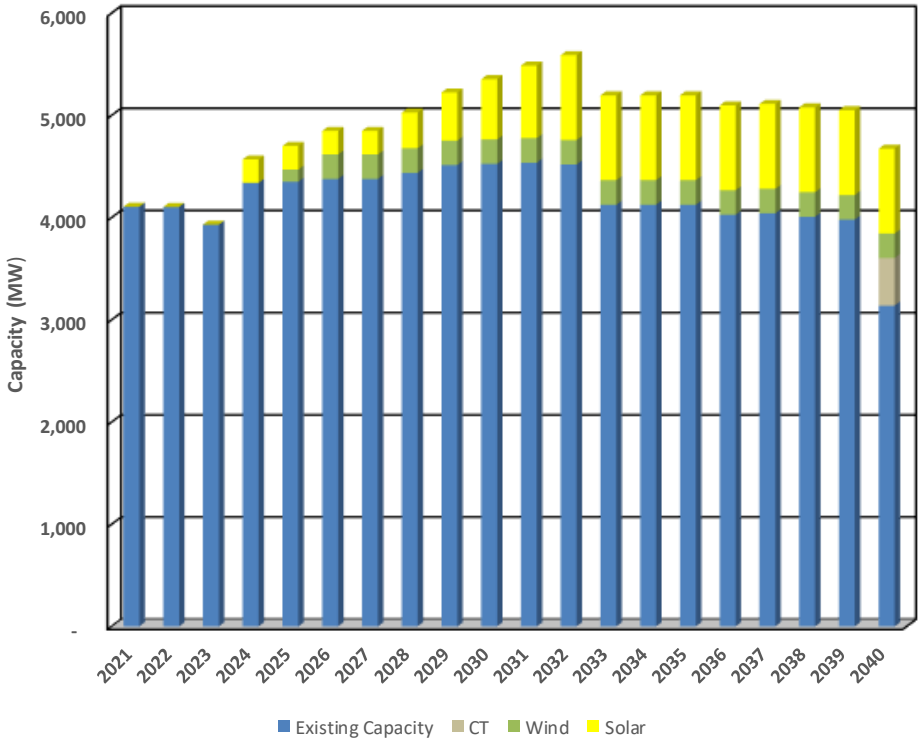


Table 39: Alternative Resource Plan MCGCS - Capacity

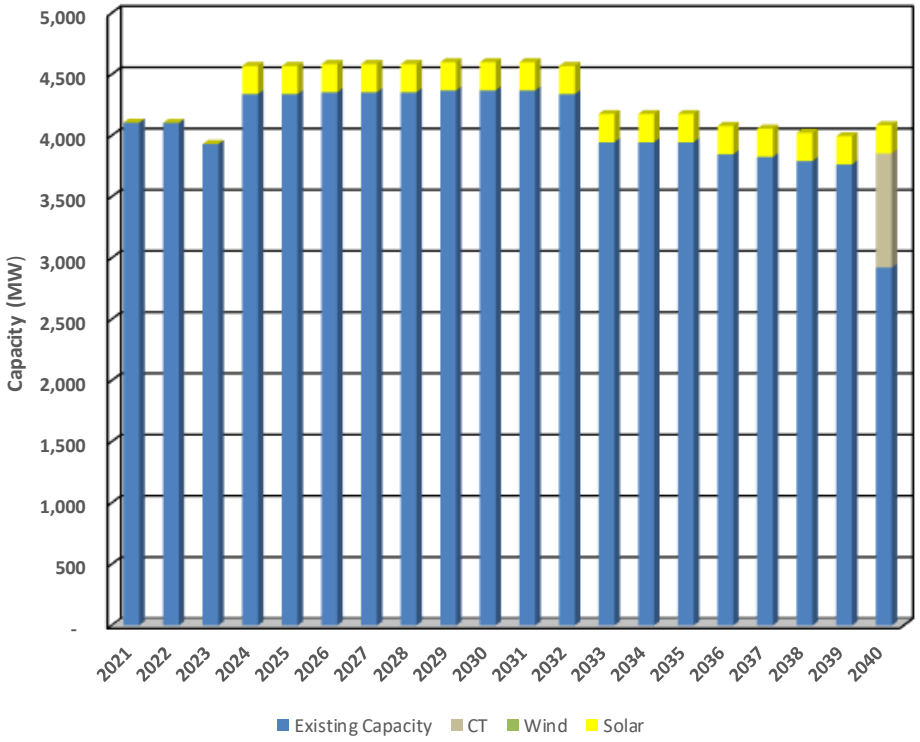


Table 40: Alternative Resource Plan MCGCT - Capacity

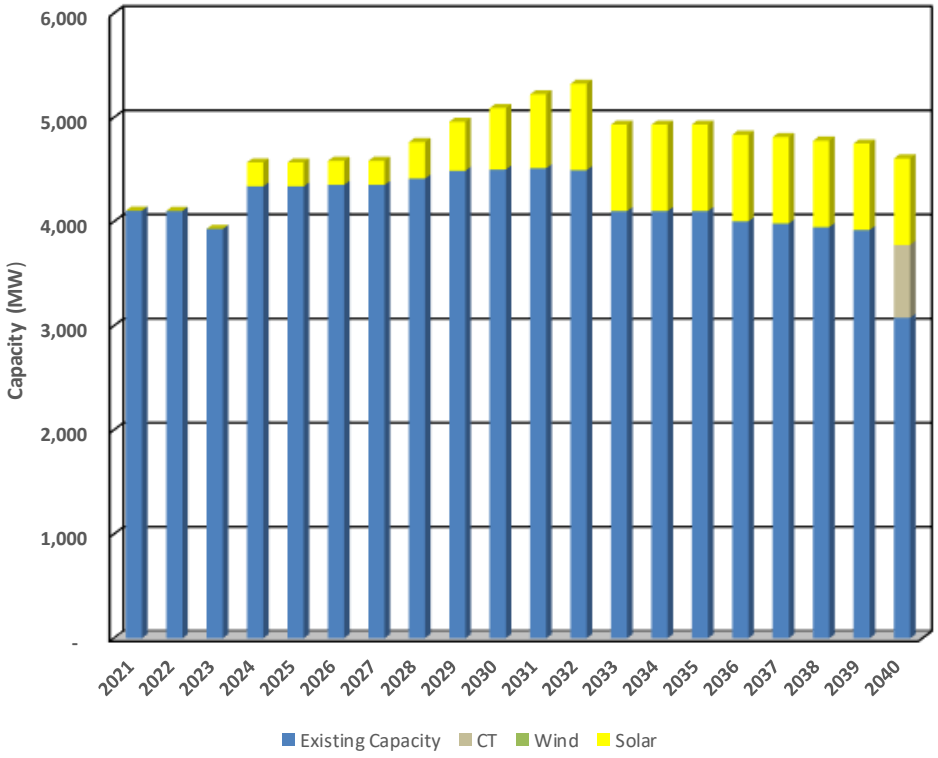


Table 41: Alternative Resource Plan MCGCU - Capacity

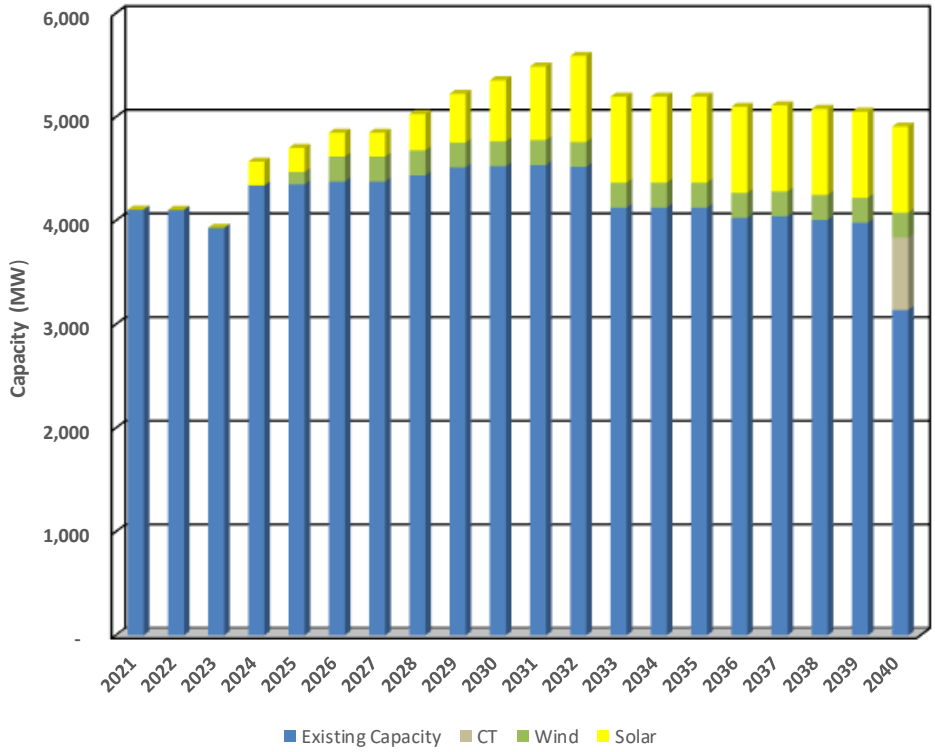


Table 42: Alternative Resource Plan MCGDS - Capacity

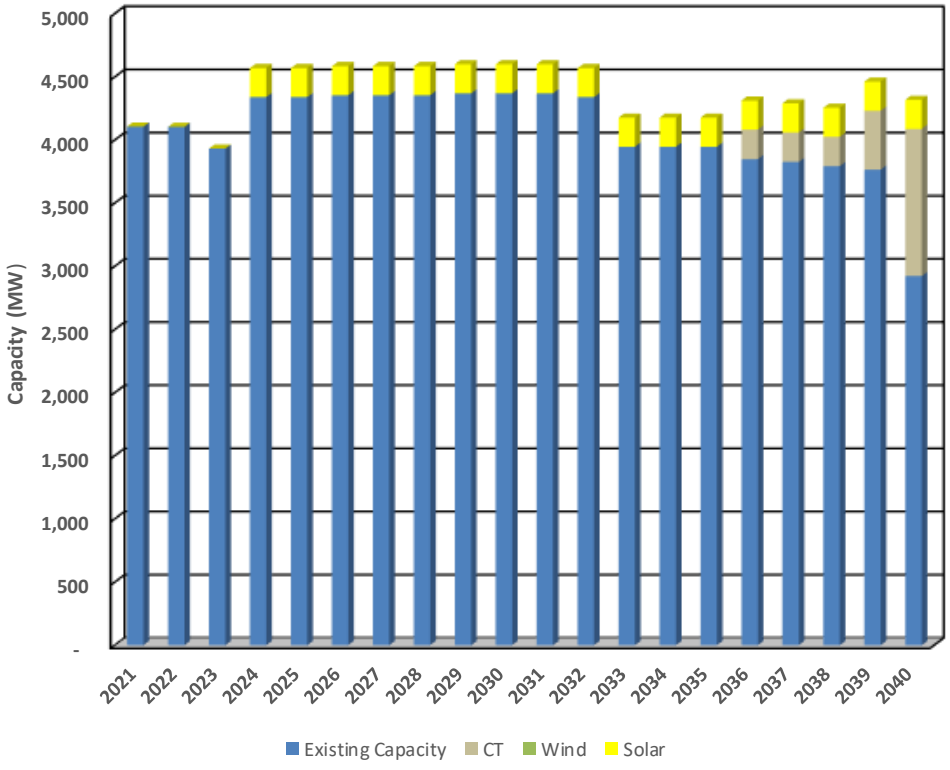


Table 43: Alternative Resource Plan MCGDU - Capacity

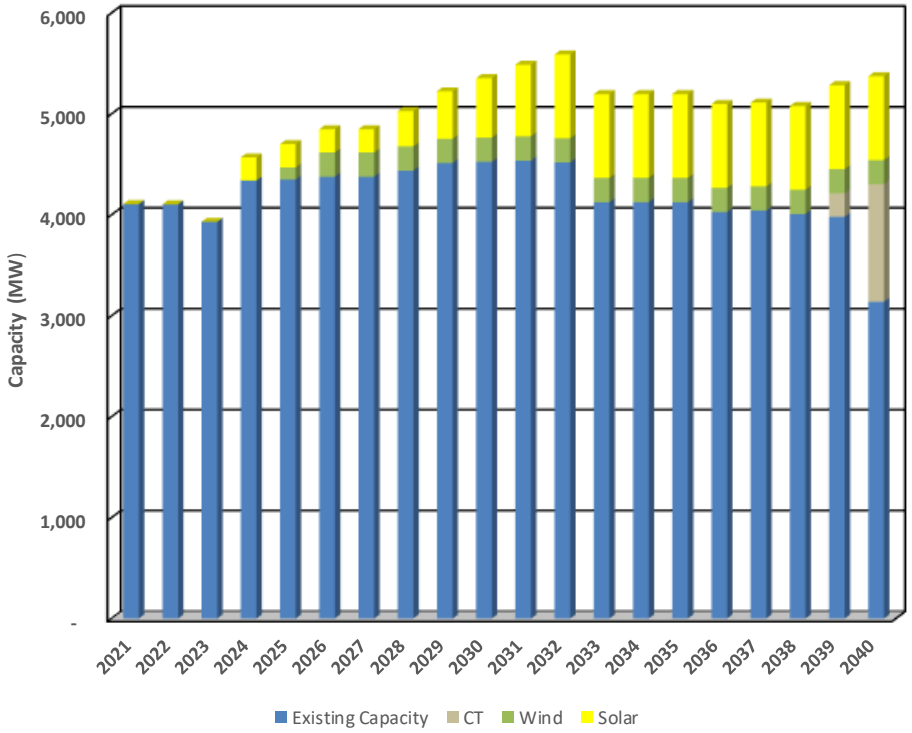


Table 44: Alternative Resource Plan MDDCS - Capacity

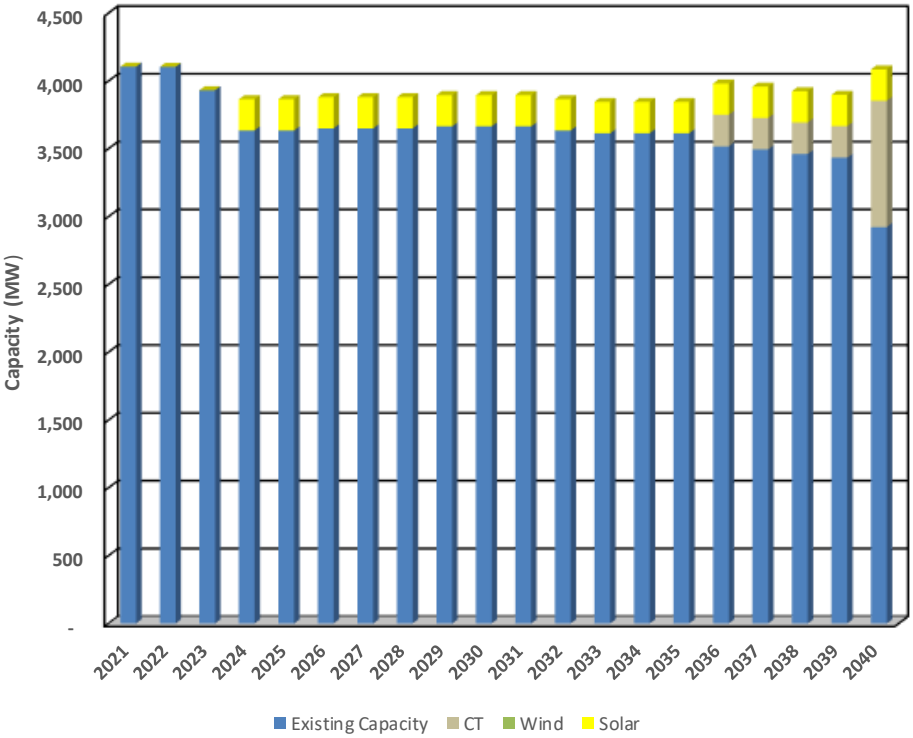


Table 45: Alternative Resource Plan MEECS - Capacity

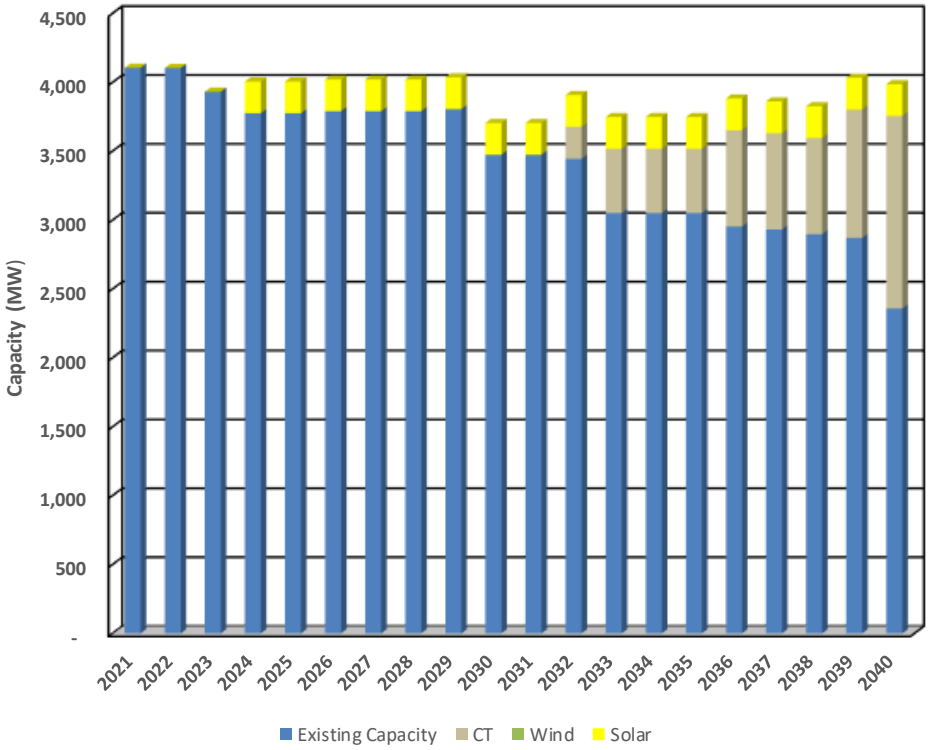
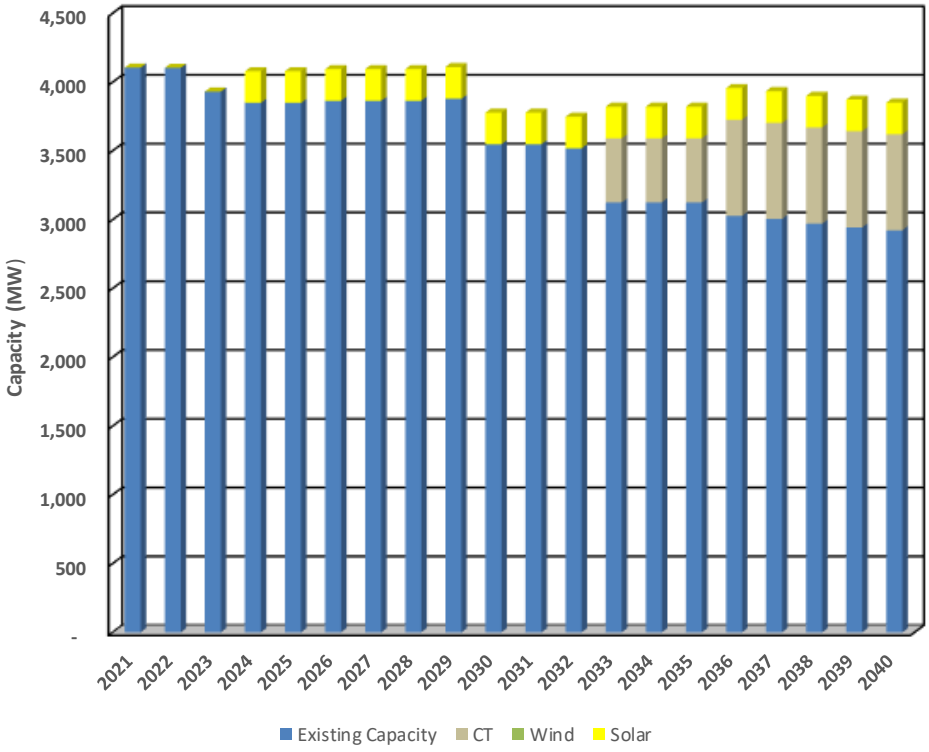


Table 46: Alternative Resource Plan MFFCS - Capacity



4. The combined impact of all demand-side resources on the base-case forecast of annual energy requirements;

The following charts illustrate the combined energy supplied by the levels of DSM programs associated with the Alternative Resource Plans.

Chart 9: Annual Energy Impact – DSM Option A

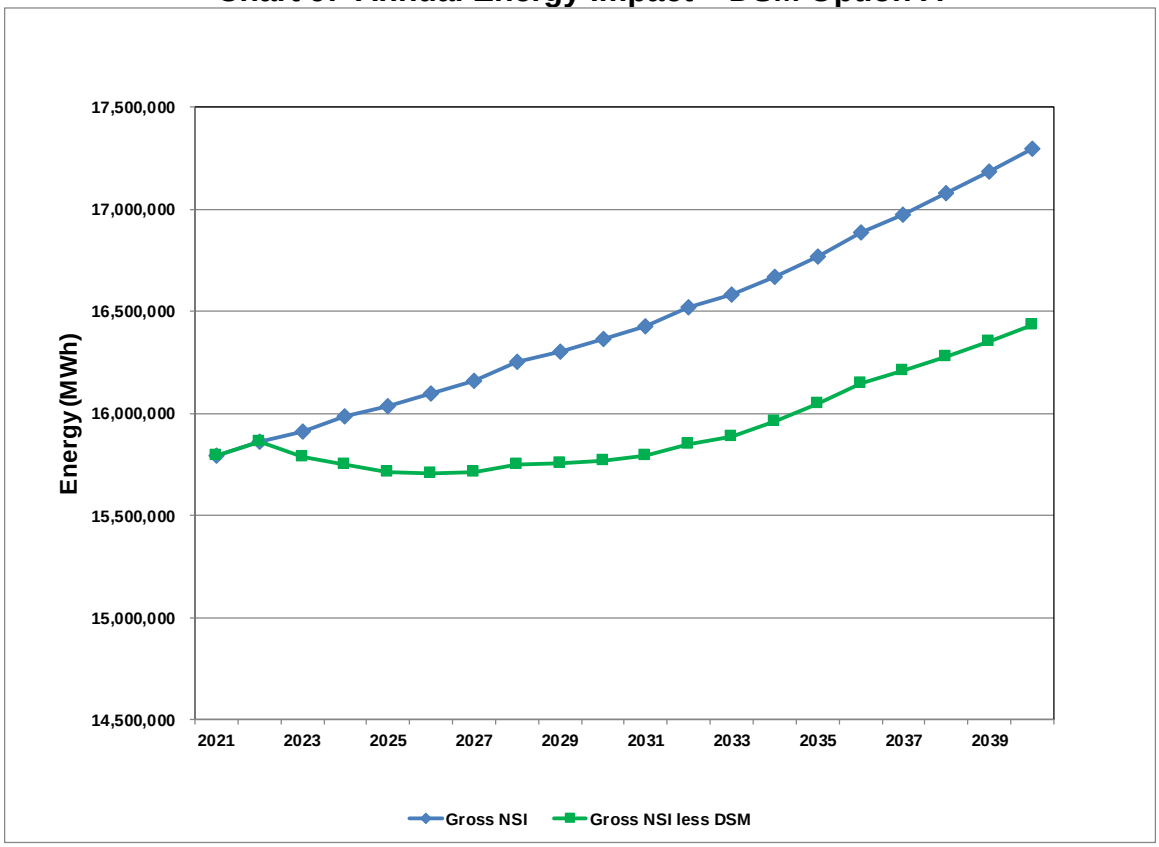


Chart 10: Annual Energy Impact – DSM Option B

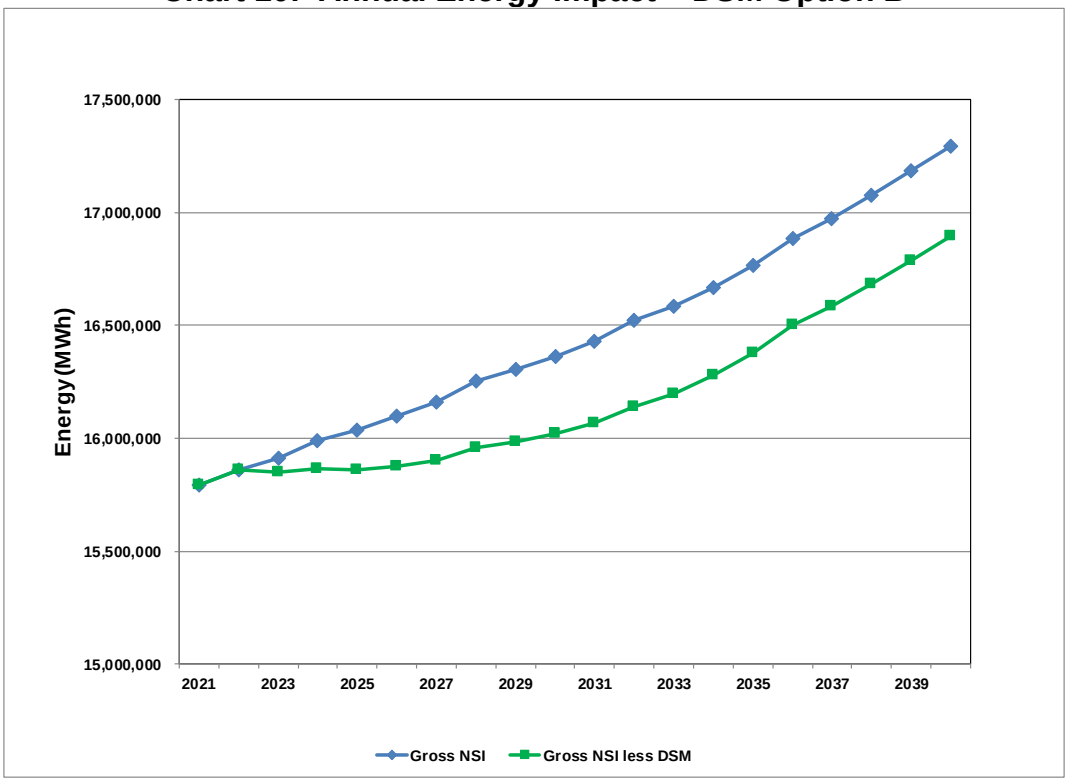


Chart 11: Annual Energy Impact – DSM Option C

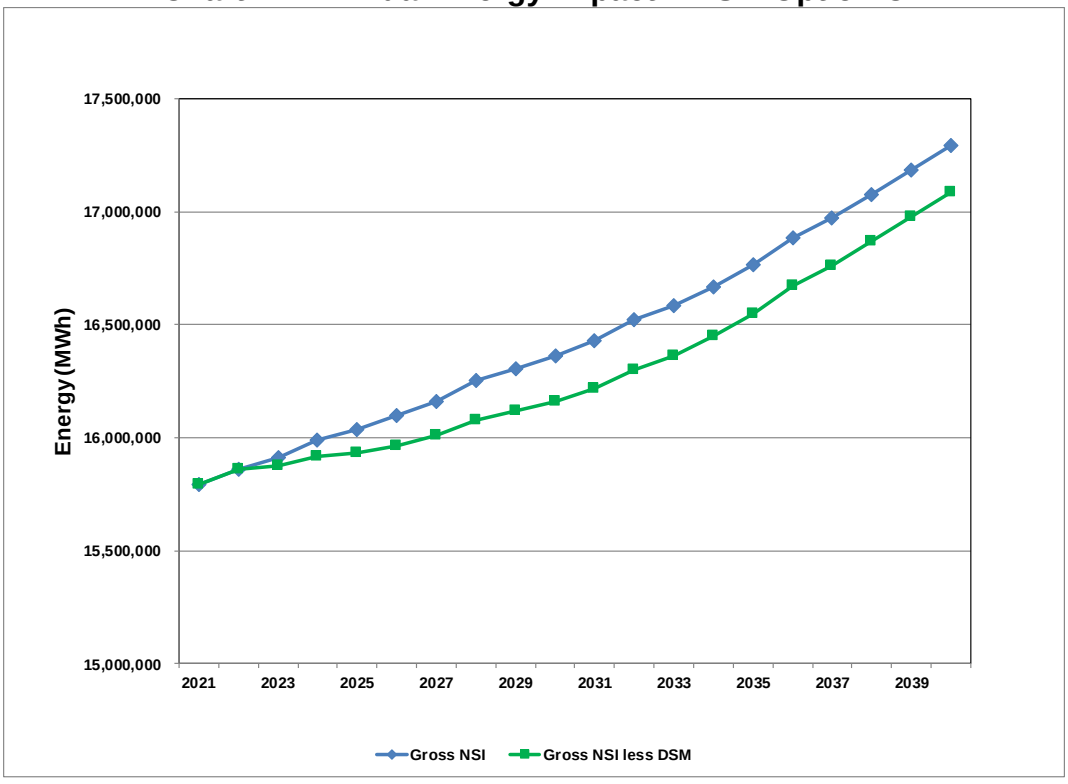
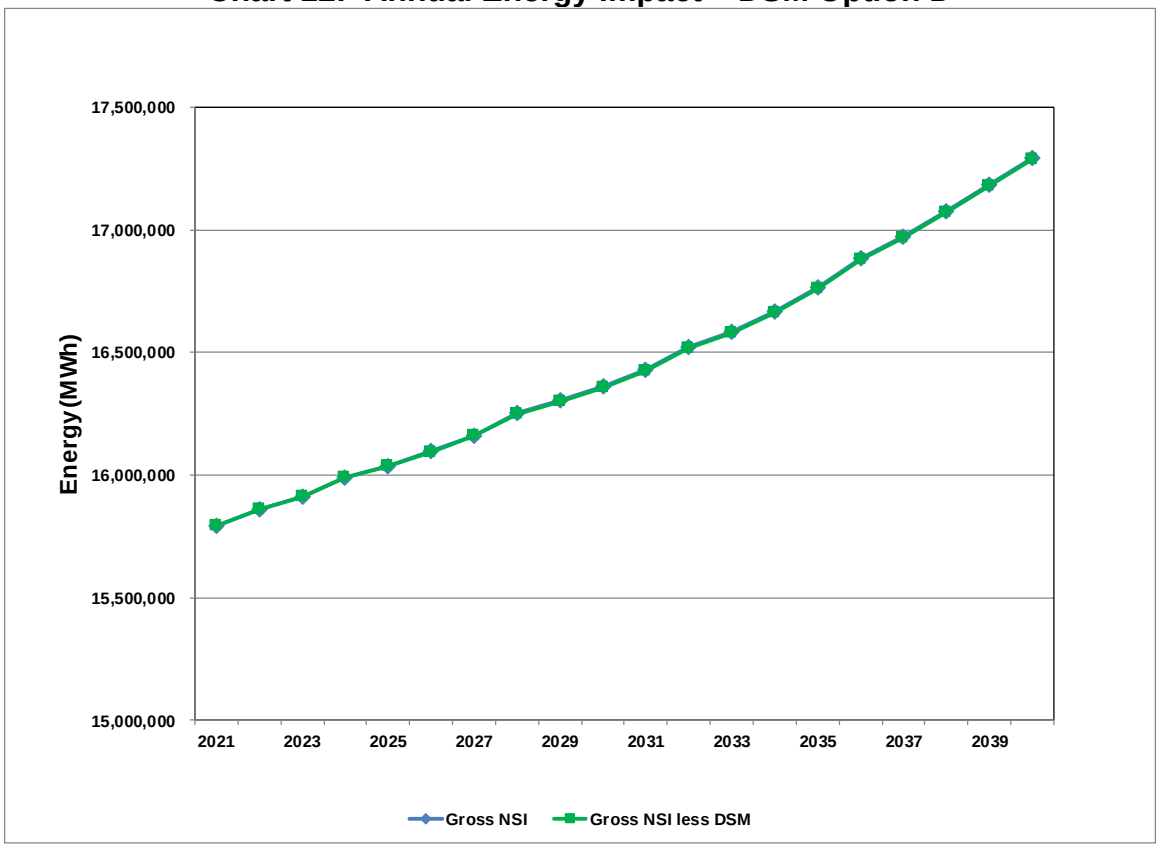


Chart 12: Annual Energy Impact – DSM Option D



5. The composition, by program and demand-side rate, of the annual energy provided by demand-side resources;

The following three charts illustrate the combined energy supplied by the levels of DSM programs associated with the Alternative Resource Plans.

Chart 13: Energy Composition – DSM Option A

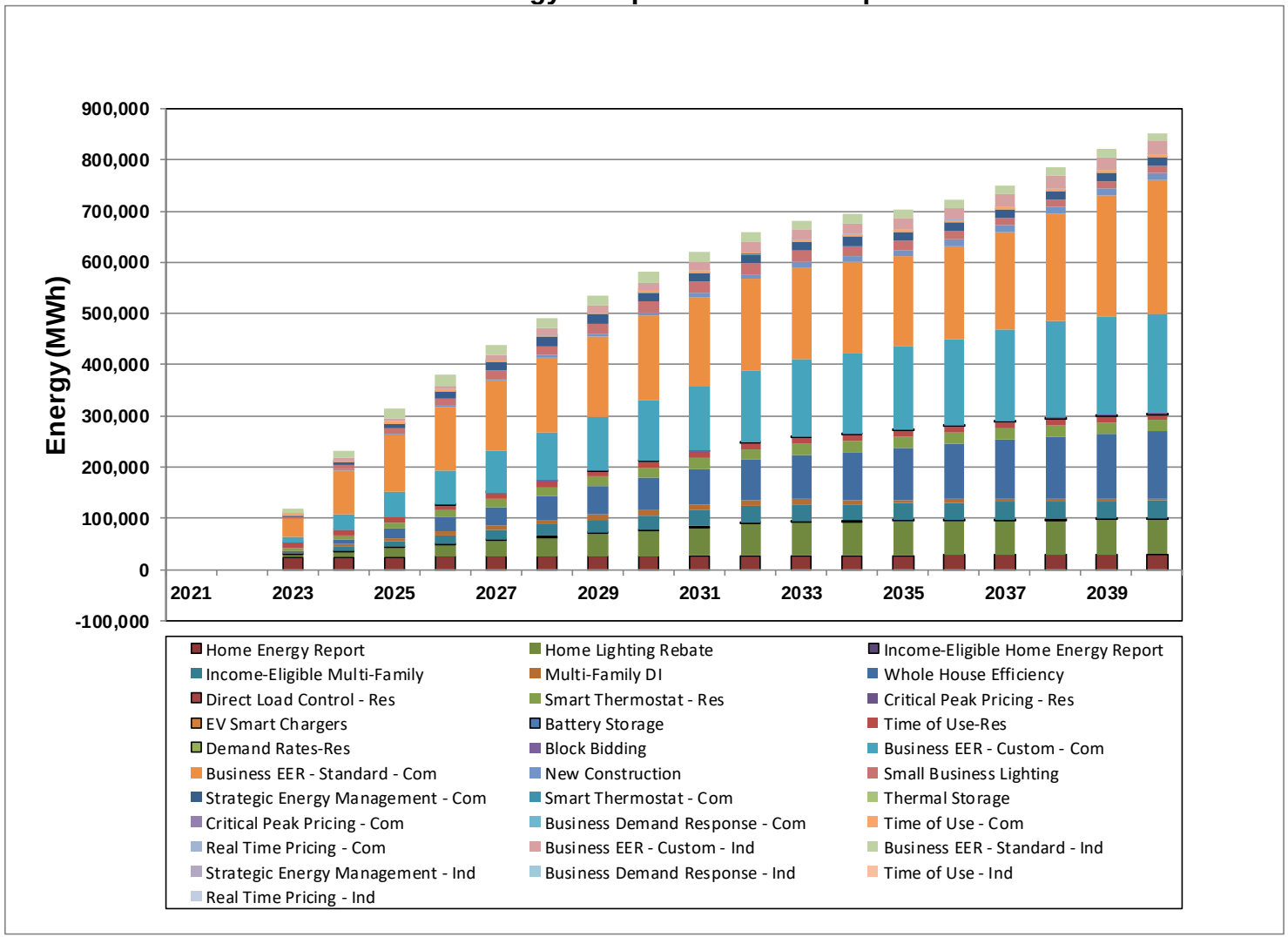


Chart 14: Energy Composition – DSM Option B

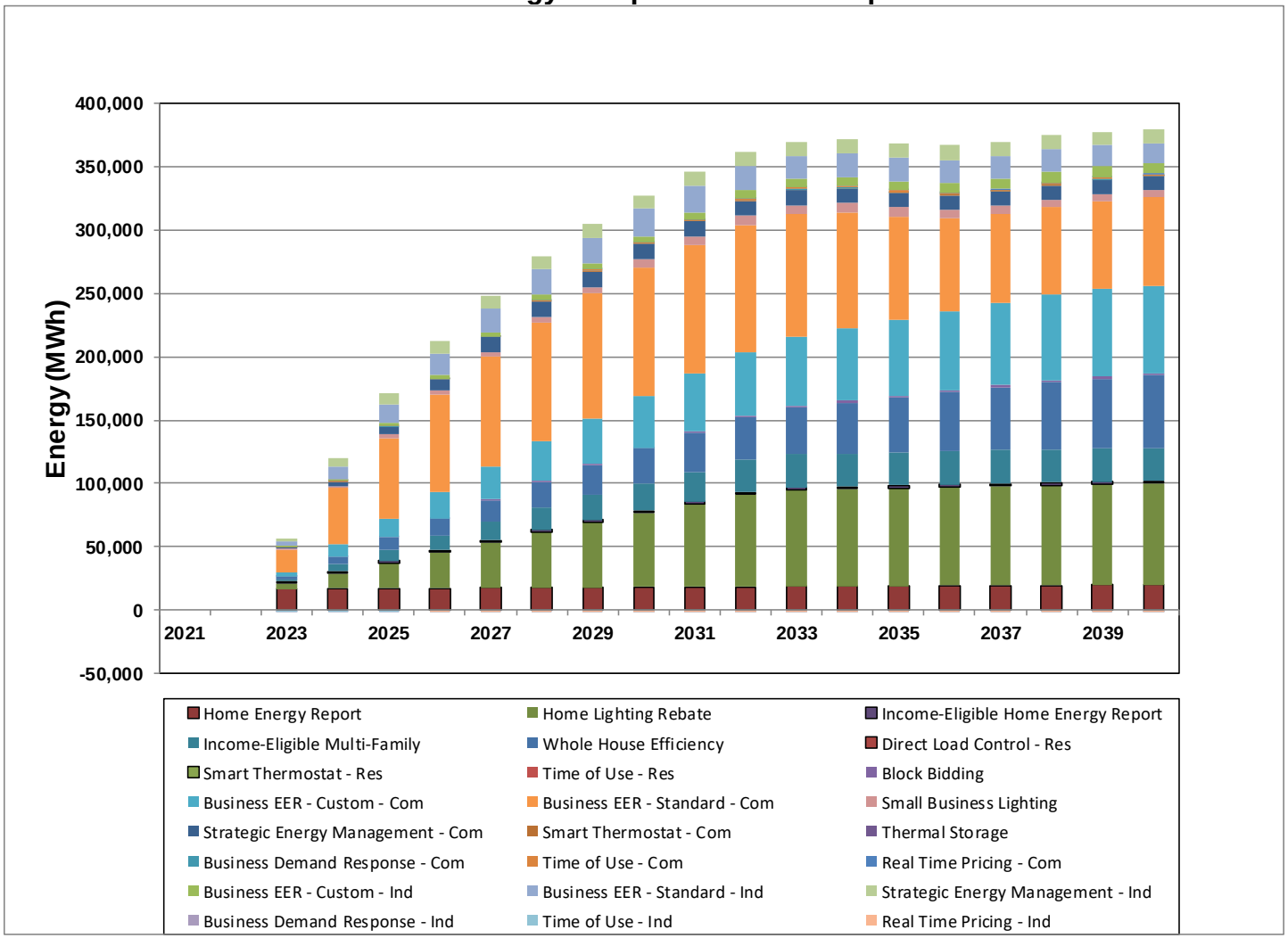


Chart 15: Energy Composition – DSM Option C

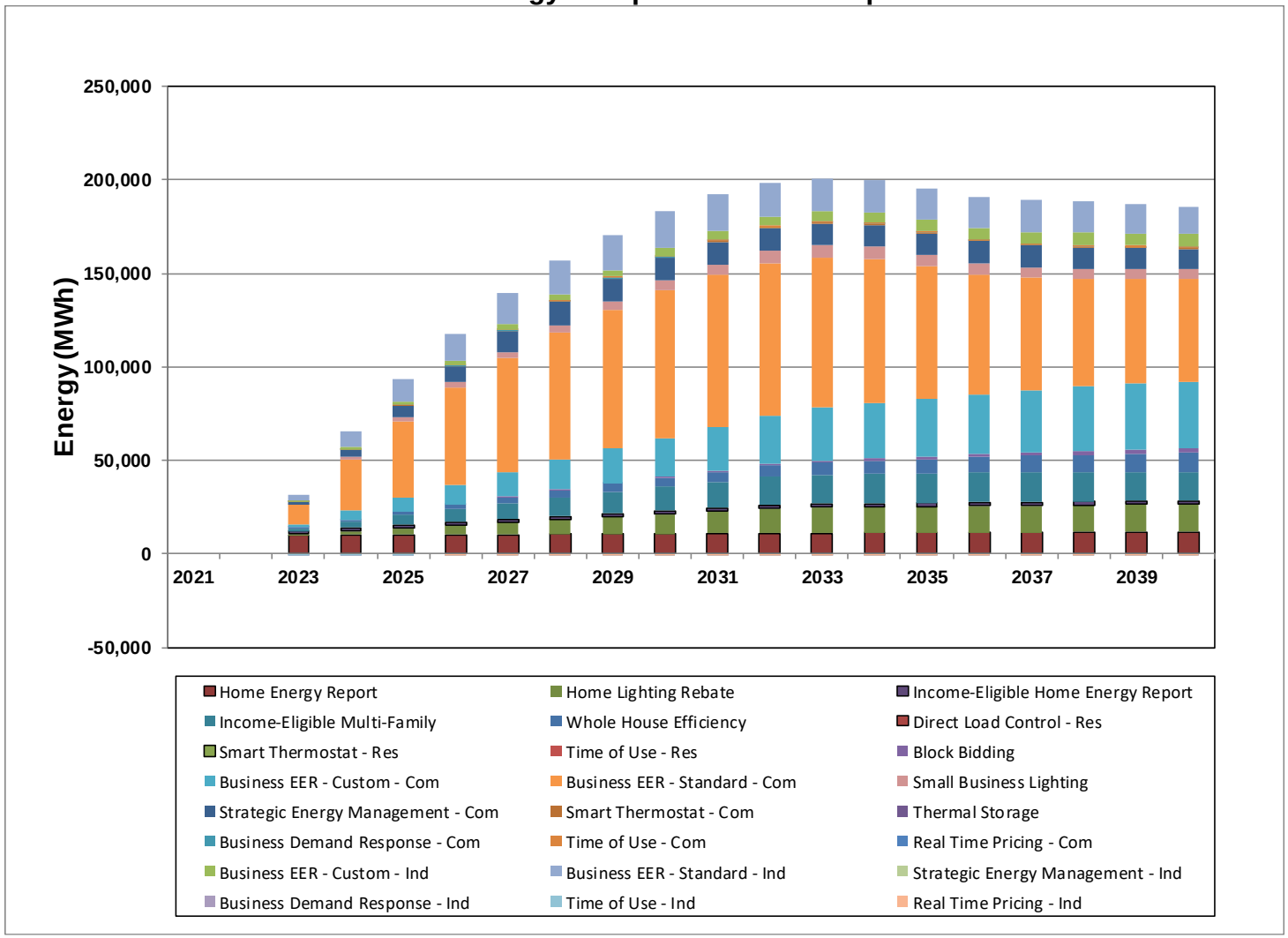
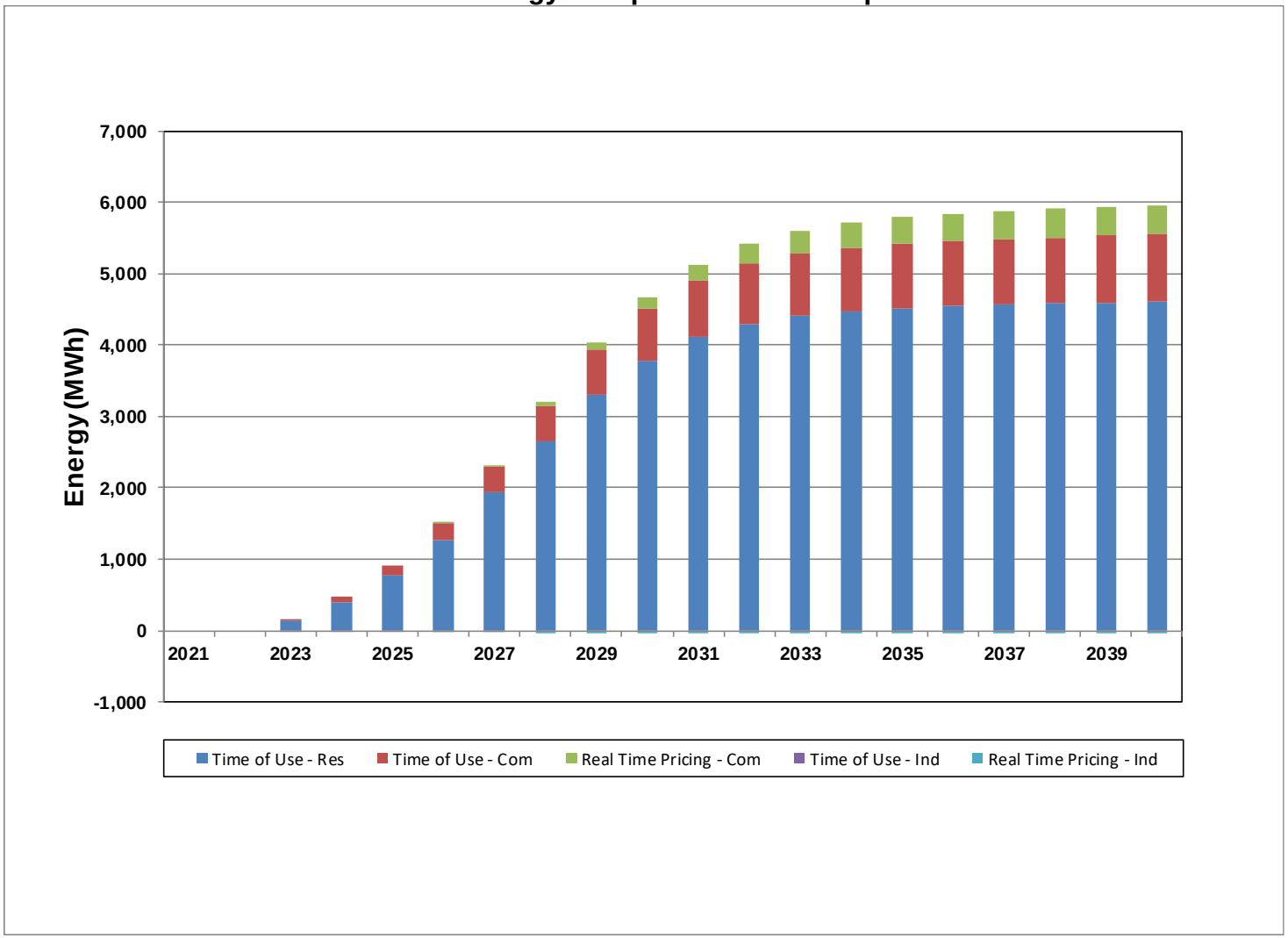


Chart 16: Energy Composition – DSM Option D



6. The composition, by supply-side resource, of the annual energy supplied to the transmission grid, less losses, provided by supply-side resources. Existing supply-side resources may be shown as a single resource;

The following charts detail the expected-value composition by supply-side resource of all energy generated by the assets and supplied to the transmission grid included in each plan. No allowances are developed for "losses" as it is not possible to determine the exact source of energy for a particular lost megawatt-hour of energy.

Table 47: Annual Generation MAAAS

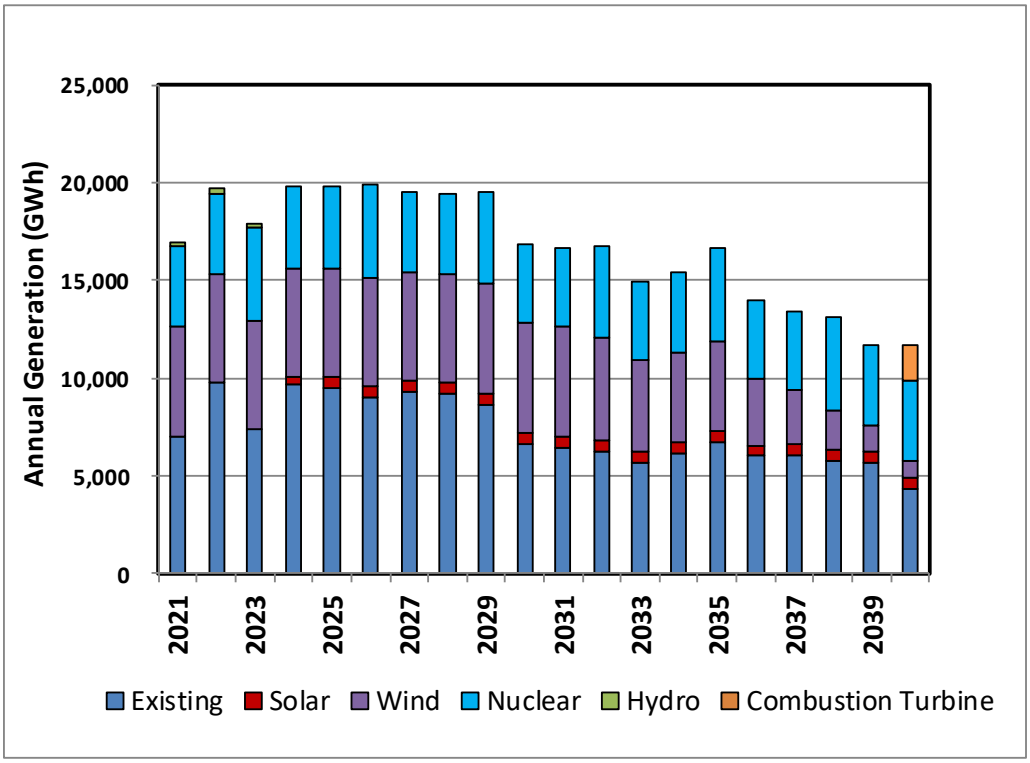


Table 48: Annual Generation MAABS

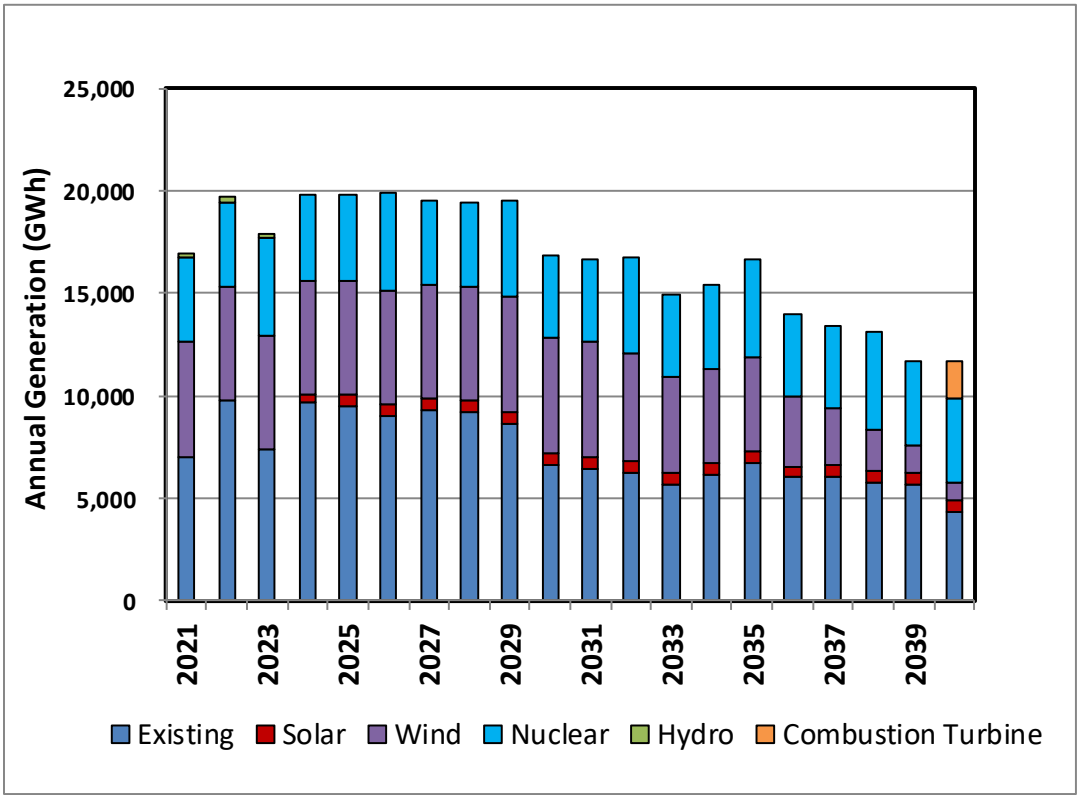


Table 49: Annual Generation MAACA

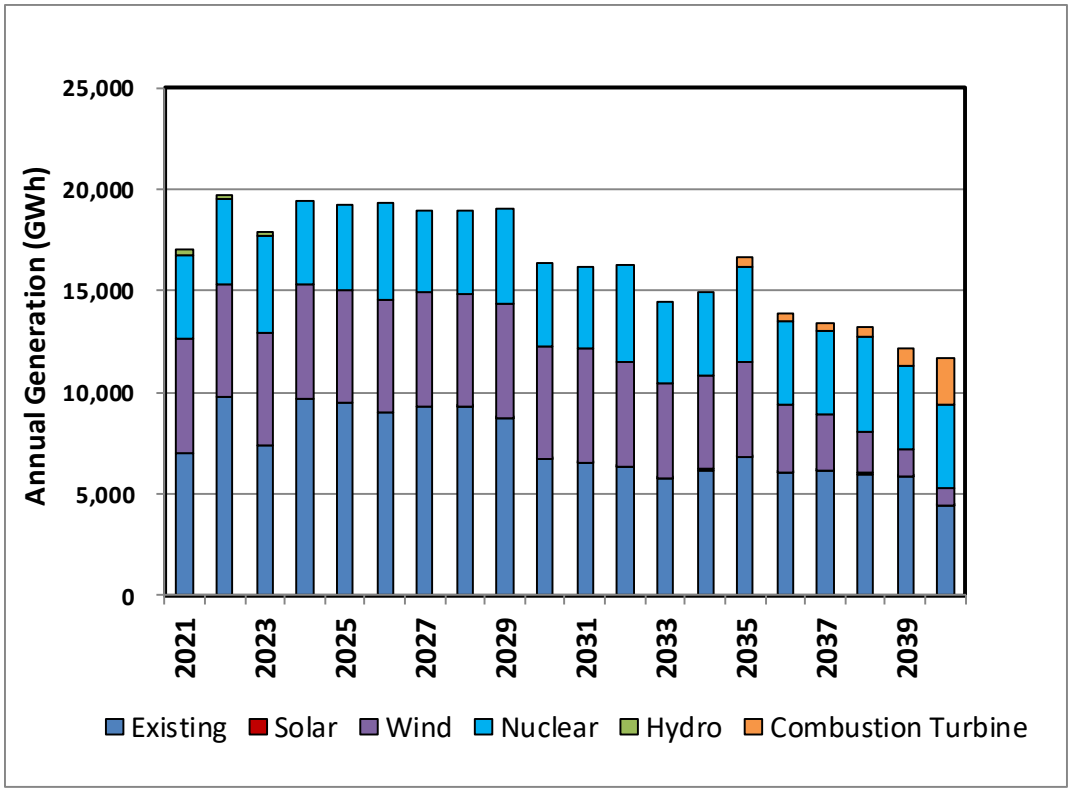


Table 50: Annual Generation MAACS

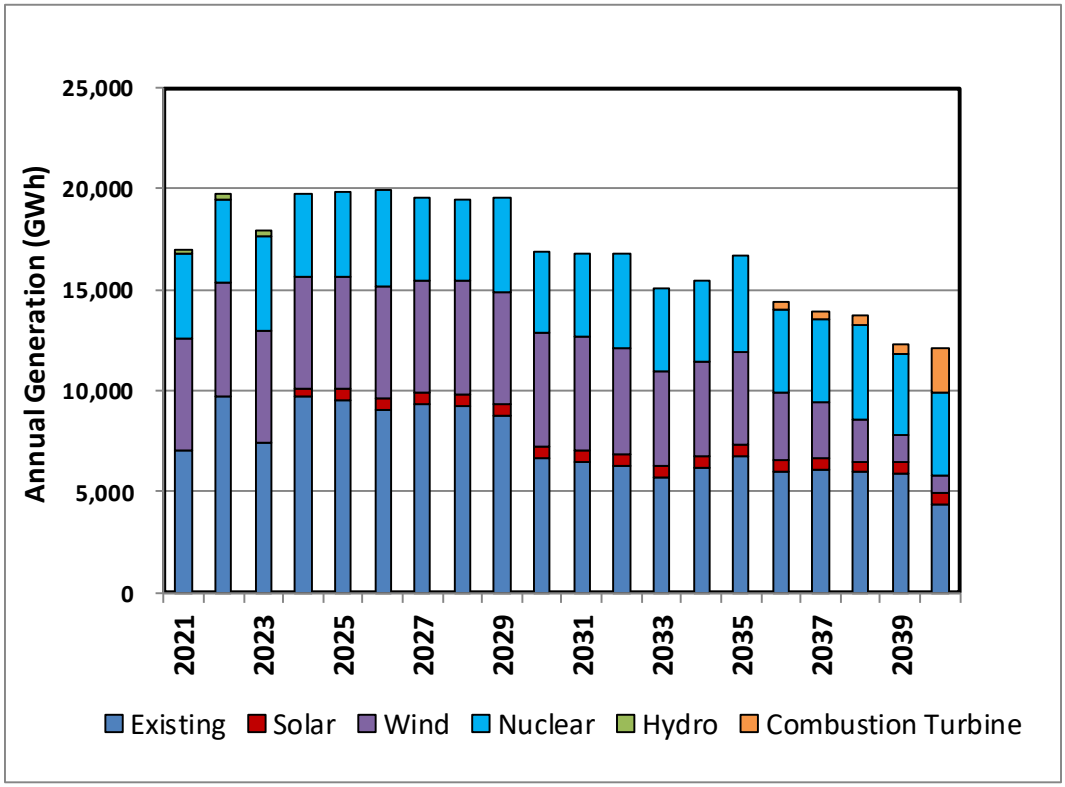


Table 51: Annual Generation MBBCS

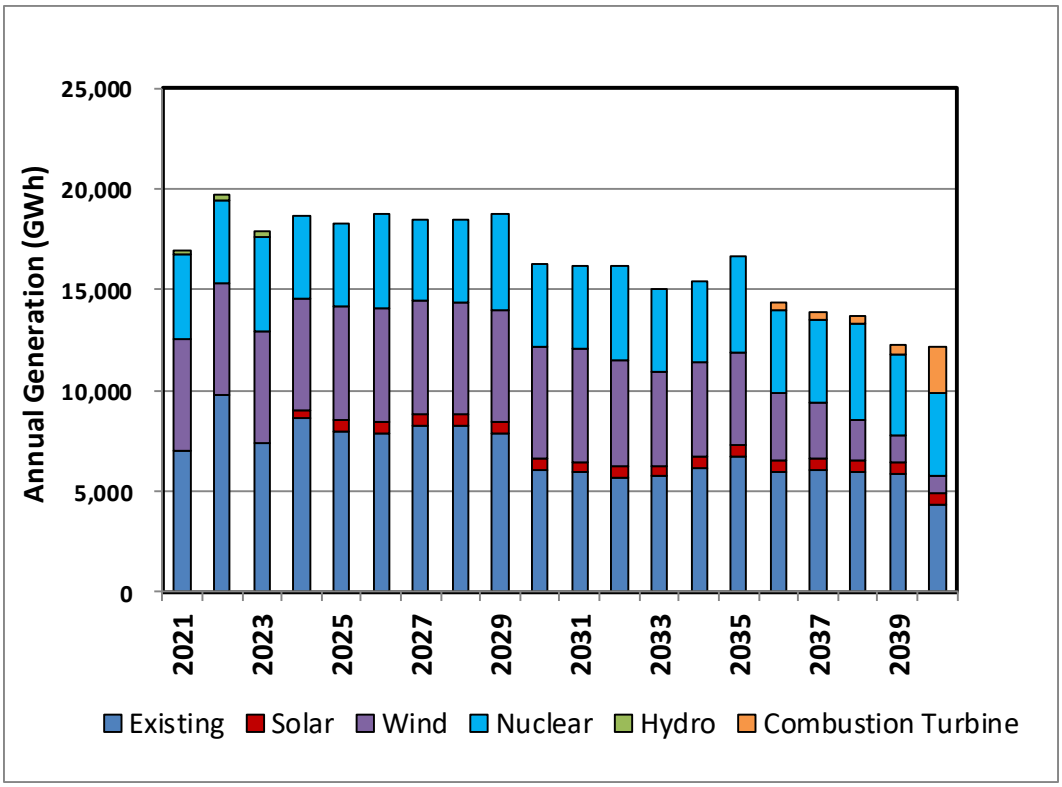


Table 52: Annual Generation MCCCS

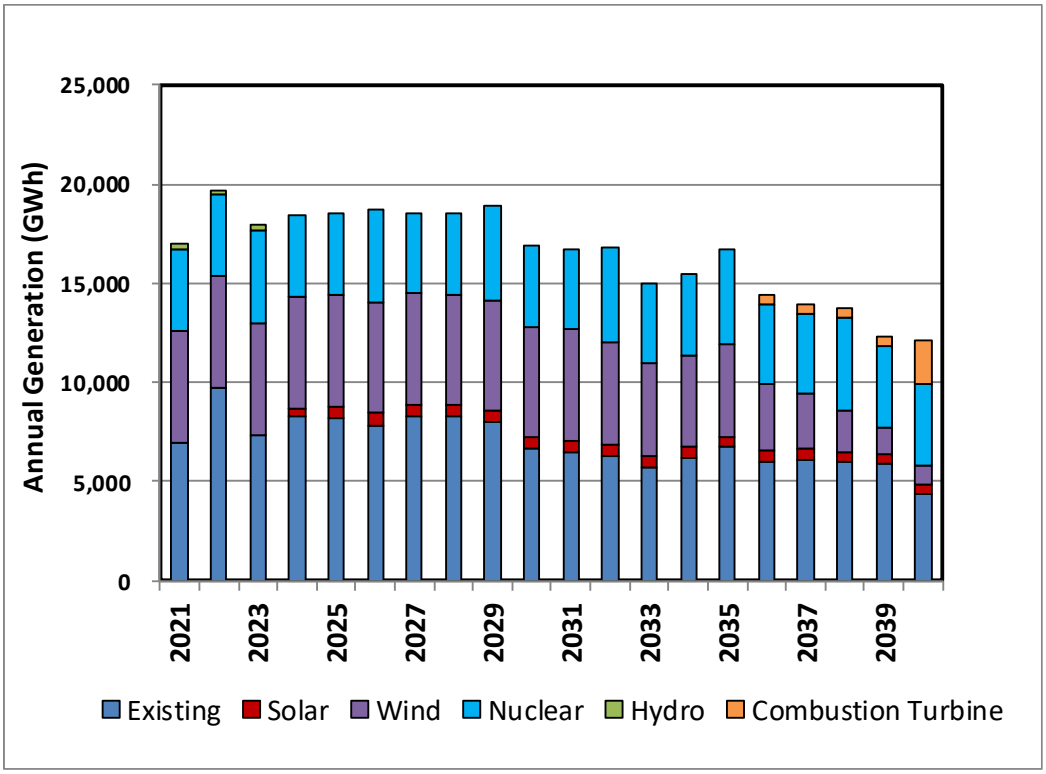


Table 53: Annual Generation MCGBU

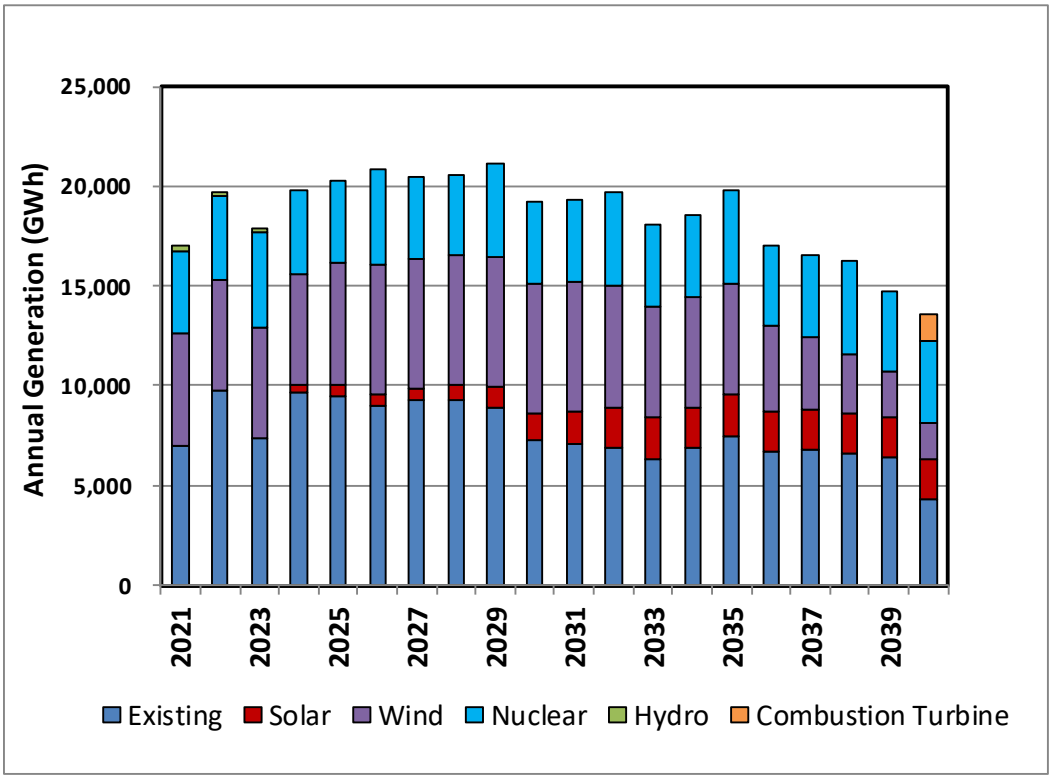


Table 54: Annual Generation MCGCS

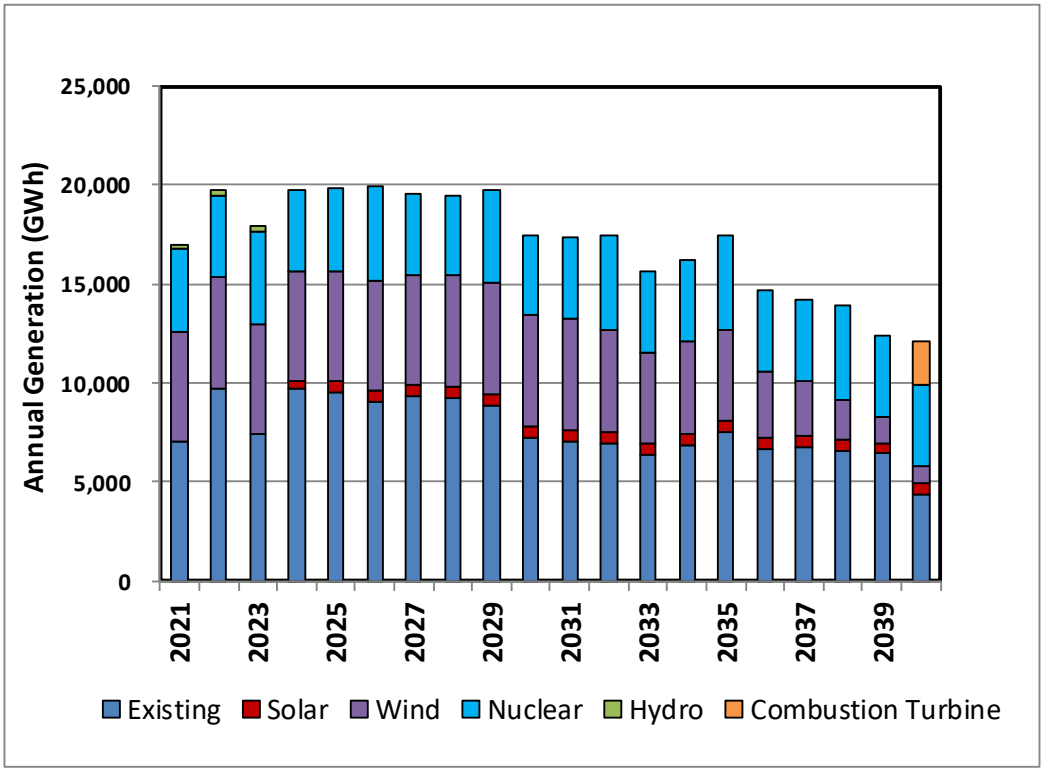


Table 55: Annual Generation MCGCT

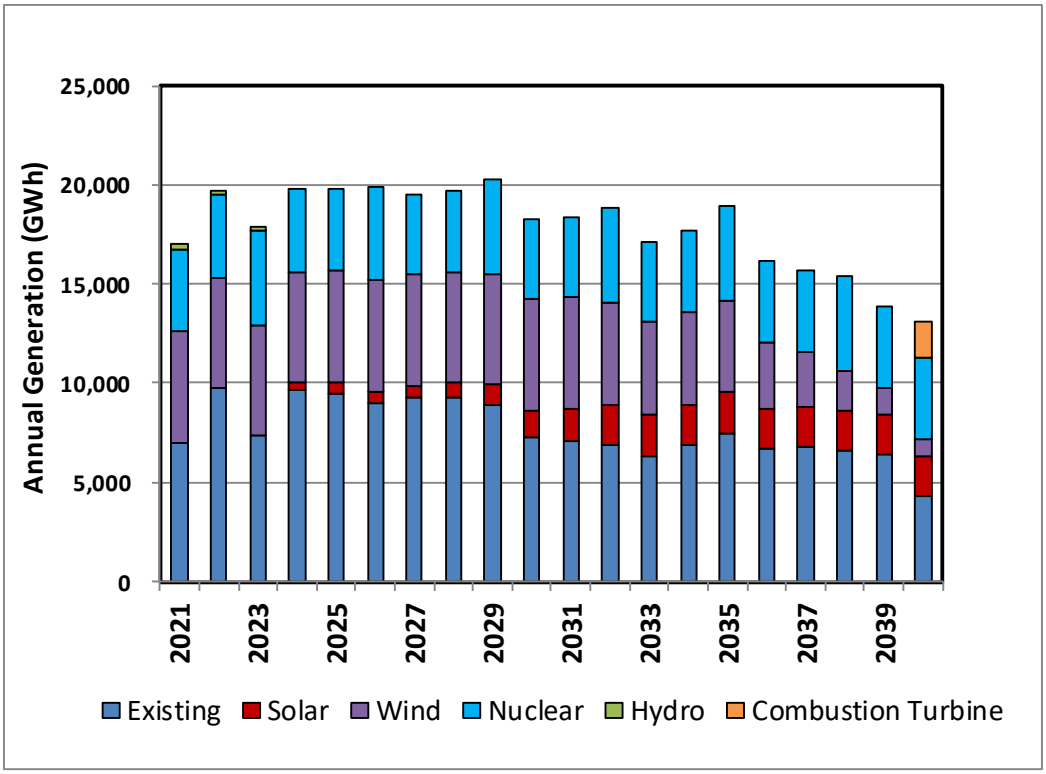


Table 56: Annual Generation MCGCU

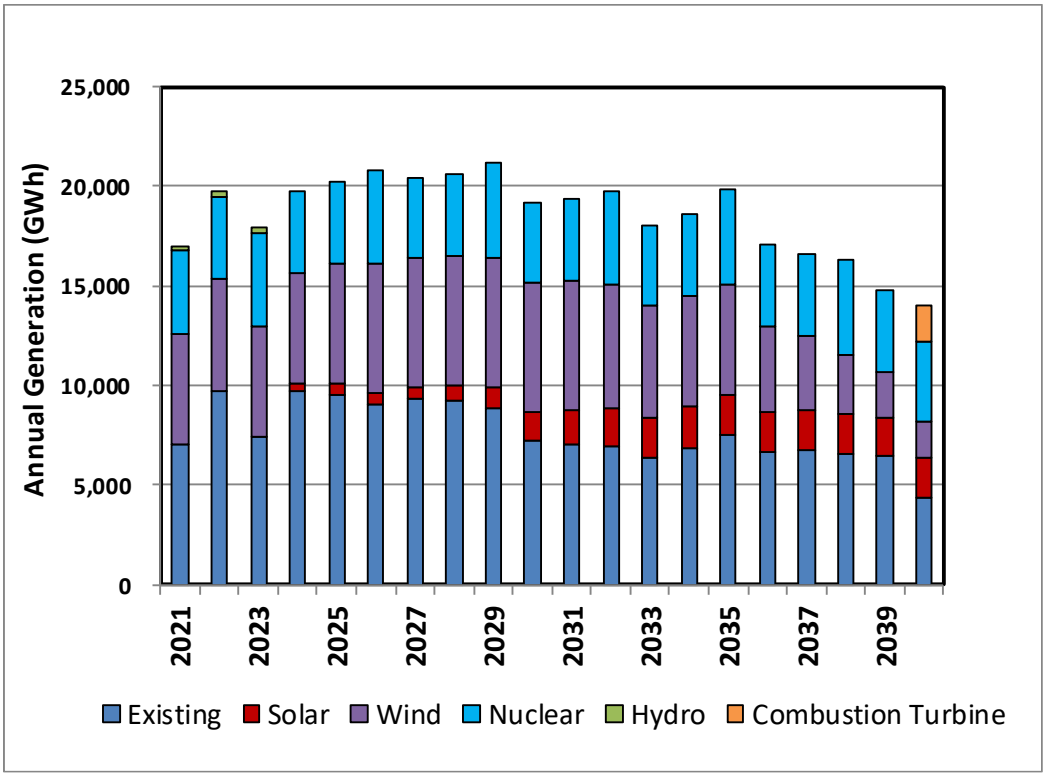


Table 57: Annual Generation MCGDS

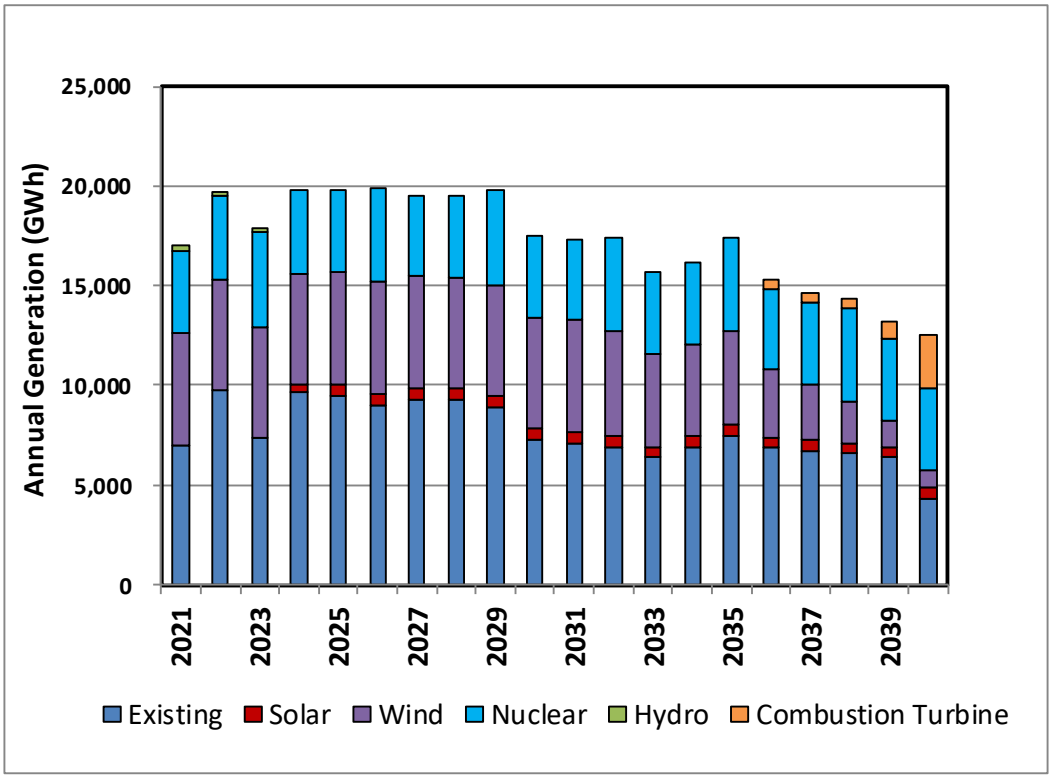


Table 58: Annual Generation MCGDU

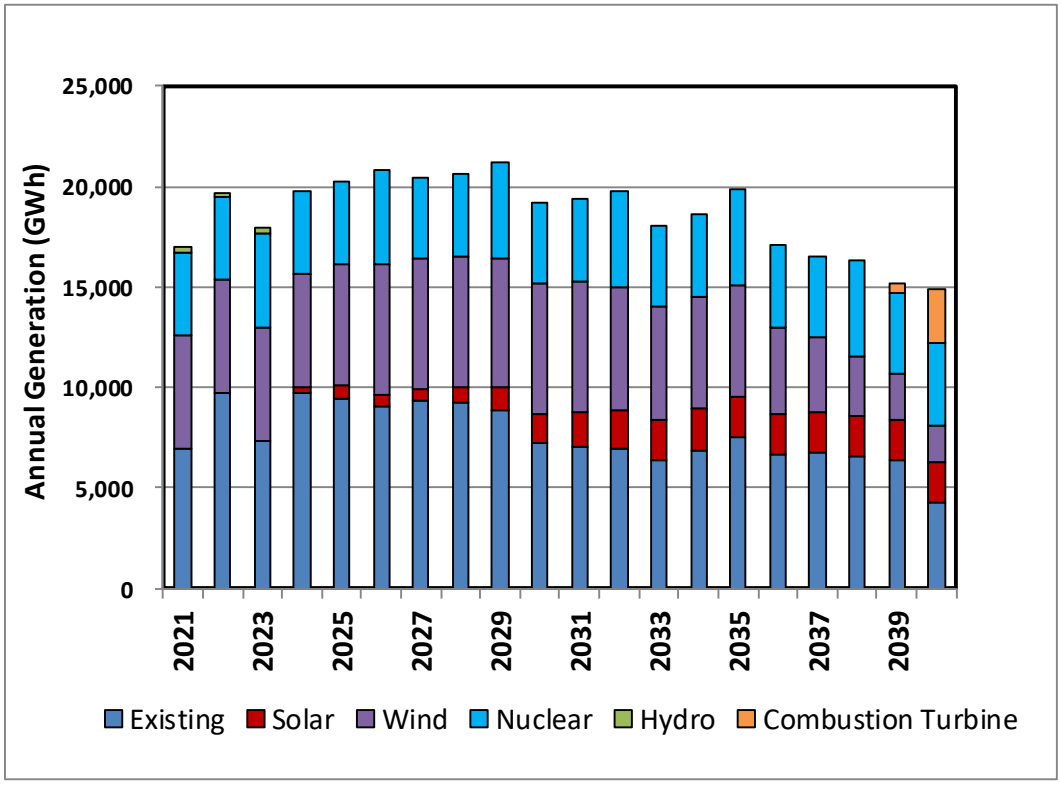


Table 59: Annual Generation MDDCS

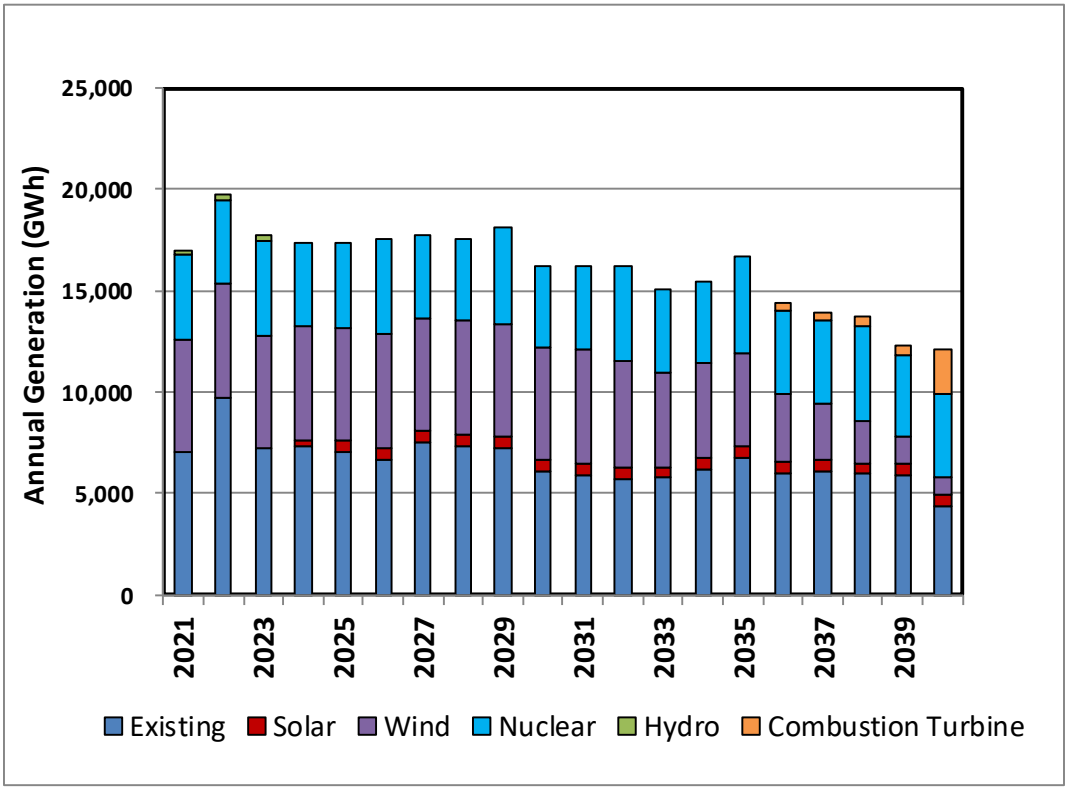


Table 60: Annual Generation MEECS

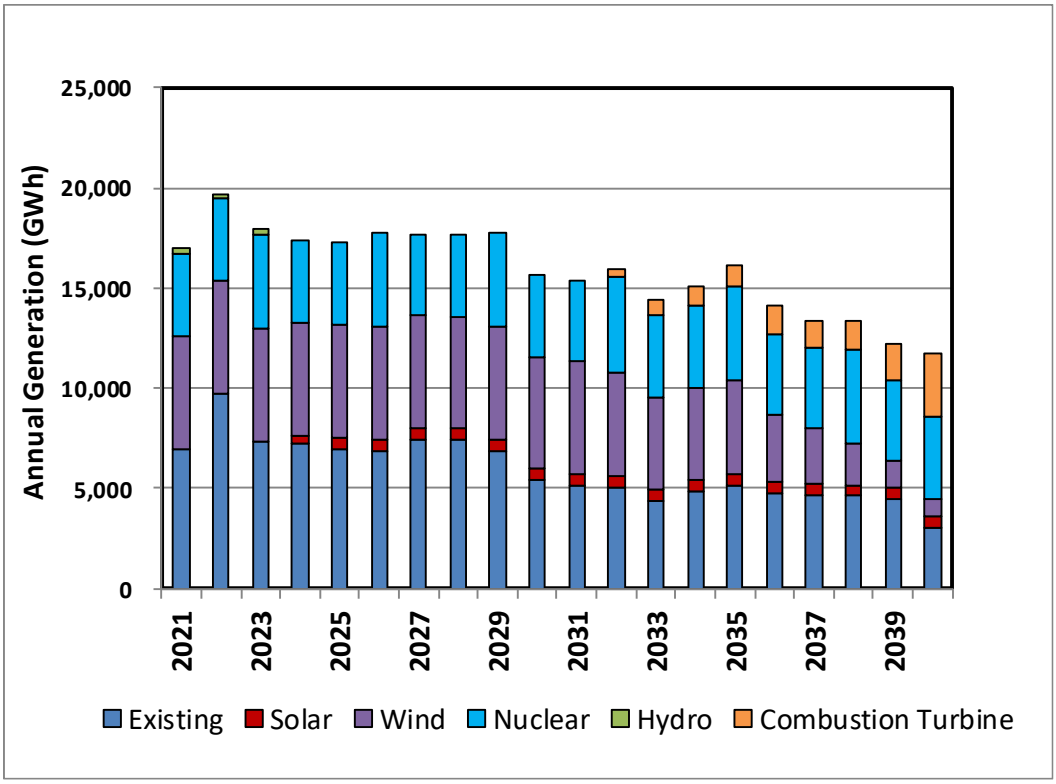
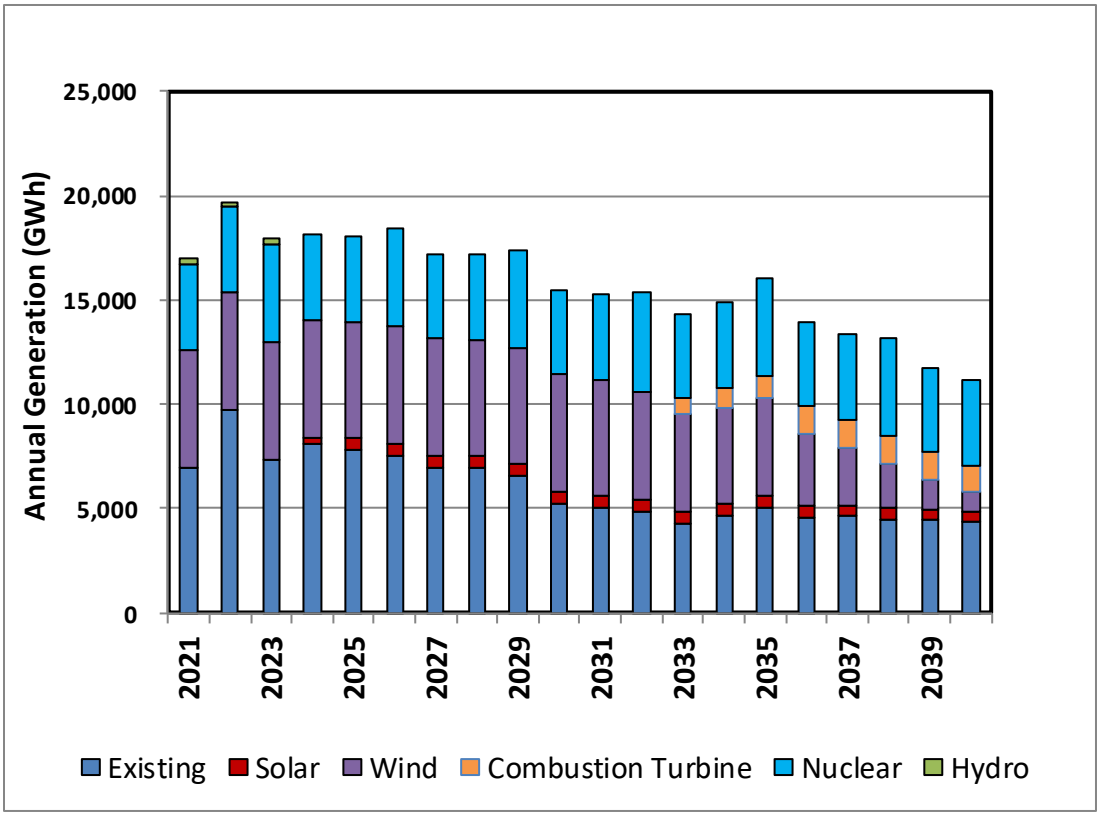


Table 61: Annual Generation MFFCS



7. Annual emissions of each environmental pollutant identified pursuant to 4 CSR 240-22.040(2)(B);

The following charts detail the expected value of annual emissions in each Alternative Resource Plan.

Table 62: Annual Emissions MAAAS

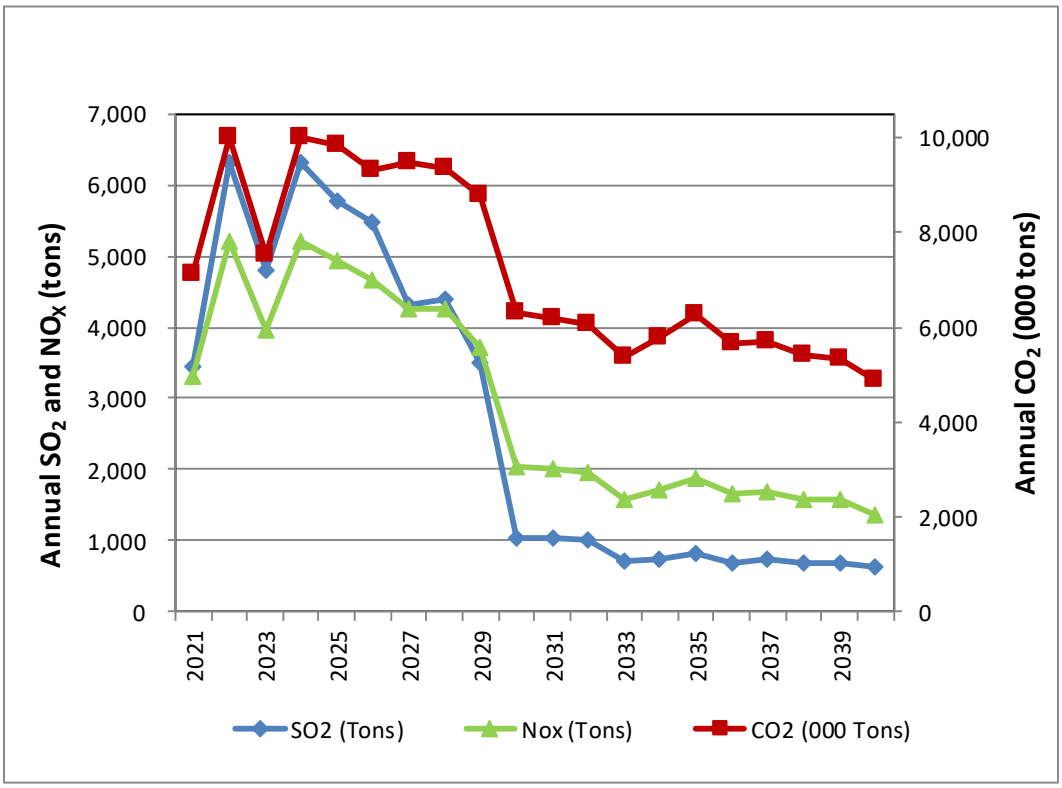


Table 63: Annual Emissions MAABS

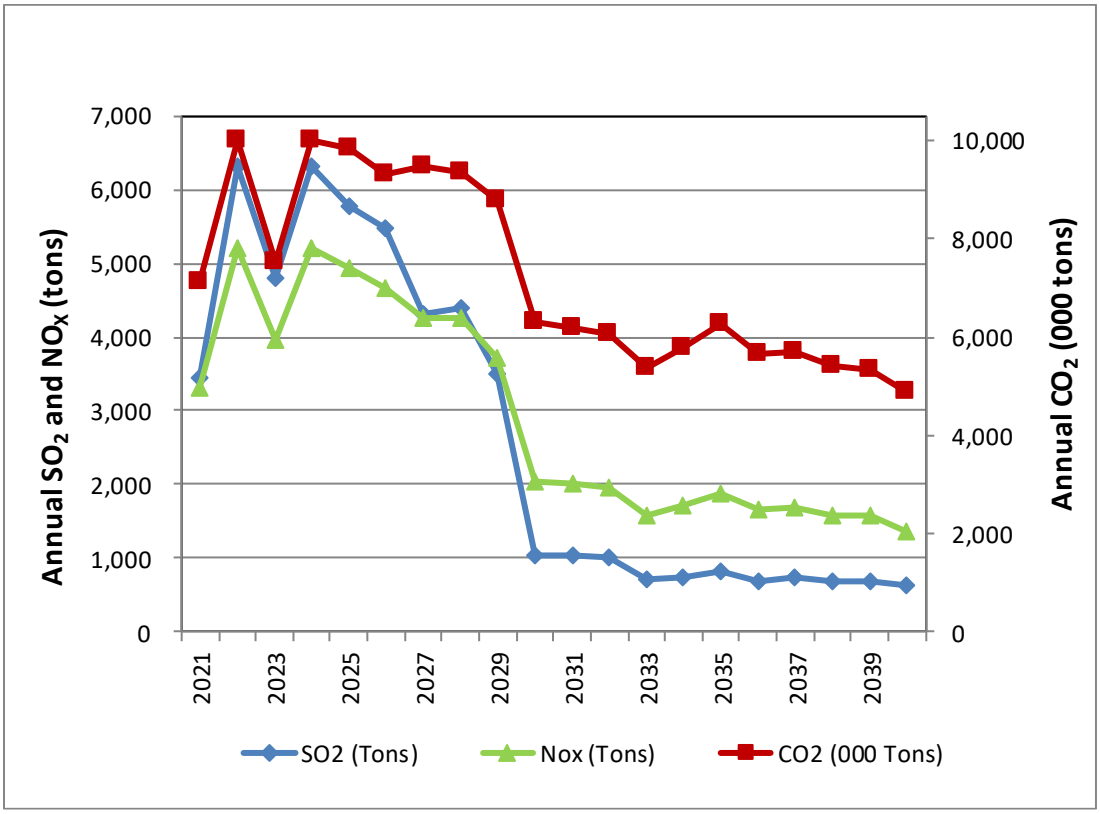


Table 64: Annual Emissions MAACA

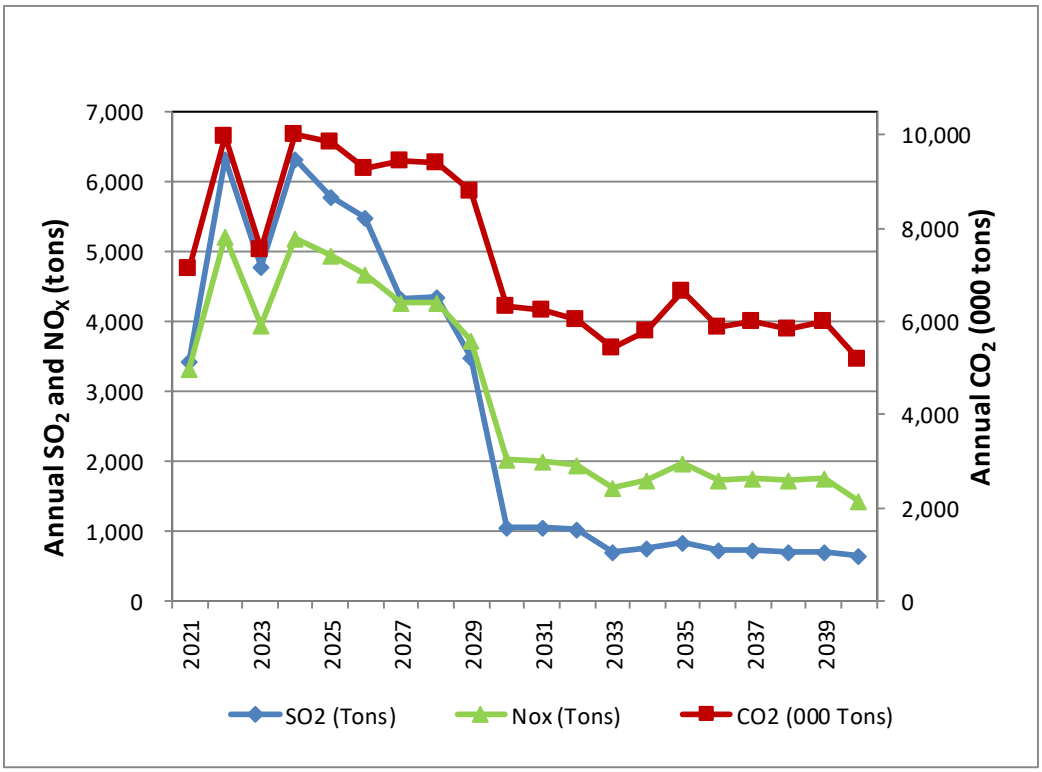


Table 65: Annual Emissions MAACS

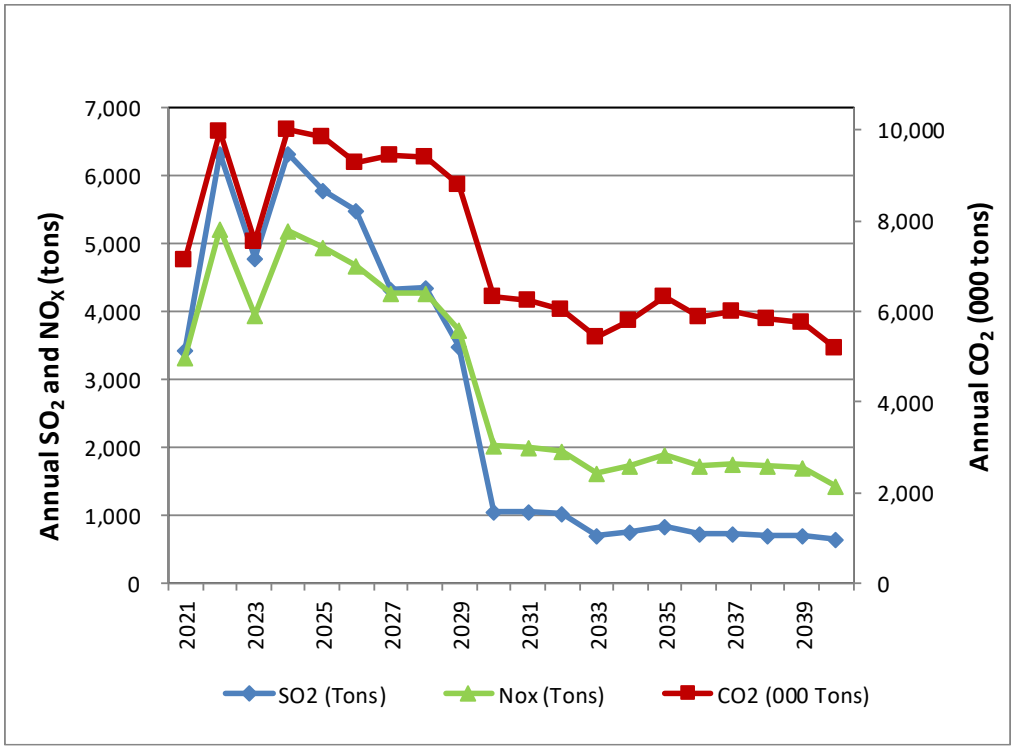


Table 66: Annual Emissions MBBCS

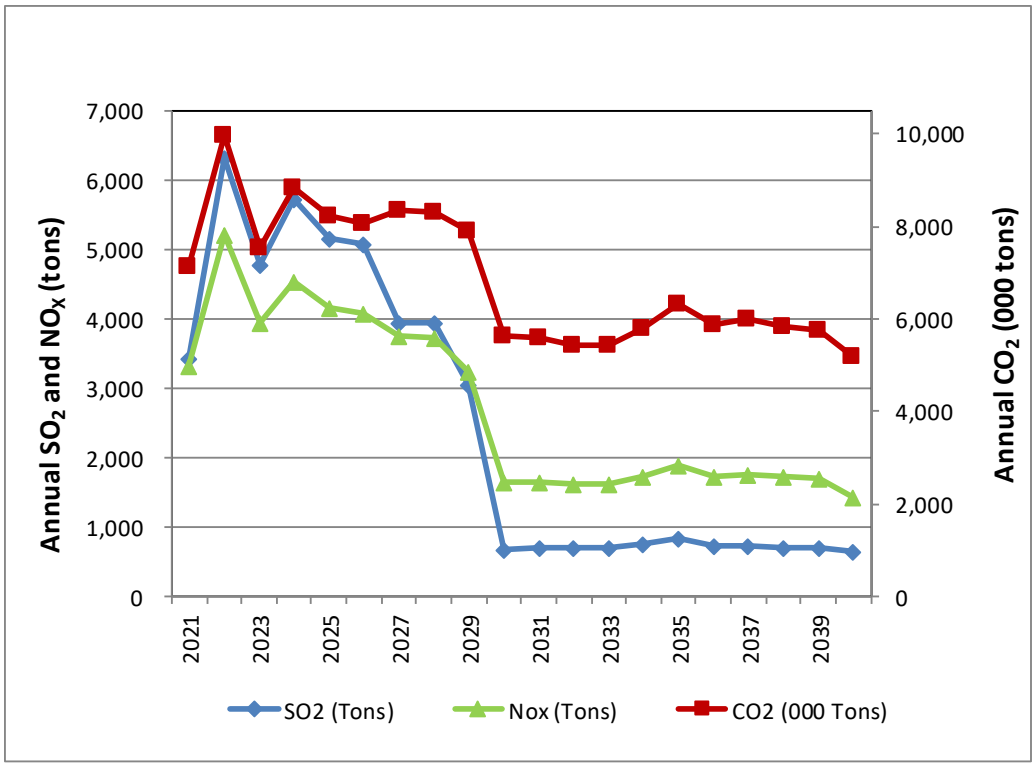


Table 67: Annual Emissions MCCCS

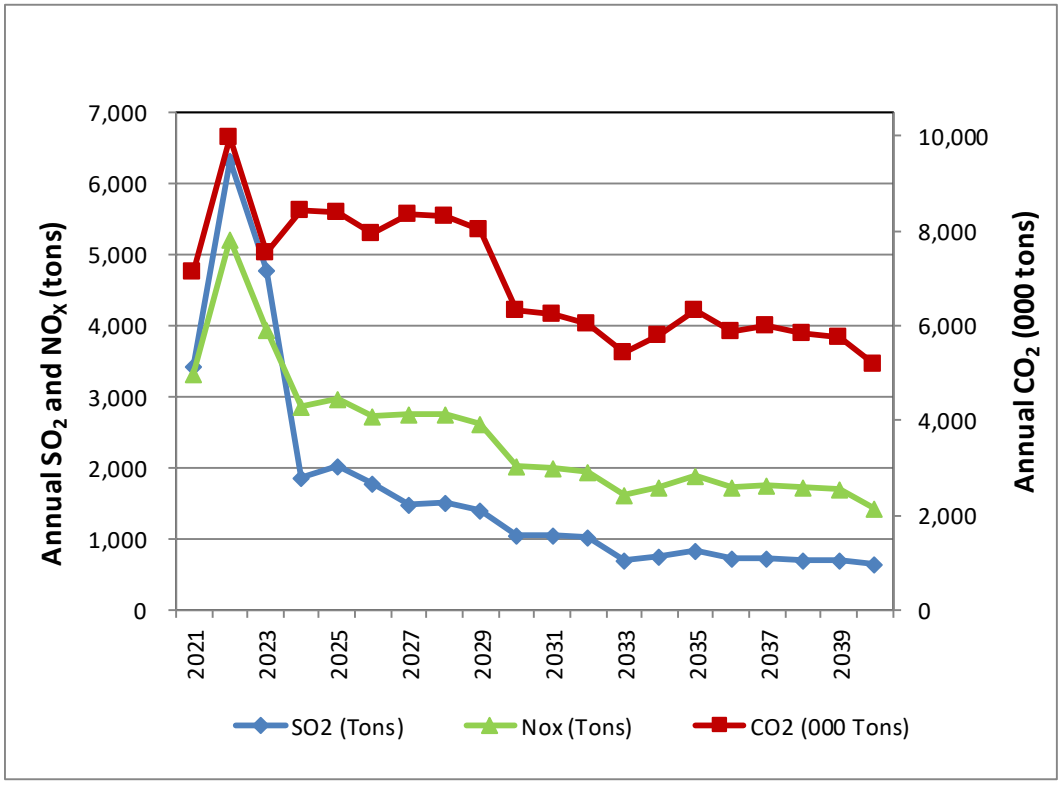


Table 68: Annual Emissions MCGBU

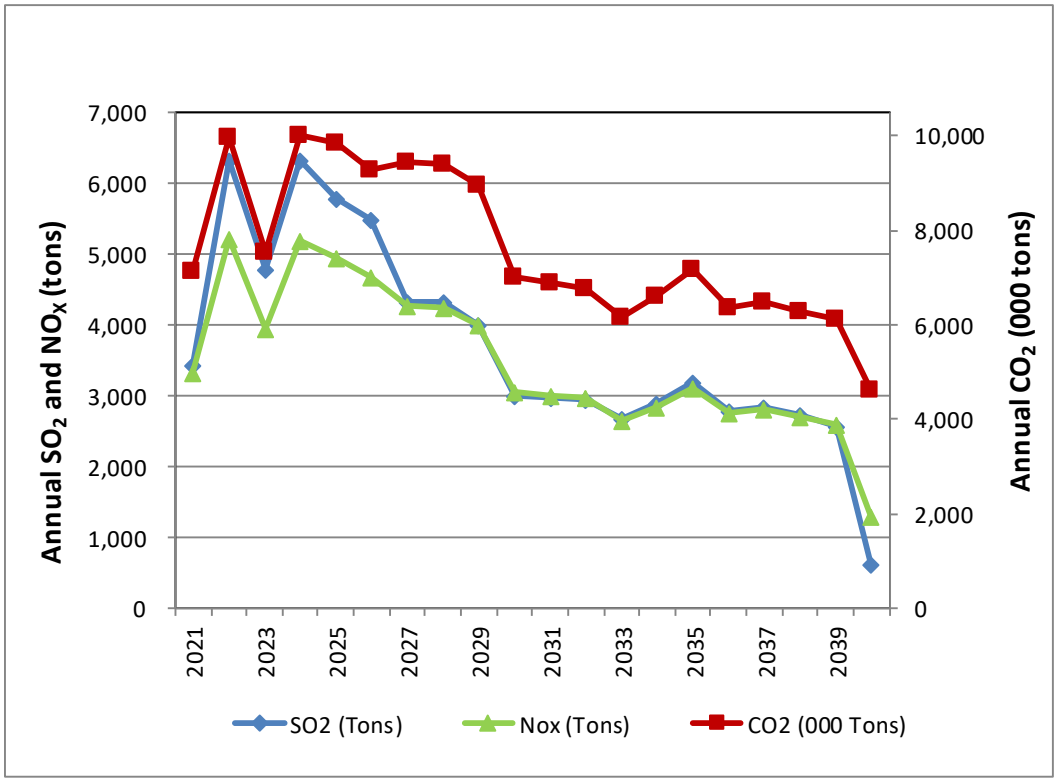


Table 69: Annual Emissions MCGCS

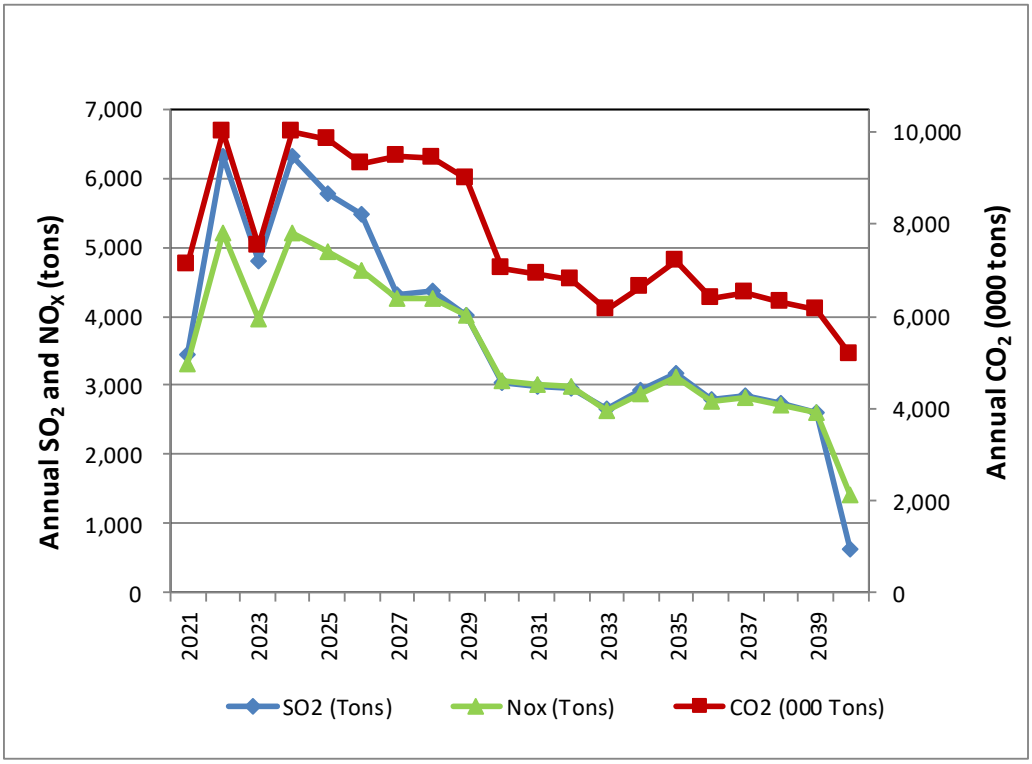


Table 70: Annual Emissions MCGCT

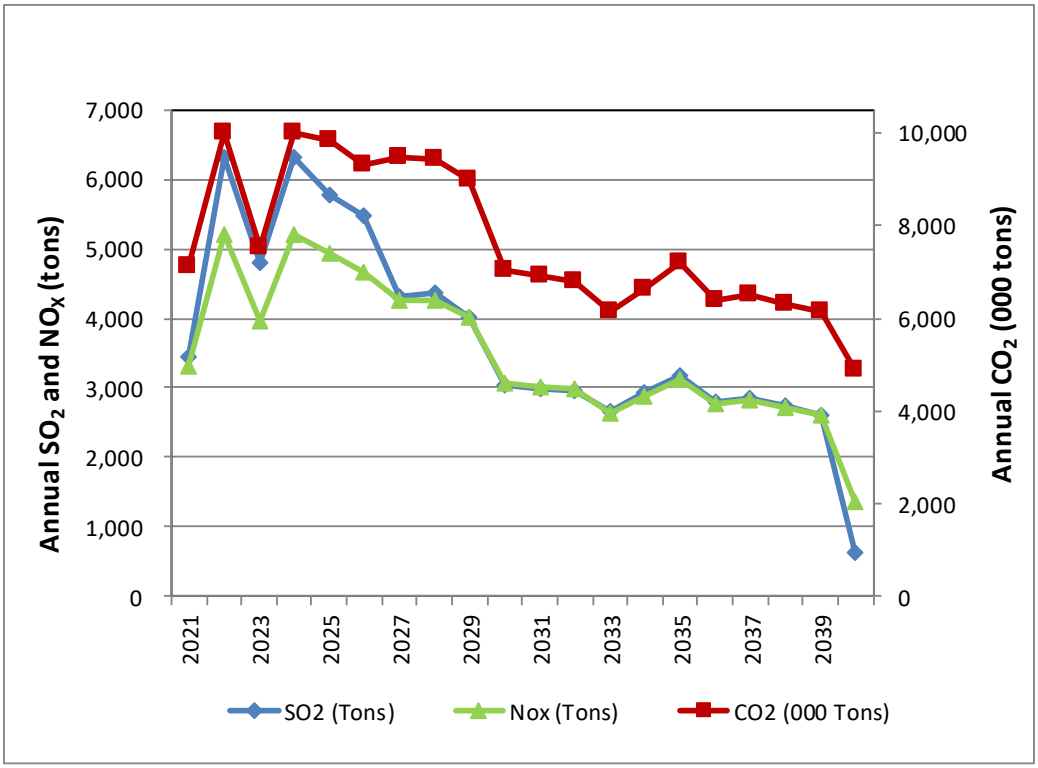


Table 71: Annual Emissions MCGCU

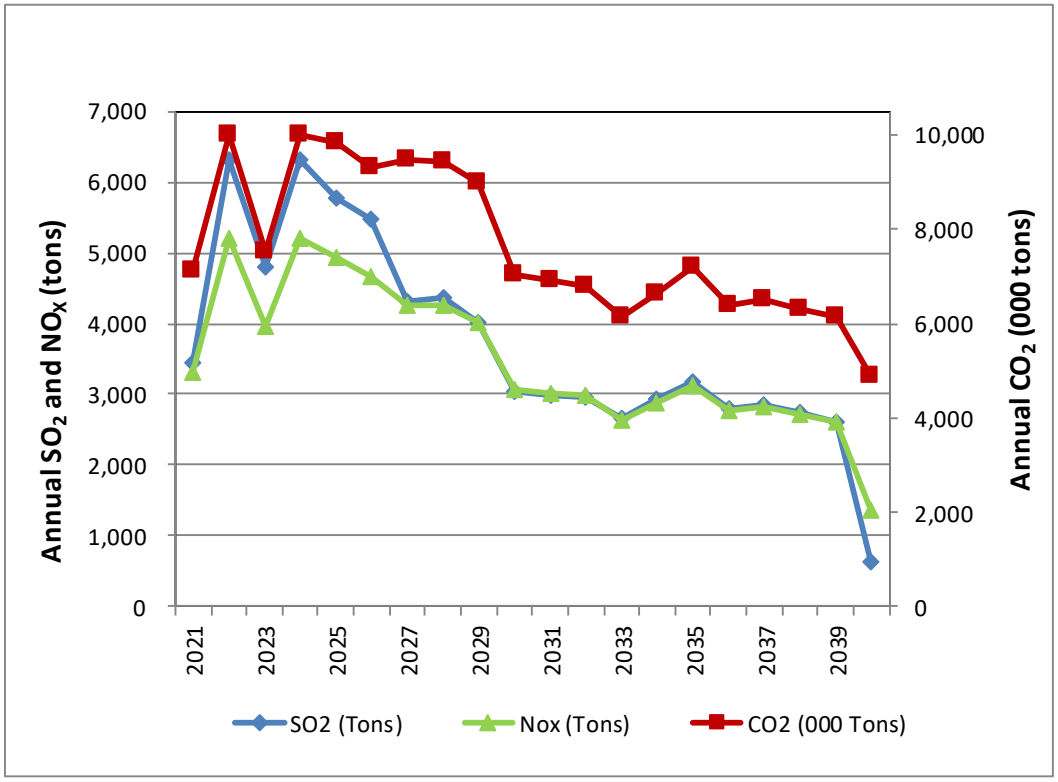


Table 72: Annual Emissions MCGDS

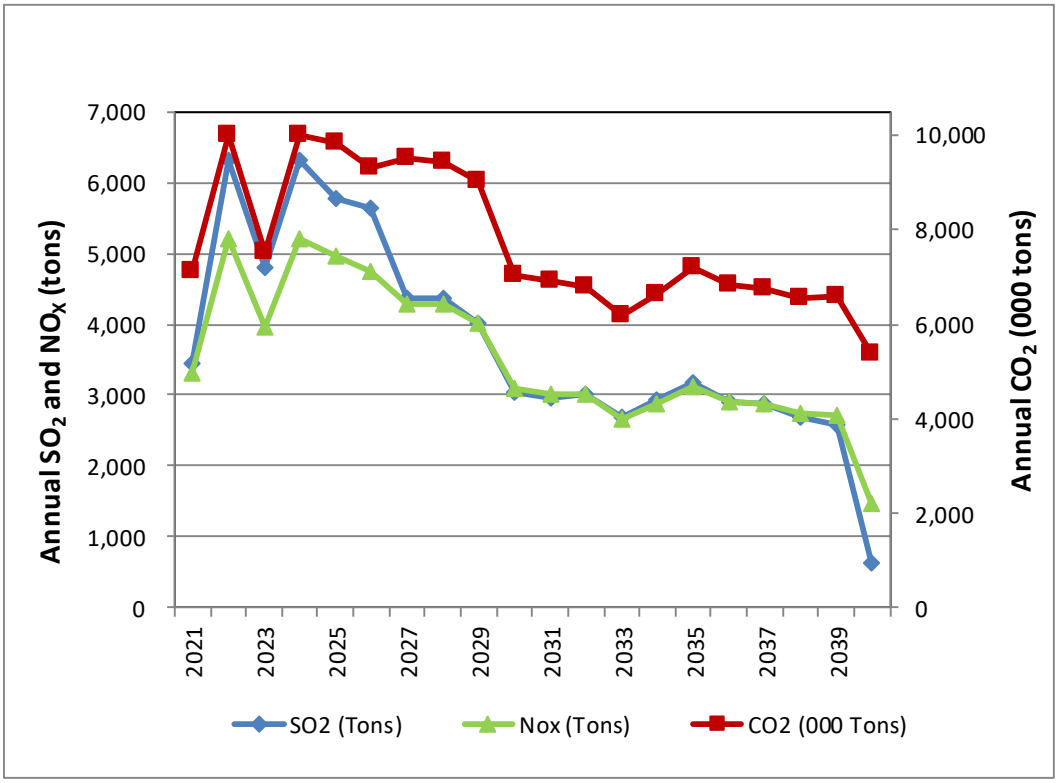


Table 73: Annual Emissions MCGDU

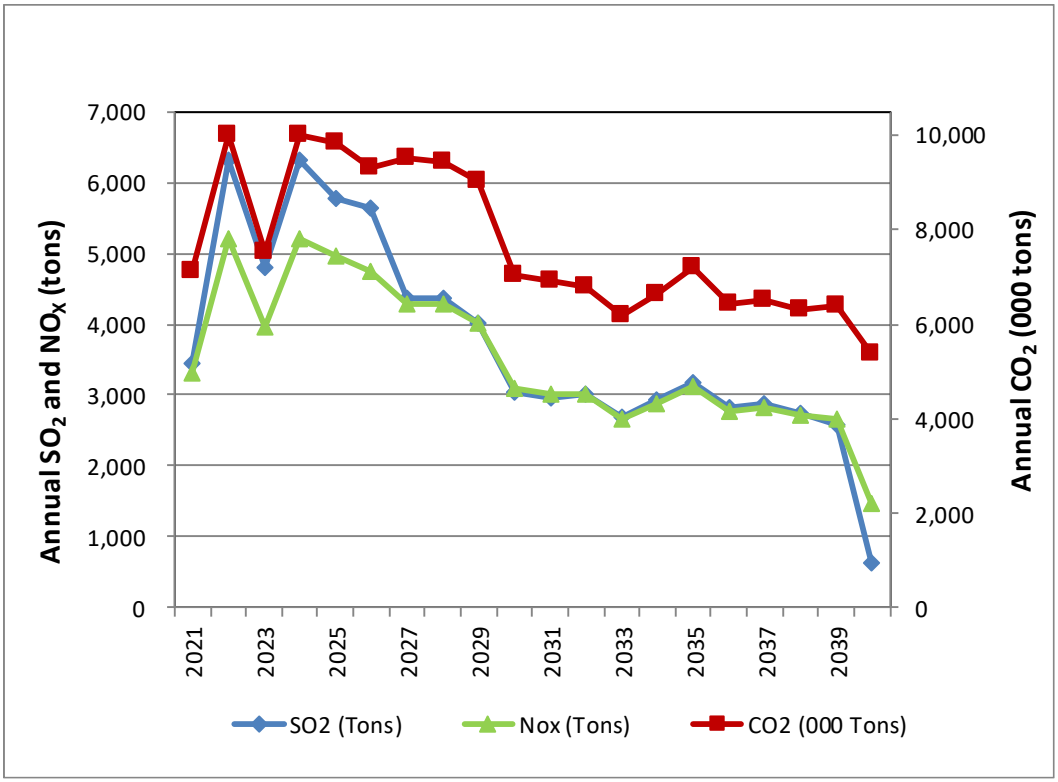


Table 74: Annual Emissions MDDCS

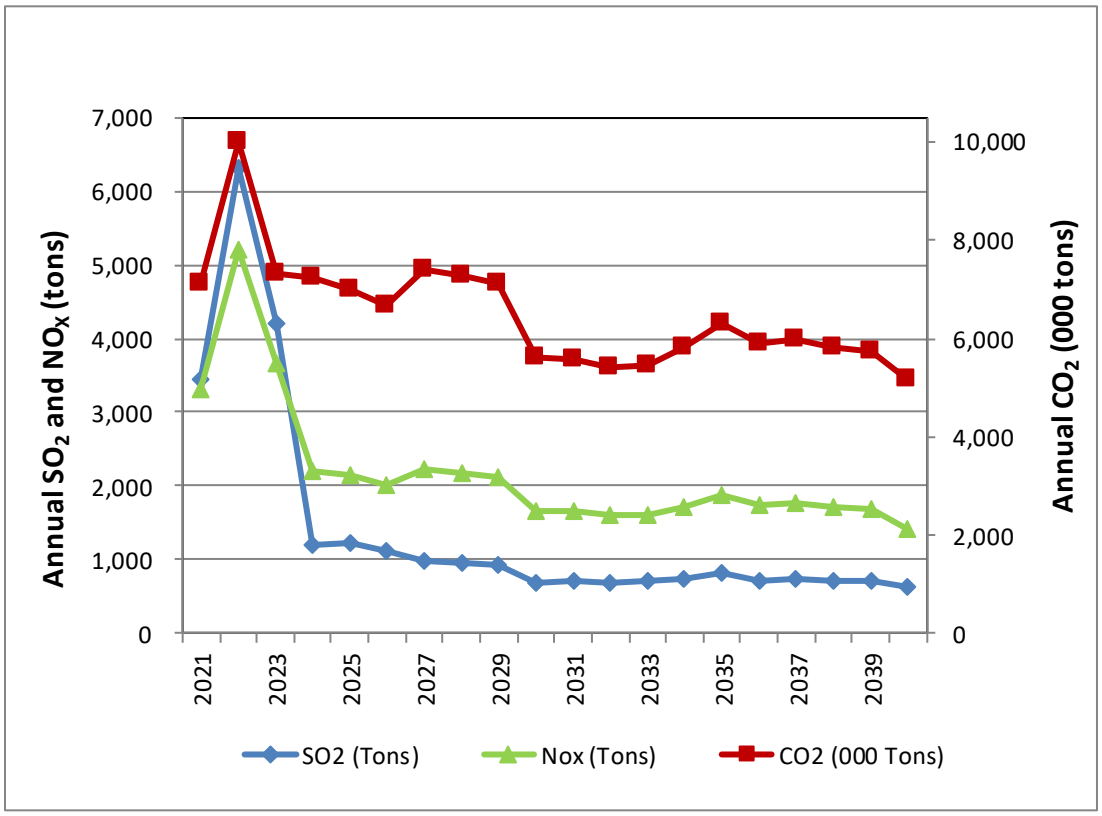


Table 75: Annual Emissions MEECS

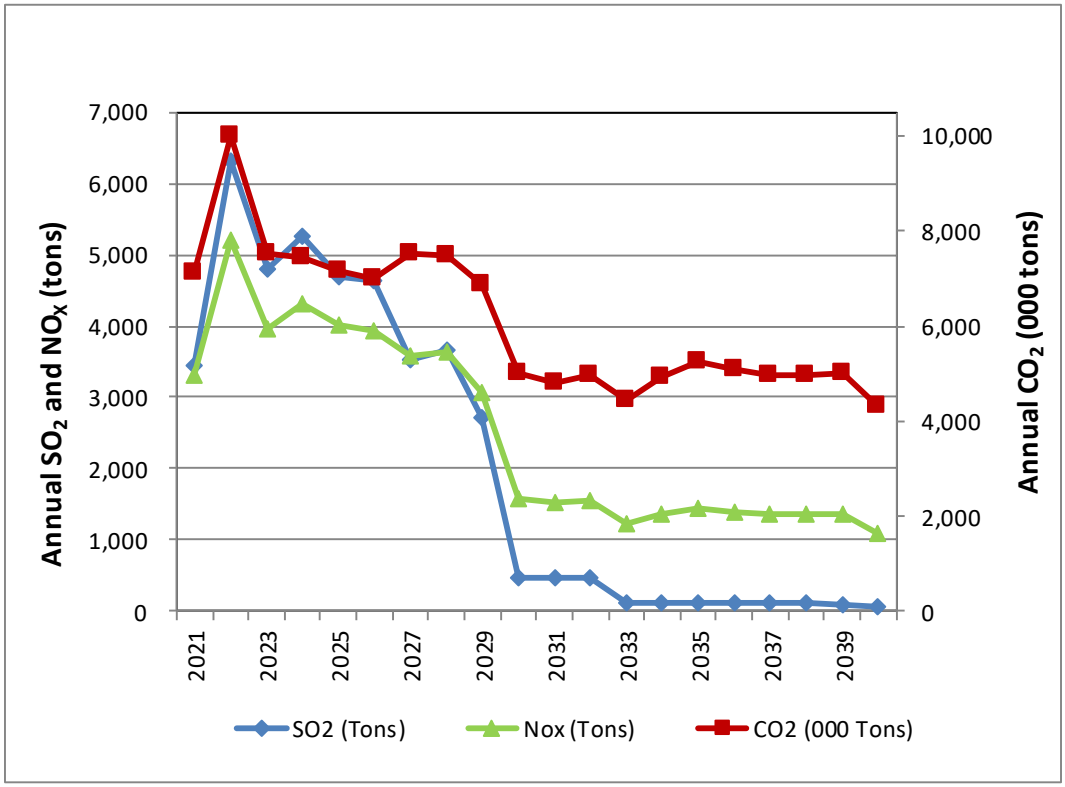
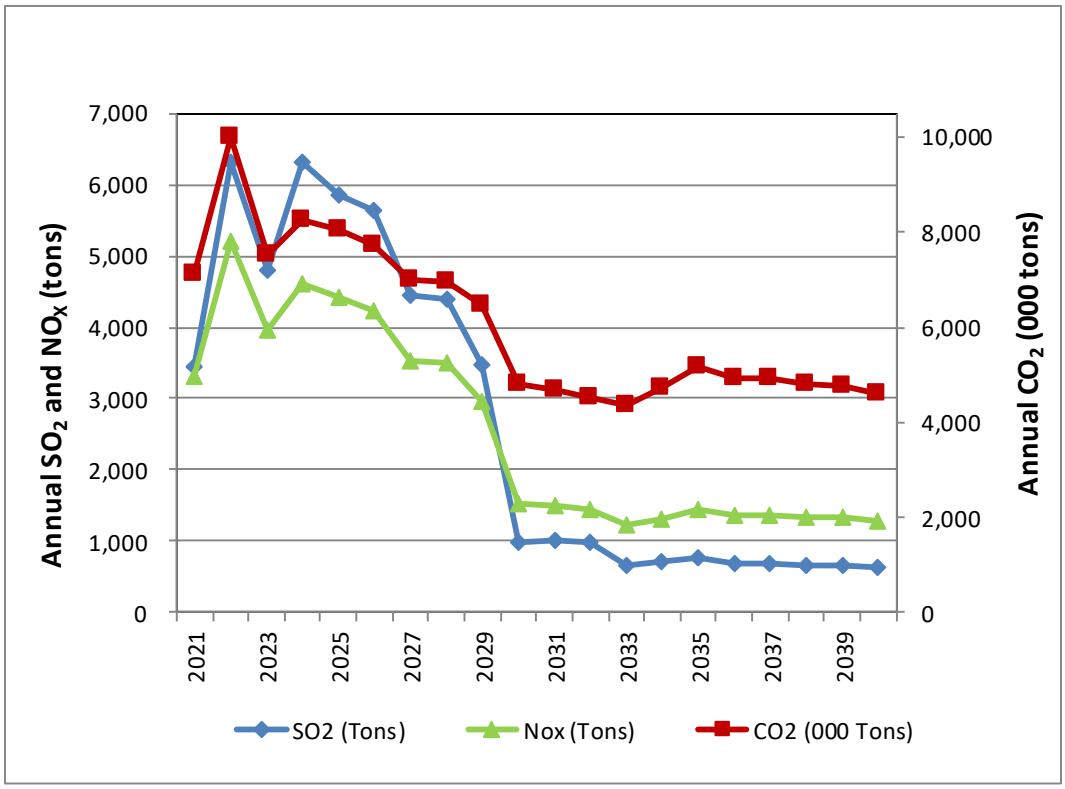


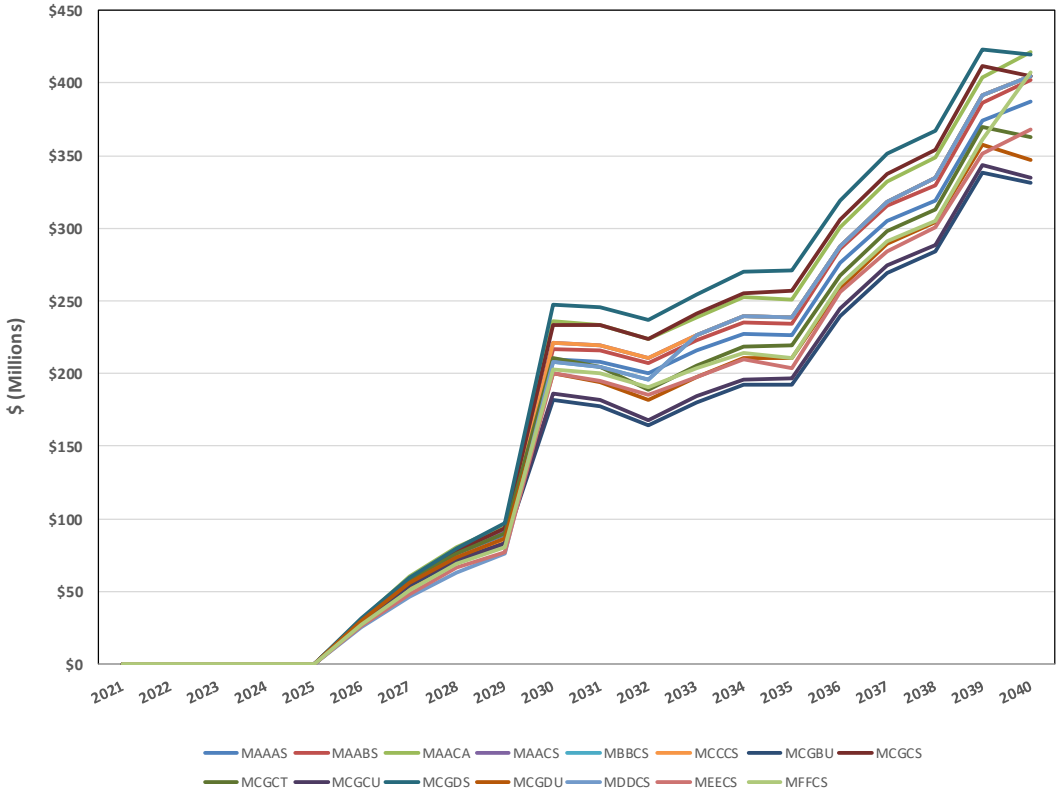
Table 76: Annual Emissions MFFCS



8. Annual probable environmental costs; and

The following table shows the annual probable environmental cost of each plan on an expected value basis.

Chart 17: Probable Environmental Costs



9. Public and highly-confidential forms of the capacity balance spreadsheets completed in the specified format;

The following tables provide the Evergy Metro forecast of capacity balance for the next 20 years for each of the Alternative Resource Plans discussed elsewhere in this document.

Table 77: Capacity Forecast - Alternative Resource Plan MAAAS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331											
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,471**	**2,471**	**2,471**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	699
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,634**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**3,775**	**3,775**	**3,775**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,611**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	115	93	59	32	10
Sales:																				
Evergy Missouri West	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Eudora	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(99)	(54)	(15)	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(99)	(54)	(15)	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**113**	**113**	**113**	**15**	**(6)**	**5**	**17**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,239**	**4,239**	**4,254**	**4,254**	**4,254**	**4,269**	**3,938**	**3,938**	**3,908**	**3,515**	**3,515**	**3,515**	**3,417**	**3,396**	**3,407**	**3,420**	**3,621**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	96	135	162	185	207	225	237	247	255	262	265	268	270	272	273	274	276	277
Energy Efficiency	-	-	34	70	96	117	136	152	166	180	192	203	209	211	213	217	223	231	239	245
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			82	83	83	85	88	91	94	96	99	101	103	103	104	105	105	106	106	106
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,218**	**3,152**	**3,104**	**3,066**	**3,035**	**3,013**	**2,991**	**2,973**	**2,968**	**2,977**	**2,984**	**2,995**	**3,010**	**3,024**	**3,032**	**3,042**	**3,053**	**3,067**
Capacity Reserves (CR)	**580**	**587**	**613**	**1,087**	**1,135**	**1,188**	**1,219**	**1,241**	**1,279**	**966**	**970**	**931**	**531**	**520**	**506**	**393**	**364**	**365**	**366**	**554**
D. Capacity Needs																				
% Reserve Margin	17%	17%	19%	34%	37%	39%	40%	41%	43%	32%	33%	31%	18%	17%	17%	13%	12%	12%	12%	18%
% Capacity Margin	14%	15%	16%	26%	27%	28%	29%	29%	30%	25%	25%	24%	15%	15%	14%	12%	11%	11%	11%	15%
Required Capacity (RC)	**3,837**	**3,827**	**3,604**	**3,531**	**3,477**	**3,434**	**3,399**	**3,375**	**3,350**	**3,329**	**3,324**	**3,334**	**3,342**	**3,355**	**3,371**	**3,387**	**3,396**	**3,407**	**3,420**	**3,435**
Capacity Balance	**169**	**177**	**227**	**709**	**763**	**820**	**855**	**879**	**920**	**609**	**614**	**574**	**173**	**160**	**144**	**30**	**(0)**	**(0)**	**(0)**	**186**

Table 78: Capacity Forecast - Alternative Resource Plan MAABS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331											
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,471**	**2,471**	**2,471**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	233	699
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**1,168**	**1,634**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**3,775**	**3,775**	**3,775**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,635**	**3,635**	**3,611**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	100	-	-	25
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	190	193	59	32	35
Sales:																				
Evergy Missouri West	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Eudora	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(85)	(66)	-	-	-	(50)	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(100)	(85)	(66)	-	-	-	(50)	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**113**	**128**	**147**	**190**	**193**	**59**	**(18)**	**35**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,239**	**4,239**	**4,254**	**4,254**	**4,254**	**4,269**	**3,938**	**3,938**	**3,908**	**3,515**	**3,530**	**3,549**	**3,592**	**3,595**	**3,694**	**3,617**	**3,646**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	86	113	135	154	170	183	191	197	201	206	207	209	210	211	212	213	214	214
Energy Efficiency	-	-	24	50	71	89	104	117	129	140	149	157	161	163	163	164	167	171	174	177
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	5	9	14	22	30	38	44	49	51	53	54	55	55	56	56	56	56
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,319**	**3,271**	**3,230**	**3,197**	**3,170**	**3,150**	**3,129**	**3,115**	**3,115**	**3,129**	**3,139**	**3,152**	**3,169**	**3,187**	**3,200**	**3,214**	**3,230**	**3,247**
Capacity Reserves (CR)	**580**	**587**	**512**	**968**	**1,009**	**1,057**	**1,085**	**1,105**	**1,140**	**823**	**823**	**779**	**377**	**378**	**380**	**405**	**396**	**480**	**387**	**399**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	30%	31%	33%	34%	35%	36%	26%	26%	25%	12%	12%	12%	13%	12%	15%	12%	12%
% Capacity Margin	14%	15%	13%	23%	24%	25%	25%	26%	27%	21%	21%	20%	11%	11%	11%	11%	11%	13%	11%	11%
Required Capacity (RC)	**3,837**	**3,827**	**3,717**	**3,664**	**3,618**	**3,581**	**3,550**	**3,528**	**3,505**	**3,489**	**3,489**	**3,505**	**3,516**	**3,531**	**3,549**	**3,570**	**3,583**	**3,600**	**3,617**	**3,637**
Capacity Balance	**169**	**177**	**114**	**575**	**621**	**673**	**704**	**727**	**764**	**450**	**449**	**404**	**(0)**	**(0)**	**(0)**	**23**	**12**	**95**	**(0)**	**9**

Table 79: Capacity Forecast - Alternative Resource Plan MAACA

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331											
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,471**	**2,471**	**2,471**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	466	932
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**1,168**	**1,168**	**1,168**	**1,401**	**1,867**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions								6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Total Intermittent Capacity with Additions	48.0	48.0	30.0	30.0	30.0	30.0	30.0	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**3,991**	**3,991**	**3,991**	**3,991**	**3,998**	**3,998**	**3,667**	**3,667**	**3,667**	**3,294**	**3,294**	**3,527**	**3,527**	**3,527**	**3,527**	**3,760**	**3,735**
B. Capacity Transactions	**4,009**	**4,009**	**3,991**	**3,991**	**3,991**	**3,991**	**3,991**	**3,998**	**3,998**	**3,667**	**3,667**	**3,667**	**3,294**	**3,294**	**3,294**	**3,294**	**3,294**	**3,294**	**3,294**	**2,804**
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	75	100	-	-	50	100	-	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	288	313	213	115	143	159	32	10
Sales:																				
Evergy Missouri West	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Eudora	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	-	-	-	(5)	-	-	-	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	-	-	-	(5)	-	-	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**288**	**313**	**213**	**110**	**143**	**159**	**32**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,124**	**4,124**	**4,139**	**4,139**	**4,146**	**4,161**	**3,830**	**3,830**	**3,800**	**3,582**	**3,607**	**3,740**	**3,637**	**3,670**	**3,686**	**3,792**	**3,745**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**841**	**875**	**917**	**939**	**960**	**991**	**671**	**668**	**621**	**391**	**400**	**513**	**390**	**407**	**406**	**494**	**429**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	26%	27%	28%	29%	30%	31%	21%	21%	20%	12%	12%	16%	12%	12%	12%	15%	13%
% Capacity Margin	14%	15%	13%	20%	21%	22%	23%	23%	24%	18%	17%	16%	11%	11%	14%	11%	11%	11%	13%	11%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**447**	**486**	**531**	**555**	**578**	**611**	**292**	**288**	**239**	**8**	**15**	**126**	**(0)**	**15**	**13**	**98**	**31**

Table 80: Capacity Forecast - Alternative Resource Plan MAACS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331											
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,471**	**2,471**	**2,471**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	932
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**1,168**	**1,168**	**1,168**	**1,867**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**3,775**	**3,775**	**3,775**	**3,402**	**3,402**	**3,402**	**3,635**	**3,635**	**3,635**	**3,635**	**3,844**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	115	93	59	82	10
Sales:																				
Evergy Missouri West	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Eudora	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(41)	(24)	(2)	-	(74)	(21)	-	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(41)	(24)	(2)	-	(74)	(21)	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**172**	**189**	**211**	**115**	**19**	**38**	**82**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,239**	**4,239**	**4,254**	**4,254**	**4,254**	**4,269**	**3,938**	**3,938**	**3,908**	**3,574**	**3,591**	**3,613**	**3,750**	**3,654**	**3,673**	**3,717**	**3,854**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**956**	**990**	**1,032**	**1,054**	**1,069**	**1,100**	**779**	**776**	**729**	**383**	**385**	**387**	**503**	**391**	**393**	**420**	**537**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	29%	30%	32%	33%	34%	35%	25%	25%	23%	12%	12%	12%	15%	12%	12%	13%	16%
% Capacity Margin	14%	15%	13%	23%	23%	24%	25%	25%	26%	20%	20%	19%	11%	11%	11%	13%	11%	11%	11%	14%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**562**	**601**	**646**	**670**	**687**	**719**	**400**	**397**	**348**	**(0)**	**(0)**	**(0)**	**113**	**(0)**	**(0)**	**24**	**139**

Table 81: Capacity Forecast - Alternative Resource Plan MBBCS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373																
La Cygne 2	331	331	331	331	331	331	331	331	331											
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	932
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**1,168**	**1,168**	**1,168**	**1,867**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**3,733**	**3,733**	**3,733**	**3,733**	**3,733**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,635**	**3,635**	**3,635**	**3,635**	**3,844**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	115	93	59	82	10
Sales:																				
Evergy Missouri West	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Eudora	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(75)	(41)	(24)	(2)	-	(74)	(21)	-	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(75)	(41)	(24)	(2)	-	(74)	(21)	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**158**	**172**	**189**	**211**	**115**	**19**	**38**	**82**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,239**	**3,866**	**3,881**	**3,881**	**3,881**	**3,896**	**3,565**	**3,565**	**3,560**	**3,574**	**3,591**	**3,613**	**3,750**	**3,654**	**3,673**	**3,717**	**3,854**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**956**	**617**	**659**	**681**	**696**	**727**	**406**	**403**	**381**	**383**	**385**	**387**	**503**	**391**	**393**	**420**	**537**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	29%	19%	20%	21%	22%	23%	13%	13%	12%	12%	12%	12%	15%	12%	12%	13%	16%
% Capacity Margin	14%	15%	13%	23%	16%	17%	18%	18%	19%	11%	11%	11%	11%	11%	11%	13%	11%	11%	11%	14%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**562**	**228**	**273**	**297**	**314**	**346**	**27**	**24**	**(0)**	**(0)**	**(0)**	**(0)**	**113**	**(0)**	**(0)**	**24**	**139**

Table 82: Capacity Forecast - Alternative Resource Plan MCCCS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331																	
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,471**	**2,471**	**2,471**	**2,471**	**2,471**	**2,471**	**2,471**	**2,471**	**2,471**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT																233	233	233	233	932
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**1,168**	**1,168**	**1,168**	**1,867**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**3,775**	**3,775**	**3,775**	**3,775**	**3,775**	**3,775**	**3,775**	**3,775**	**3,775**	**3,402**	**3,402**	**3,402**	**3,635**	**3,635**	**3,635**	**3,635**	**3,844**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	115	93	59	82	10
Sales:																				
City of Eudora	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(41)	(24)	(2)	-	(74)	(21)	-	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(41)	(24)	(2)	-	(74)	(21)	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**172**	**189**	**211**	**115**	**19**	**38**	**82**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**3,908**	**3,908**	**3,923**	**3,923**	**3,923**	**3,938**	**3,938**	**3,938**	**3,908**	**3,574**	**3,591**	**3,613**	**3,750**	**3,654**	**3,673**	**3,717**	**3,854**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**625**	**659**	**701**	**723**	**738**	**769**	**779**	**776**	**729**	**383**	**385**	**387**	**503**	**391**	**393**	**420**	**537**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	19%	20%	22%	23%	23%	24%	25%	25%	23%	12%	12%	12%	15%	12%	12%	13%	16%
% Capacity Margin	14%	15%	13%	16%	17%	18%	18%	19%	20%	20%	20%	19%	11%	11%	11%	13%	11%	11%	11%	14%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**230**	**269**	**315**	**339**	**355**	**388**	**400**	**397**	**348**	**(0)**	**(0)**	**(0)**	**113**	**(0)**	**(0)**	**24**	**139**

Table 83: Capacity Forecast - Alternative Resource Plan MCGBU

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373	373							
La Cygne 2	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	466
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,401**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions					12	24	24	24	24	24	24	24	24	24	24	24	30	60	60	60
Solar Additions				115	115	115	115	175	235	247	259	271	271	271	271	271	271	271	271	271
Total Intermittent Capacity with Additions	48	48	30	145	157	169	169	229	289	301	313	325	325	325	325	325	331	361	361	361
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,118**	**4,130**	**4,130**	**4,190**	**4,250**	**4,262**	**4,274**	**4,286**	**3,913**	**3,913**	**3,913**	**3,913**	**3,919**	**3,949**	**3,949**	**3,594**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	115	93	59	32	60
Sales:																				
City of Eudora	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**113**	**113**	**113**	**15**	**(7)**	**(41)**	**(68)**	**60**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,239**	**4,251**	**4,278**	**4,278**	**4,338**	**4,413**	**4,425**	**4,437**	**4,419**	**4,026**	**4,026**	**4,026**	**3,928**	**3,912**	**3,908**	**3,881**	**3,654**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**956**	**1,002**	**1,056**	**1,078**	**1,153**	**1,244**	**1,267**	**1,275**	**1,241**	**835**	**820**	**800**	**681**	**650**	**629**	**584**	**337**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	29%	31%	33%	34%	36%	39%	40%	40%	39%	26%	26%	25%	21%	20%	19%	18%	10%
% Capacity Margin	14%	15%	13%	23%	24%	25%	25%	27%	28%	29%	29%	28%	21%	20%	20%	17%	17%	16%	15%	9%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**562**	**613**	**670**	**694**	**771**	**863**	**888**	**896**	**859**	**452**	**435**	**413**	**291**	**258**	**235**	**188**	**(61)**

Table 84: Capacity Forecast - Alternative Resource Plan MCGCS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	932
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,867**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**3,733**	**3,733**	**3,733**	**3,733**	**3,733**	**3,733**	**3,733**	**3,844**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	115	93	59	32	10
Sales:																				
City of Eudora	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(72)	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(72)	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**113**	**113**	**113**	**15**	**(7)**	**(41)**	**(40)**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,239**	**4,239**	**4,254**	**4,254**	**4,254**	**4,269**	**4,269**	**4,269**	**4,239**	**3,846**	**3,846**	**3,846**	**3,748**	**3,726**	**3,692**	**3,693**	**3,854**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**956**	**990**	**1,032**	**1,054**	**1,069**	**1,100**	**1,111**	**1,107**	**1,061**	**655**	**640**	**620**	**501**	**464**	**413**	**396**	**537**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	29%	30%	32%	33%	34%	35%	35%	35%	33%	21%	20%	19%	15%	14%	13%	12%	16%
% Capacity Margin	14%	15%	13%	23%	23%	24%	25%	25%	26%	26%	26%	25%	17%	17%	16%	13%	12%	11%	11%	14%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**562**	**601**	**646**	**670**	**687**	**719**	**732**	**728**	**679**	**272**	**255**	**233**	**111**	**72**	**19**	**-**	**139**

Table 85: Capacity Forecast - Alternative Resource Plan MCGCT

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT																				699
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,634**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	175	235	247	259	271	271	271	271	271	271	271	271	271
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	205	265	277	289	301	301	301	301	301	301	301	301	301
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,106**	**4,106**	**4,106**	**4,166**	**4,226**	**4,238**	**4,250**	**4,262**	**3,889**	**3,889**	**3,889**	**3,889**	**3,889**	**3,889**	**3,889**	**3,767**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	115	93	59	32	10
Sales:																				
City of Eudora	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**113**	**113**	**113**	**15**	**(7)**	**(41)**	**(68)**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,239**	**4,239**	**4,254**	**4,254**	**4,314**	**4,389**	**4,401**	**4,413**	**4,395**	**4,002**	**4,002**	**4,002**	**3,904**	**3,882**	**3,848**	**3,821**	**3,777**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**956**	**990**	**1,032**	**1,054**	**1,129**	**1,220**	**1,243**	**1,251**	**1,217**	**811**	**796**	**776**	**657**	**620**	**569**	**524**	**460**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	29%	30%	32%	33%	35%	38%	39%	40%	38%	25%	25%	24%	20%	19%	17%	16%	14%
% Capacity Margin	14%	15%	13%	23%	23%	24%	25%	26%	28%	28%	28%	28%	20%	20%	19%	17%	16%	15%	14%	12%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**562**	**601**	**646**	**670**	**747**	**839**	**864**	**872**	**835**	**428**	**411**	**389**	**267**	**228**	**175**	**128**	**62**

Table 86: Capacity Forecast - Alternative Resource Plan MCGCU

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	699
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,634**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions					12															
Solar Additions				115	115	115	115	175	235	247	259	271	235	235	235	235	235	235	235	235
Total Intermittent Capacity with Additions	48	48	30	145	157	145	145	205	265	277	289	301	265	265	265	265	265	265	265	265
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,118**	**4,106**	**4,106**	**4,166**	**4,226**	**4,238**	**4,250**	**4,262**	**3,853**	**3,853**	**3,853**	**3,853**	**3,853**	**3,853**	**3,853**	**3,731**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Jayhawk Wind (155 MW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expedition Wind (150 MW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	115	93	59	32	10
Sales:																				
City of Eudora	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**113**	**113**	**113**	**15**	**(7)**	**(41)**	**(68)**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**4,239**	**4,251**	**4,254**	**4,254**	**4,314**	**4,389**	**4,401**	**4,413**	**4,395**	**3,966**	**3,966**	**3,966**	**3,868**	**3,846**	**3,812**	**3,785**	**3,741**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**956**	**1,002**	**1,032**	**1,054**	**1,129**	**1,220**	**1,243**	**1,251**	**1,217**	**775**	**760**	**740**	**621**	**584**	**533**	**488**	**424**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	29%	31%	32%	33%	35%	38%	39%	40%	38%	24%	24%	23%	19%	18%	16%	15%	13%
% Capacity Margin	14%	15%	13%	23%	24%	24%	25%	26%	28%	28%	28%	28%	20%	19%	19%	16%	15%	14%	13%	11%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**562**	**613**	**646**	**670**	**747**	**839**	**864**	**872**	**835**	**392**	**375**	**353**	**231**	**192**	**139**	**92**	**26**

Table 87: Capacity Forecast - Alternative Resource Plan MCGDS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	466	1,165
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**1,168**	**1,168**	**1,401**	**2,100**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**4,106**	**3,733**	**3,733**	**3,733**	**3,966**	**3,966**	**3,966**	**4,199**	**4,077**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	50	75	100	-	25	75	-	75
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	263	288	313	115	118	134	32	85
Sales:																				
City of Eudora	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(89)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	-	-	-	-	-	-	-	-
Total Capacity Sales (S)	(478)	(480)	(472)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	-	-	-	-	-	-	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(149)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**263**	**288**	**313**	**115**	**118**	**134**	**32**	**85**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,842**	**4,239**	**4,239**	**4,254**	**4,254**	**4,254**	**4,269**	**4,269**	**4,269**	**4,239**	**3,996**	**4,021**	**4,046**	**4,081**	**4,084**	**4,100**	**4,231**	**4,162**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**518**	**956**	**990**	**1,032**	**1,054**	**1,069**	**1,100**	**1,111**	**1,107**	**1,061**	**805**	**815**	**820**	**834**	**822**	**821**	**934**	**845**
D. Capacity Needs																				
% Reserve Margin	17%	17%	16%	29%	30%	32%	33%	34%	35%	35%	35%	33%	25%	25%	25%	26%	25%	25%	28%	25%
% Capacity Margin	14%	15%	13%	23%	23%	24%	25%	25%	26%	26%	26%	25%	20%	20%	20%	20%	20%	20%	22%	20%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**119**	**562**	**601**	**646**	**670**	**687**	**719**	**732**	**728**	**679**	**422**	**430**	**433**	**444**	**430**	**427**	**538**	**447**

Table 88: Capacity Forecast - Alternative Resource Plan MCGDU

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,802**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**2,429**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	1,165
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**2,100**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions					12	24	24	24	24	24	24	24	24	24	24	24	30	60	60	60
Solar Additions				115	115	115	115	175	235	247	259	271	271	271	271	271	271	271	271	271
Total Intermittent Capacity with Additions	48	48	30	145	157	169	169	229	289	301	313	325	325	325	325	325	331	361	361	361
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**4,106**	**4,118**	**4,130**	**4,130**	**4,190**	**4,250**	**4,262**	**4,274**	**4,286**	**3,913**	**3,913**	**3,913**	**3,913**	**3,919**	**3,949**	**4,182**	**4,293**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	50	100	-	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	233	213	213	213	140	143	159	32	10
Sales:																				
City of Eudora	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(89)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(98)	-	-	-	-	-
Total Capacity Sales (S)	(478)	(480)	(472)	(130)	(130)	(115)	(115)	(115)	(100)	(100)	(100)	(100)	(100)	(100)	(98)	-	-	-	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(149)**	**133**	**133**	**148**	**148**	**148**	**163**	**163**	**163**	**133**	**113**	**113**	**115**	**140**	**143**	**159**	**32**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,842**	**4,239**	**4,251**	**4,278**	**4,278**	**4,338**	**4,413**	**4,425**	**4,437**	**4,419**	**4,026**	**4,026**	**4,028**	**4,053**	**4,062**	**4,108**	**4,214**	**4,303**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**518**	**956**	**1,002**	**1,056**	**1,078**	**1,153**	**1,244**	**1,267**	**1,275**	**1,241**	**835**	**820**	**802**	**806**	**800**	**829**	**917**	**986**
D. Capacity Needs																				
% Reserve Margin	17%	17%	16%	29%	31%	33%	34%	36%	39%	40%	40%	39%	26%	26%	25%	25%	25%	25%	28%	30%
% Capacity Margin	14%	15%	13%	23%	24%	25%	25%	27%	28%	29%	29%	28%	21%	20%	20%	20%	20%	20%	22%	23%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**119**	**562**	**613**	**670**	**694**	**771**	**863**	**888**	**896**	**859**	**452**	**435**	**415**	**416**	**408**	**435**	**521**	**588**

Table 89: Capacity Forecast - Alternative Resource Plan MDDCS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373																	
La Cygne 2	331	331	331																	
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**2,098**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	932
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**1,168**	**1,168**	**1,168**	**1,867**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,402**	**3,635**	**3,635**	**3,635**	**3,635**	**3,844**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	50	25	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-
Total Capacity Purchases (P)	474	474	323	313	288	263	263	263	263	263	263	233	213	213	213	115	93	59	82	10
Sales:																				
Evergy Missouri West	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Eudora	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	-	-	(42)	(66)	(83)	(100)	(100)	(100)	(75)	(41)	(24)	(2)	-	(74)	(21)	-	-
Total Capacity Sales (S)	(478)	(480)	(483)	(30)	(30)	(57)	(81)	(98)	(100)	(100)	(100)	(75)	(41)	(24)	(2)	-	(74)	(21)	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**283**	**258**	**206**	**182**	**165**	**163**	**163**	**163**	**158**	**172**	**189**	**211**	**115**	**19**	**38**	**82**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**3,685**	**3,660**	**3,609**	**3,584**	**3,568**	**3,565**	**3,565**	**3,565**	**3,560**	**3,574**	**3,591**	**3,613**	**3,750**	**3,654**	**3,673**	**3,717**	**3,854**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**402**	**411**	**386**	**384**	**382**	**396**	**406**	**403**	**381**	**383**	**385**	**387**	**503**	**391**	**393**	**420**	**537**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	12%	13%	12%	12%	12%	12%	13%	13%	12%	12%	12%	12%	15%	12%	12%	13%	16%
% Capacity Margin	14%	15%	13%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	13%	11%	11%	11%	14%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**7**	**21**	**(0)**	**(0)**	**(0)**	**15**	**27**	**24**	**(0)**	**(0)**	**(0)**	**(0)**	**113**	**(0)**	**(0)**	**24**	**139**

Table 90: Capacity Forecast - Alternative Resource Plan MEECS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564																	
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331											
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,238**	**2,238**	**2,238**	**2,238**	**2,238**	**2,238**	**1,907**	**1,907**	**1,907**	**1,534**	**1,534**	**1,534**	**1,534**	**1,534**	**1,534**	**1,534**	**1,044**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	233	466	466	466	699	699	699	932	1,398
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,168**	**1,401**	**1,401**	**1,401**	**1,634**	**1,634**	**1,634**	**1,867**	**2,333**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**3,542**	**3,542**	**3,542**	**3,542**	**3,542**	**3,542**	**3,211**	**3,211**	**3,444**	**3,304**	**3,304**	**3,304**	**3,537**	**3,537**	**3,537**	**3,770**	**3,746**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	75	75	-	75	75	100	-	25	100	-	-
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	338	338	233	288	288	313	115	118	159	32	10
Sales:																				
Evergy Missouri West	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Eudora	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(98)	(100)	(100)	(100)	(100)	(100)	-	-	-	-	-	-	-	-	-	-	-
Total Capacity Sales (S)	(478)	(480)	(483)	(128)	(130)	(115)	(115)	(115)	(100)	-	-	-	-	-	-	-	-	-	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**135**	**133**	**148**	**148**	**148**	**163**	**338**	**338**	**233**	**288**	**288**	**313**	**115**	**118**	**159**	**32**	**10**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**3,678**	**3,675**	**3,690**	**3,690**	**3,690**	**3,705**	**3,549**	**3,549**	**3,677**	**3,592**	**3,592**	**3,617**	**3,652**	**3,655**	**3,696**	**3,802**	**3,756**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**394**	**426**	**468**	**490**	**505**	**536**	**390**	**387**	**498**	**401**	**385**	**391**	**405**	**392**	**417**	**505**	**439**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	12%	13%	15%	15%	16%	17%	12%	12%	16%	13%	12%	12%	12%	12%	13%	15%	13%
% Capacity Margin	14%	15%	13%	11%	12%	13%	13%	14%	14%	11%	11%	14%	11%	11%	11%	11%	11%	11%	13%	12%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**-**	**37**	**82**	**106**	**123**	**155**	**11**	**8**	**117**	**18**	**1**	**4**	**15**	**1**	**23**	**109**	**41**

Table 91: Capacity Forecast - Alternative Resource Plan MFFCS

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Wolf Creek	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553
Iatan I	490	490	490																	
Iatan II	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491	491
Hawthorn 5	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564
La Cygne 1	373	373	373	373	373	373	373	373	373	373	373	373								
La Cygne 2	331	331	331	331	331	331	331	331	331											
Total Base Capacity	**2,802**	**2,802**	**2,802**	**2,312**	**2,312**	**2,312**	**2,312**	**2,312**	**2,312**	**1,981**	**1,981**	**1,981**	**1,608**	**1,608**	**1,608**	**1,608**	**1,608**	**1,608**	**1,608**	**1,608**
Intermediate Capacity																				
Hawthorn 6 & 9	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
Total Intermediate Capacity	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**	**225**
Peaking Capacity																				
Hawthorn 7	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Hawthorn 8	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Northeast 11	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Northeast 12	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Northeast 13	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
Northeast 14	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
Northeast 15	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 16	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
Northeast 17	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Northeast 18	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Northeast Black Start Generator	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
West Gardner 1	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
West Gardner 2	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
West Gardner 3	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
West Gardner 4	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
Osawatomie	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
New CT	-	-	-	-	-	-	-	-	-	-	-	-	466	466	466	699	699	699	699	699
Total Peaking Capacity	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**935**	**1,401**	**1,401**	**1,401**	**1,634**	**1,634**	**1,634**	**1,634**	**1,634**
Intermittent Capacity (Nameplate)																				
Spearville 1	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Spearville 2	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total Intermittent Capacity	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**	**149**
Percent Accredited Intermittent Capacity	32%	32%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Total Accredited Intermittent Capacity	48	48	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Wind Additions																				
Solar Additions				115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Total Intermittent Capacity with Additions	48	48	30	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145
Total Generation Capacity (TGC)	**4,009**	**4,009**	**3,991**	**3,616**	**3,616**	**3,616**	**3,616**	**3,616**	**3,616**	**3,285**	**3,285**	**3,285**	**3,378**	**3,378**	**3,378**	**3,611**	**3,611**	**3,611**	**3,611**	**3,611**
B. Capacity Transactions																				
Purchases:																				
Cimarron II (131.1 MW)	61	61	30	30	30	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-
Spearville 3 (100.8 MW)	47	47	20	20	20	20	20	20	20	20	20	20	-	-	-	-	-	-	-	-
CNPPID Hydro PPA	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waverly (200 MW)	71	71	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Slate Creek (150 MW)	78	78	49	49	49	49	49	49	49	49	49	49	49	49	49	-	-	-	-	-
Rock Creek (180 MW)	46	46	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	-	-	-
Osborn (120 MW)	16	16	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-	-
Pratt (98 MW)	59	59	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-	-
Prairie Queen (80 MW)	27	27	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-
Ponderosa (100 MW)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
PPA Purchase	-	-	-	-	-	-	-	-	-	-	-	50	-	25	25	-	-	25	50	100
Total Capacity Purchases (P)	474	474	323	263	263	263	263	263	263	263	263	283	213	238	238	115	93	84	82	110
Sales:																				
Evergy Missouri West	(323)	(325)	(328)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Eudora	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-
KMEA (from Spearville 1 & 2)	(15)	(15)	(15)	(15)	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Big Rivers Electric	(25)	(25)	(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA Sale	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(11)	(7)	-	-	-	-	-	(50)	-	-	-
Total Capacity Sales (S)	(478)	(480)	(483)	(130)	(130)	(115)	(115)	(115)	(100)	(11)	(7)	-	-	-	-	-	(50)	-	-	-
Net Transactions (NT)	**(4)**	**(6)**	**(160)**	**133**	**133**	**148**	**148**	**148**	**163**	**252**	**256**	**283**	**213**	**238**	**238**	**115**	**43**	**84**	**82**	**110**
Total System Capacity (TSC)	**4,006**	**4,004**	**3,831**	**3,749**	**3,749**	**3,764**	**3,764**	**3,764**	**3,779**	**3,537**	**3,541**	**3,568**	**3,591**	**3,616**	**3,616**	**3,726**	**3,654**	**3,695**	**3,693**	**3,721**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**3,455**	**3,465**	**3,470**	**3,480**	**3,486**	**3,495**	**3,505**	**3,519**	**3,527**	**3,536**	**3,546**	**3,561**	**3,571**	**3,586**	**3,603**	**3,623**	**3,639**	**3,658**	**3,677**	**3,696**
Less DSM:																				
Demand Response	-	-	83	105	123	137	149	159	164	169	172	176	177	178	179	180	180	181	182	183
Energy Efficiency	-	-	22	46	66	84	98	111	122	132	140	146	149	149	146	145	145	147	148	149
MEEIA	29	48	40	41	41	41	40	39	40	40	32	18	10	8	7	6	5	5	3	1
Demand-Side Rates			1	4	7	12	18	25	31	36	40	42	44	45	45	45	46	46	46	46
Peak Forecast less DSM (PF)	**3,426**	**3,417**	**3,324**	**3,284**	**3,249**	**3,222**	**3,200**	**3,186**	**3,170**	**3,159**	**3,162**	**3,179**	**3,191**	**3,207**	**3,226**	**3,247**	**3,263**	**3,280**	**3,298**	**3,317**
Capacity Reserves (CR)	**580**	**587**	**507**	**465**	**500**	**542**	**564**	**578**	**609**	**379**	**379**	**389**	**400**	**409**	**390**	**478**	**391**	**415**	**395**	**404**
D. Capacity Needs																				
% Reserve Margin	17%	17%	15%	14%	15%	17%	18%	18%	19%	12%	12%	12%	13%	13%	12%	15%	12%	13%	12%	12%
% Capacity Margin	14%	15%	13%	12%	13%	14%	15%	15%	16%	11%	11%	11%	11%	11%	11%	13%	11%	11%	11%	11%
Required Capacity (RC)	**3,837**	**3,827**	**3,723**	**3,678**	**3,639**	**3,609**	**3,584**	**3,568**	**3,550**	**3,538**	**3,541**	**3,560**	**3,574**	**3,592**	**3,613**	**3,637**	**3,654**	**3,673**	**3,693**	**3,715**
Capacity Balance	**169**	**177**	**108**	**71**	**110**	**155**	**180**	**196**	**229**	**(0)**	**(0)**	**8**	**17**	**24**	**3**	**89**	**(0)**	**22**	**(0)**	**6**

(C) The analysis of economic impact of alternative resource plans, calculated with and without utility financial incentives for demand-side resources, shall provide comparative estimates for each year of the planning horizon—

Each year of the planning period, all alternative plans are simulated with DSM expensed in the year spent. Summary results for this analysis are provided in the following Section.

1. For the following performance measures for each year:

A. Estimated annual revenue requirement;

B. Estimated annual average rates and percentage increase in the average rate from the prior year; and

C. Estimated company financial ratios and credit metrics; and

The following tables detail performance measures of each Alternative Resource Plan, with and without incentive payments for DSM expenditures on an expected value basis.

It should be noted that the IRP analysis for determining estimated annual revenue requirement; estimated level of average retail rates and percentage of change from the prior year; and estimated company financial ratios assumes perfect ratemaking.

Of note, the analysis does not take into consideration other factors such as company commitments and determinations from Commission Orders in other dockets that may impact the Rate Increase depicted each year in the table below.

As such, Rate Increase percentages reflected in the various years of analysis should not be interpreted as actual planned rate increase requests anticipated by the Company.

Table 92: Economic Impact of Alternative Resource Plan MAAAS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,771	1,768	0.11	0.11	4.45%	4.42%	4.30	49.12
2024	1,729	1,726	0.11	0.11	-1.61%	-1.63%	4.50	49.12
2025	1,736	1,721	0.11	0.11	0.94%	0.22%	4.42	49.12
2026	1,743	1,732	0.11	0.11	0.72%	0.95%	4.35	49.12
2027	1,732	1,722	0.11	0.11	-0.45%	-0.37%	4.17	49.13
2028	1,736	1,727	0.11	0.11	0.17%	0.21%	4.07	49.13
2029	1,731	1,722	0.11	0.11	-0.20%	-0.20%	3.97	49.13
2030	1,852	1,843	0.12	0.12	6.94%	7.00%	3.84	49.13
2031	1,847	1,838	0.12	0.12	-0.44%	-0.43%	3.74	49.13
2032	1,833	1,824	0.12	0.12	-1.24%	-1.23%	3.65	49.13
2033	1,874	1,864	0.12	0.12	1.81%	1.76%	3.55	49.13
2034	1,884	1,875	0.12	0.12	-0.14%	-0.12%	3.45	49.13
2035	1,874	1,864	0.12	0.12	-1.33%	-1.35%	3.50	42.27
2036	1,971	1,961	0.12	0.12	4.34%	4.37%	4.11	42.27
2037	2,009	1,998	0.13	0.13	1.34%	1.29%	4.00	42.27
2038	2,026	2,016	0.13	0.13	0.23%	0.24%	3.91	41.88
2039	2,134	2,123	0.13	0.13	4.61%	4.64%	3.78	41.88
2040	2,326	2,315	0.14	0.14	8.24%	8.25%	4.41	41.88

Table 93: Economic Impact of Alternative Resource Plan MAABS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,703	1,700	0.11	0.11	0.04%	0.01%	4.30	49.12
2024	1,687	1,684	0.11	0.11	-0.51%	-0.53%	4.50	49.12
2025	1,691	1,686	0.11	0.11	0.54%	0.41%	4.39	49.12
2026	1,706	1,702	0.11	0.11	1.08%	1.11%	4.33	49.12
2027	1,701	1,696	0.11	0.11	-0.31%	-0.30%	4.15	49.13
2028	1,705	1,701	0.11	0.11	0.07%	0.07%	4.05	49.13
2029	1,703	1,698	0.11	0.11	-0.17%	-0.19%	3.95	49.13
2030	1,831	1,827	0.12	0.12	7.35%	7.41%	3.82	49.13
2031	1,819	1,815	0.12	0.12	-0.97%	-0.97%	3.72	49.13
2032	1,809	1,805	0.12	0.12	-1.11%	-1.11%	3.62	49.13
2033	1,846	1,842	0.12	0.12	1.50%	1.50%	3.52	49.13
2034	1,860	1,856	0.12	0.12	0.00%	-0.01%	3.43	49.13
2035	1,846	1,842	0.12	0.12	-1.61%	-1.61%	3.46	42.27
2036	1,953	1,949	0.12	0.12	4.83%	4.85%	4.07	42.27
2037	1,999	1,995	0.12	0.12	1.65%	1.65%	3.96	42.27
2038	2,039	2,035	0.12	0.12	1.16%	1.16%	4.08	41.88
2039	2,137	2,132	0.13	0.13	3.92%	3.91%	3.88	41.88
2040	2,299	2,295	0.14	0.14	6.62%	6.66%	4.27	41.88

Table 94: Economic Impact of Alternative Resource Plan MAACA

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,694	1,691	0.11	0.11	-0.65%	-0.68%	4.30	49.12
2024	1,665	1,662	0.11	0.11	-1.47%	-1.49%	4.36	49.12
2025	1,672	1,668	0.11	0.11	0.63%	0.58%	4.30	49.12
2026	1,692	1,688	0.11	0.11	1.20%	1.23%	4.24	49.12
2027	1,690	1,686	0.11	0.11	-0.18%	-0.17%	4.07	49.13
2028	1,700	1,696	0.11	0.11	0.29%	0.29%	4.00	49.13
2029	1,700	1,696	0.11	0.11	-0.06%	-0.08%	3.90	49.13
2030	1,845	1,841	0.12	0.12	8.24%	8.29%	3.76	49.13
2031	1,832	1,829	0.12	0.12	-1.05%	-1.05%	3.66	49.13
2032	1,823	1,819	0.12	0.12	-1.16%	-1.16%	3.57	49.13
2033	1,867	1,863	0.12	0.12	1.85%	1.86%	3.47	49.13
2034	1,888	1,885	0.12	0.12	0.39%	0.38%	3.38	49.13
2035	1,902	1,899	0.12	0.12	-0.12%	-0.11%	3.58	42.27
2036	2,005	2,002	0.12	0.12	4.49%	4.50%	4.15	42.27
2037	2,048	2,045	0.12	0.12	1.38%	1.38%	4.02	42.27
2038	2,060	2,057	0.12	0.12	-0.27%	-0.27%	3.94	41.88
2039	2,195	2,191	0.13	0.13	5.62%	5.61%	4.02	41.88
2040	2,357	2,354	0.14	0.14	6.45%	6.49%	4.34	41.88

Table 95: Economic Impact of Alternative Resource Plan MAACS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,694	1,691	0.11	0.11	-0.63%	-0.67%	4.30	49.12
2024	1,680	1,677	0.11	0.11	-0.61%	-0.63%	4.50	49.12
2025	1,683	1,679	0.11	0.11	0.37%	0.32%	4.38	49.12
2026	1,699	1,696	0.11	0.11	1.04%	1.07%	4.32	49.12
2027	1,695	1,692	0.11	0.11	-0.34%	-0.33%	4.15	49.13
2028	1,701	1,697	0.11	0.11	0.06%	0.06%	4.05	49.13
2029	1,699	1,695	0.11	0.11	-0.20%	-0.22%	3.95	49.13
2030	1,831	1,828	0.12	0.12	7.53%	7.58%	3.82	49.13
2031	1,820	1,817	0.12	0.12	-1.00%	-1.00%	3.71	49.13
2032	1,811	1,808	0.11	0.11	-1.14%	-1.14%	3.62	49.13
2033	1,850	1,847	0.12	0.12	1.60%	1.61%	3.52	49.13
2034	1,866	1,863	0.12	0.12	0.11%	0.10%	3.42	49.13
2035	1,852	1,849	0.11	0.11	-1.58%	-1.57%	3.46	42.27
2036	1,989	1,986	0.12	0.12	6.42%	6.44%	4.27	42.27
2037	2,029	2,026	0.12	0.12	1.23%	1.23%	4.08	42.27
2038	2,036	2,033	0.12	0.12	-0.51%	-0.52%	3.99	41.88
2039	2,142	2,138	0.13	0.13	4.30%	4.28%	3.86	41.88
2040	2,340	2,336	0.14	0.14	8.28%	8.32%	4.47	41.88

Table 96: Economic Impact of Alternative Resource Plan MBBCS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,711	1,709	0.11	0.11	-3.40%	-3.52%	4.19	53.59
2023	1,693	1,690	0.11	0.11	-0.68%	-0.71%	4.29	49.12
2024	1,675	1,672	0.11	0.11	-0.81%	-0.83%	4.50	49.12
2025	1,681	1,678	0.11	0.11	0.56%	0.51%	4.38	49.12
2026	1,696	1,692	0.11	0.11	0.89%	0.92%	4.32	49.12
2027	1,689	1,686	0.11	0.11	-0.44%	-0.43%	4.14	49.13
2028	1,695	1,692	0.11	0.11	0.04%	0.04%	4.04	49.13
2029	1,691	1,687	0.11	0.11	-0.32%	-0.34%	3.94	49.13
2030	1,823	1,820	0.12	0.12	7.55%	7.60%	3.82	49.13
2031	1,810	1,807	0.12	0.12	-1.10%	-1.10%	3.71	49.13
2032	1,802	1,799	0.11	0.11	-1.09%	-1.10%	3.62	49.13
2033	1,846	1,843	0.12	0.12	1.91%	1.92%	3.50	49.13
2034	1,862	1,859	0.12	0.12	0.08%	0.07%	3.41	49.13
2035	1,848	1,845	0.11	0.11	-1.57%	-1.57%	3.45	42.27
2036	1,985	1,982	0.12	0.12	6.45%	6.47%	4.26	42.27
2037	2,025	2,022	0.12	0.12	1.24%	1.24%	4.07	42.27
2038	2,032	2,029	0.12	0.12	-0.51%	-0.51%	3.97	41.88
2039	2,138	2,134	0.13	0.13	4.31%	4.30%	3.84	41.88
2040	2,336	2,333	0.14	0.14	8.30%	8.34%	4.46	41.88

Table 97: Economic Impact of Alternative Resource Plan MCCCS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,711	1,709	0.11	0.11	-3.42%	-3.54%	4.19	53.59
2023	1,693	1,690	0.11	0.11	-0.66%	-0.69%	4.29	49.12
2024	1,679	1,676	0.11	0.11	-0.58%	-0.60%	4.50	49.12
2025	1,682	1,678	0.11	0.11	0.36%	0.31%	4.38	49.12
2026	1,697	1,694	0.11	0.11	0.97%	0.99%	4.32	49.12
2027	1,691	1,688	0.11	0.11	-0.42%	-0.41%	4.15	49.13
2028	1,697	1,694	0.11	0.11	0.06%	0.05%	4.05	49.13
2029	1,693	1,689	0.11	0.11	-0.34%	-0.37%	3.95	49.13
2030	1,829	1,826	0.12	0.12	7.76%	7.80%	3.81	49.13
2031	1,817	1,814	0.12	0.12	-1.00%	-1.00%	3.70	49.13
2032	1,808	1,805	0.11	0.11	-1.14%	-1.14%	3.61	49.13
2033	1,848	1,844	0.12	0.12	1.61%	1.62%	3.51	49.13
2034	1,864	1,861	0.12	0.12	0.11%	0.10%	3.41	49.13
2035	1,850	1,847	0.11	0.11	-1.58%	-1.57%	3.46	42.27
2036	1,987	1,984	0.12	0.12	6.44%	6.46%	4.26	42.27
2037	2,027	2,024	0.12	0.12	1.24%	1.24%	4.07	42.27
2038	2,034	2,031	0.12	0.12	-0.51%	-0.52%	3.98	41.88
2039	2,140	2,136	0.13	0.13	4.30%	4.29%	3.85	41.88
2040	2,338	2,335	0.14	0.14	8.29%	8.33%	4.47	41.88

Table 98: Economic Impact of Alternative Resource Plan MCGBU

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,703	1,700	0.11	0.11	0.04%	0.01%	4.30	49.12
2024	1,688	1,685	0.11	0.11	-0.50%	-0.52%	4.50	49.12
2025	1,706	1,701	0.11	0.11	1.45%	1.32%	4.51	49.12
2026	1,733	1,728	0.11	0.11	1.72%	1.75%	4.52	49.12
2027	1,721	1,717	0.11	0.11	-0.65%	-0.64%	4.30	49.13
2028	1,730	1,726	0.11	0.11	0.31%	0.32%	4.29	49.13
2029	1,726	1,721	0.11	0.11	-0.25%	-0.27%	4.23	49.13
2030	1,827	1,823	0.12	0.12	5.70%	5.75%	4.13	49.13
2031	1,818	gk/	0.12	0.12	-0.84%	-0.84%	4.08	49.13
2032	1,805	1,801	0.12	0.12	-1.29%	-1.29%	4.03	49.13
2033	1,833	1,829	0.12	0.12	1.05%	1.06%	3.86	49.13
2034	1,836	1,832	0.12	0.12	-0.63%	-0.64%	3.75	49.13
2035	1,810	1,805	0.11	0.11	-2.26%	-2.26%	3.77	42.27
2036	1,911	1,907	0.12	0.12	4.64%	4.65%	4.42	42.27
2037	1,946	1,942	0.12	0.12	1.11%	1.11%	4.28	42.27
2038	1,948	1,944	0.12	0.12	-0.73%	-0.74%	4.18	41.88
2039	2,043	2,038	0.12	0.12	3.99%	3.98%	4.02	41.88
2040	2,199	2,195	0.13	0.13	6.67%	6.72%	4.44	41.88

Table 99: Economic Impact of Alternative Resource Plan MCGCS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,694	1,691	0.11	0.11	-0.63%	-0.67%	4.30	49.12
2024	1,680	1,677	0.11	0.11	-0.61%	-0.63%	4.50	49.12
2025	1,683	1,679	0.11	0.11	0.37%	0.32%	4.38	49.12
2026	1,699	1,696	0.11	0.11	1.04%	1.07%	4.32	49.12
2027	1,695	1,692	0.11	0.11	-0.32%	-0.32%	4.15	49.13
2028	1,702	1,699	0.11	0.11	0.14%	0.13%	4.06	49.13
2029	1,700	1,696	0.11	0.11	-0.23%	-0.25%	3.96	49.13
2030	1,840	1,837	0.12	0.12	8.00%	8.05%	3.82	49.13
2031	1,832	1,829	0.12	0.12	-0.83%	-0.84%	3.73	49.13
2032	1,822	1,819	0.12	0.12	-1.20%	-1.20%	3.64	49.13
2033	1,860	1,857	0.12	0.12	1.55%	1.55%	3.53	49.13
2034	1,873	1,870	0.12	0.12	-0.06%	-0.07%	3.44	49.13
2035	1,856	1,853	0.11	0.11	-1.77%	-1.76%	3.48	42.27
2036	1,960	1,957	0.12	0.12	4.64%	4.65%	4.08	42.27
2037	2,001	1,998	0.12	0.12	1.36%	1.36%	3.97	42.27
2038	2,010	2,007	0.12	0.12	-0.41%	-0.42%	3.88	41.88
2039	2,115	2,111	0.13	0.13	4.29%	4.28%	3.76	41.88
2040	2,350	2,347	0.14	0.14	10.14%	10.19%	4.64	41.88

Table 100: Economic Impact of Alternative Resource Plan MCGCT

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,694	1,691	0.11	0.11	-0.63%	-0.67%	4.30	49.12
2024	1,680	1,677	0.11	0.11	-0.61%	-0.63%	4.50	49.12
2025	1,683	1,679	0.11	0.11	0.37%	0.32%	4.38	49.12
2026	1,699	1,696	0.11	0.11	1.04%	1.07%	4.32	49.12
2027	1,695	1,692	0.11	0.11	-0.32%	-0.31%	4.15	49.13
2028	1,711	1,707	0.11	0.11	0.62%	0.62%	4.15	49.13
2029	1,712	1,709	0.11	0.11	0.02%	-0.01%	4.11	49.13
2030	1,839	1,836	0.12	0.12	7.14%	7.19%	4.02	49.13
2031	1,830	1,827	0.12	0.12	-0.88%	-0.89%	3.98	49.13
2032	1,818	1,815	0.12	0.11	-1.27%	-1.27%	3.94	49.13
2033	1,849	1,846	0.12	0.12	1.13%	1.13%	3.77	49.13
2034	1,856	1,852	0.12	0.12	-0.40%	-0.41%	3.67	49.13
2035	1,833	1,830	0.11	0.11	-2.06%	-2.05%	3.70	42.27
2036	1,936	1,933	0.12	0.12	4.64%	4.66%	4.34	42.27
2037	1,974	1,971	0.12	0.12	1.21%	1.21%	4.21	42.27
2038	1,980	1,977	0.12	0.12	-0.56%	-0.57%	4.11	41.88
2039	2,079	2,076	0.12	0.12	4.12%	4.11%	3.97	41.88
2040	2,274	2,271	0.13	0.13	8.38%	8.42%	4.62	41.88

Table 101: Economic Impact of Alternative Resource Plan MCGCU

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,694	1,691	0.11	0.11	-0.63%	-0.67%	4.30	49.12
2024	1,680	1,677	0.11	0.11	-0.60%	-0.62%	4.50	49.12
2025	1,698	1,694	0.11	0.11	1.28%	1.24%	4.51	49.12
2026	1,726	1,722	0.11	0.11	1.68%	1.70%	4.52	49.12
2027	1,715	1,712	0.11	0.11	-0.68%	-0.68%	4.30	49.13
2028	1,725	1,722	0.11	0.11	0.31%	0.30%	4.28	49.13
2029	1,722	1,719	0.11	0.11	-0.28%	-0.31%	4.23	49.13
2030	1,828	1,825	0.12	0.12	5.88%	5.93%	4.13	49.13
2031	1,819	1,815	0.12	0.12	-0.89%	-0.89%	4.08	49.13
2032	1,807	1,803	0.11	0.11	-1.30%	-1.30%	4.03	49.13
2033	1,835	1,832	0.12	0.12	1.03%	1.03%	3.85	49.13
2034	1,838	1,835	0.11	0.11	-0.62%	-0.63%	3.74	49.13
2035	1,812	1,808	0.11	0.11	-2.26%	-2.26%	3.77	42.27
2036	1,913	1,910	0.12	0.12	4.62%	4.63%	4.42	42.27
2037	1,948	1,945	0.12	0.12	1.09%	1.10%	4.28	42.27
2038	1,951	1,948	0.12	0.12	-0.71%	-0.71%	4.17	41.88
2039	2,048	2,044	0.12	0.12	4.05%	4.04%	4.02	41.88
2040	2,239	2,236	0.13	0.13	8.34%	8.39%	4.66	41.88

Table 102: Economic Impact of Alternative Resource Plan MCGDS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,670	1,667	0.11	0.11	-2.57%	-2.60%	4.30	49.12
2024	1,658	1,656	0.11	0.11	-1.01%	-1.03%	4.50	49.12
2025	1,659	1,659	0.11	0.11	-0.26%	-0.09%	4.37	49.12
2026	1,676	1,676	0.11	0.11	0.70%	0.70%	4.31	49.12
2027	1,672	1,672	0.11	0.11	-0.66%	-0.66%	4.14	49.13
2028	1,685	1,685	0.11	0.11	0.23%	0.23%	4.05	49.13
2029	1,685	1,685	0.10	0.10	-0.34%	-0.34%	3.94	49.13
2030	1,838	1,838	0.11	0.11	8.61%	8.61%	3.81	49.13
2031	1,831	1,831	0.11	0.11	-0.91%	-0.91%	3.72	49.13
2032	1,822	1,822	0.11	0.11	-1.30%	-1.30%	3.63	49.13
2033	1,867	1,867	0.11	0.11	1.90%	1.90%	3.51	49.13
2034	1,889	1,889	0.11	0.11	0.40%	0.40%	3.43	49.13
2035	1,875	1,875	0.11	0.11	-1.53%	-1.53%	3.46	42.27
2036	2,005	2,005	0.12	0.12	6.00%	6.00%	4.27	42.27
2037	2,048	2,048	0.12	0.12	1.39%	1.39%	4.08	42.27
2038	2,064	2,064	0.12	0.12	-0.05%	-0.05%	3.99	41.88
2039	2,201	2,201	0.13	0.13	5.73%	5.73%	4.07	41.88
2040	2,401	2,401	0.14	0.14	8.13%	8.13%	4.65	41.88

Table 103: Economic Impact of Alternative Resource Plan MCGDU

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,712	1,709	0.11	0.11	-3.39%	-3.51%	4.19	53.59
2023	1,670	1,667	0.11	0.11	-2.57%	-2.60%	4.30	49.12
2024	1,659	1,656	0.11	0.11	-1.00%	-1.02%	4.50	49.12
2025	1,674	1,674	0.11	0.11	0.66%	0.83%	4.50	49.12
2026	1,703	1,703	0.11	0.11	1.34%	1.34%	4.51	49.12
2027	1,692	1,692	0.11	0.11	-1.02%	-1.02%	4.29	49.13
2028	1,708	1,708	0.11	0.11	0.39%	0.40%	4.27	49.13
2029	1,707	1,707	0.11	0.11	-0.39%	-0.39%	4.21	49.13
2030	1,826	1,826	0.11	0.11	6.46%	6.46%	4.11	49.13
2031	1,818	1,818	0.11	0.11	-0.96%	-0.96%	4.06	49.13
2032	1,806	1,806	0.11	0.11	-1.41%	-1.41%	4.01	49.13
2033	1,837	1,837	0.11	0.11	1.08%	1.08%	3.84	49.13
2034	1,843	1,843	0.11	0.11	-0.44%	-0.44%	3.72	49.13
2035	1,818	1,818	0.11	0.11	-2.14%	-2.14%	3.75	42.27
2036	1,923	1,923	0.11	0.11	4.86%	4.86%	4.39	42.27
2037	1,962	1,962	0.12	0.12	1.28%	1.28%	4.25	42.27
2038	1,972	1,972	0.12	0.12	-0.34%	-0.34%	4.15	41.88
2039	2,103	2,103	0.12	0.12	5.73%	5.73%	4.23	41.88
2040	2,328	2,328	0.13	0.13	9.76%	9.76%	5.02	41.88

Table 104: Economic Impact of Alternative Resource Plan MDDCS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,710	1,708	0.11	0.11	-3.44%	-3.56%	4.19	53.59
2023	1,692	1,689	0.11	0.11	-0.66%	-0.69%	4.29	49.12
2024	1,679	1,676	0.11	0.11	-0.56%	-0.58%	4.50	49.12
2025	1,684	1,680	0.11	0.11	0.51%	0.47%	4.38	49.12
2026	1,697	1,694	0.11	0.11	0.82%	0.85%	4.32	49.12
2027	1,685	1,682	0.11	0.11	-0.77%	-0.77%	4.14	49.13
2028	1,690	1,687	0.11	0.11	0.01%	0.01%	4.04	49.13
2029	1,685	1,681	0.11	0.11	-0.41%	-0.43%	3.94	49.13
2030	1,817	1,814	0.12	0.12	7.60%	7.65%	3.80	49.13
2031	1,804	1,801	0.11	0.11	-1.10%	-1.10%	3.69	49.13
2032	1,796	1,793	0.11	0.11	-1.09%	-1.09%	3.60	49.13
2033	1,841	1,838	0.12	0.12	1.93%	1.93%	3.48	49.13
2034	1,857	1,854	0.12	0.12	0.10%	0.09%	3.39	49.13
2035	1,843	1,840	0.11	0.11	-1.56%	-1.55%	3.43	42.27
2036	1,981	1,978	0.12	0.12	6.48%	6.50%	4.24	42.27
2037	2,021	2,018	0.12	0.12	1.25%	1.25%	4.05	42.27
2038	2,028	2,025	0.12	0.12	-0.50%	-0.50%	3.95	41.88
2039	2,134	2,130	0.13	0.13	4.33%	4.32%	3.82	41.88
2040	2,332	2,329	0.14	0.14	8.32%	8.36%	4.44	41.88

Table 105: Economic Impact of Alternative Resource Plan MEECS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,711	1,709	0.11	0.11	-3.40%	-3.53%	4.19	53.59
2023	1,692	1,690	0.11	0.11	-0.71%	-0.74%	4.29	49.12
2024	1,681	1,678	0.11	0.11	-0.45%	-0.47%	4.50	49.12
2025	1,685	1,681	0.11	0.11	0.45%	0.40%	4.38	49.12
2026	1,697	1,693	0.11	0.11	0.73%	0.75%	4.31	49.12
2027	1,688	1,684	0.11	0.11	-0.60%	-0.59%	4.13	49.13
2028	1,693	1,689	0.11	0.11	0.01%	0.01%	4.03	49.13
2029	1,689	1,685	0.11	0.11	-0.32%	-0.35%	3.92	49.13
2030	1,820	1,817	0.12	0.12	7.50%	7.55%	3.79	49.13
2031	1,813	1,810	0.12	0.12	-0.73%	-0.73%	3.69	49.13
2032	1,831	1,828	0.12	0.12	0.34%	0.34%	3.74	49.13
2033	1,905	1,902	0.12	0.12	3.49%	3.49%	3.74	49.13
2034	1,921	1,917	0.12	0.12	0.02%	0.01%	3.58	49.13
2035	1,903	1,900	0.12	0.12	-1.72%	-1.72%	3.60	42.27
2036	2,030	2,027	0.12	0.12	5.67%	5.69%	4.44	42.27
2037	2,074	2,071	0.13	0.13	1.41%	1.41%	4.24	42.27
2038	2,081	2,078	0.13	0.13	-0.50%	-0.51%	4.13	41.88
2039	2,212	2,209	0.13	0.13	5.41%	5.40%	4.20	41.88
2040	2,369	2,365	0.14	0.14	6.10%	6.14%	4.50	41.88

Table 106: Economic Impact of Alternative Resource Plan MFFCS

Year	Revenue Requirement ($MM)	Revenue Requirement Without DSM Performance Incentive ($MM)	Levelized Annual Rates ($/kW-hr)	Levelized Annual Rates Without DSM Performance Incentive ($/kW-hr)	Rate Increase	Rate Increase Without DSM Performance Incentive	Times Interest Earned	Debt to Capital
2021	1,771	1,771	0.11	0.11	0.00%	0.00%	4.29	53.59
2022	1,709	1,707	0.11	0.11	-3.52%	-3.64%	4.18	53.59
2023	1,690	1,688	0.11	0.11	-0.69%	-0.72%	4.29	49.12
2024	1,675	1,672	0.11	0.11	-0.67%	-0.68%	4.51	49.12
2025	1,677	1,673	0.11	0.11	0.30%	0.25%	4.37	49.12
2026	1,691	1,687	0.11	0.11	0.87%	0.89%	4.31	49.12
2027	1,695	1,691	0.11	0.11	0.16%	0.17%	4.14	49.13
2028	1,697	1,694	0.11	0.11	-0.15%	-0.15%	4.01	49.13
2029	1,694	1,690	0.11	0.11	-0.30%	-0.32%	3.92	49.13
2030	1,821	1,818	0.12	0.12	7.27%	7.31%	3.79	49.13
2031	1,809	1,806	0.12	0.11	-1.06%	-1.07%	3.66	49.13
2032	1,802	1,799	0.11	0.11	-1.03%	-1.03%	3.58	49.13
2033	1,903	1,900	0.12	0.12	5.06%	5.07%	3.78	49.13
2034	1,917	1,913	0.12	0.12	-0.05%	-0.07%	3.55	49.13
2035	1,900	1,897	0.12	0.12	-1.68%	-1.68%	3.60	42.27
2036	2,030	2,027	0.12	0.12	5.86%	5.88%	4.43	42.27
2037	2,069	2,066	0.13	0.13	1.17%	1.17%	4.22	42.27
2038	2,076	2,073	0.13	0.13	-0.51%	-0.52%	4.12	41.88
2039	2,177	2,173	0.13	0.13	3.96%	3.95%	3.96	41.88
2040	2,254	2,251	0.13	0.13	2.58%	2.61%	3.83	41.88

2. If the estimated company financial ratios in subparagraph (4)(C)1.C. are below investment grade in any year of the planning horizon, a description of any changes in legal mandates and cost recovery mechanisms necessary for the utility to maintain an investment grade credit rating in each year of the planning horizon and the resulting performance measures in subparagraphs (4)(C)1.A.–(4)(C)1.C. of the alternative resource plans that are associated with the necessary changes in legal mandates and cost recovery mechanisms.

The expected values of alternative plan performance ratios do not materially change below current conditions. The expectations would be that the investment rating of the company is not at risk from the choice of any particular alternative resource plan.

(D) A discussion of how the impacts of rate changes on future electric loads were modeled and how the appropriate estimates of price elasticity were obtained;

Rate calculation is performed in this analysis on a perfect rate making basis. Total revenue requirement is calculated which requires exogenous load forecast(s) as an input. In other words, rates are an output of the perfect rate making process.

Where rate elasticity is used in the IRP process is in the development of the load forecast. This is documented in the response to rule 22.030(7)(A)1 in Volume 3 of this filing.

(E) A discussion of the incremental costs of implementing more renewable energy resources than required to comply with renewable energy legal mandates;

Rule 060(3)(A)2 requires the company to study a larger build of renewable resources beyond the current Missouri RES requirement. To meet this requirement and review the impact of renewable generation above that needed to comply with for RES requirements in Missouri, the company included non-RES required

renewable generation additions in all Alternative Resource Plans except for ARP MAACA.

The results showed that ARP MAACA which only included RES required renewables increased NPVRR vs ARPs that included non-RES required renewable generation plan.

(F) A discussion of the incremental costs of implementing more energy efficiency resources than required to comply with energy efficiency legal mandates;

At the current time, there is no specifically target legal mandate for energy efficiency. However this analysis reviews different levels of energy efficiency. These alternative plans are included in the integrated analysis results presented elsewhere in this Volume.

(G) A discussion of the incremental costs of implementing more energy resources than required to comply with any other energy resource legal mandates; and

At this time no other legal resource mandates exist. None are contemplated in this analysis.

(H) A description of the computer models used in the analysis of alternative resource plans.

The MIDAS™ model provides hourly chronological dispatch of all system generating assets including unit commitment logic that simulation the actual operation of the utility system resources. The model contains all unit operating variables required to simulate the units. These variables include but are not limited to, heat rates, fuel costs, variable operation and maintenance costs, sulfur dioxide emission allowance costs, scheduled maintenance outages, forced and derate outages rates each on a per unit basis.

The model can also simulate capacity and energy purchases from or sales to a market in either a firm transaction or as a spot market transaction. In the case of market-based transactions, all can be conducted with the impact of environmental credits factored in.

SECTION 5: UNCERTAIN FACTORS

(5) The utility shall describe and document its selection of the uncertain factors that are critical to the performance of the alternative resource plans. The utility shall consider at least the following uncertain factors:

The company began developing a list of potential critical uncertain factors to consider in the alternative resource plans by including items required per Rule 4 CSR 240-22.060(5). The following table shows the consolidated list of uncertain factors evaluated.

Table 107: Uncertain Factors Evaluated

Uncertain Factor	Evaluated?	Critical?
Load Growth	✓	✓
Interest Rate	✓	✗
Legal Mandates	✓	✗
Fuel Prices	✓	✓
New Gen Construction / Permitting	✓	✗
Purchase Power	✓	✗
Emission Allowance Pricing	✓	✓
Gen O&M costs	✓	✗
Force Outage Rates	✓	✗
DSM / DSR Load Impacts	✓	✗
DSM / DSR Costs	✓	✗
SPP Renewable Penetration	✓	✗
SPP Coal Retirements	✓	✗

The Company compiled information concerning the risks listed in 22.060 (5) from subject matter experts within the company. The experts were requested to provide mid, high and low scenario forecasts for their particular risk.

To determine whether or not an uncertain factor was critical, each factor was changed (one at a time), NPVRR was calculated and plans were ranked to

determine if there was any material change in plan ranking. If there was a material change in ranking, the factor was considered critical.

(A) The range of future load growth represented by the low-case and high-case load forecasts;

The high, mid and low load growth cases compliant with and described in Rule 22.030 (7) and 22.030(8) were used in the MIDAS Gold™ model. The results demonstrated that load growth is a critical uncertain factor. Load growth sensitivity was passed onto the integrated analysis.

(B) Future interest rate levels and other credit market conditions that can affect the utility's cost of capital and access to capital;

The company tested high and low long-term cost of capital to model the sensitivity of plans to changes in these factors. When the adjusted cost of capital rates were input into the MIDAS Gold™ model, no material changes occurred in plan ranking. Therefore, the cost of capital was not deemed to be a critical uncertain factor and not included in the integrated analysis.

(C) Future changes in legal mandates;

Changes to legal mandates were modeled as increasing levels of CO_2 emission restrictions starting in 2026. Two potential levels were tested. Given plan rankings were sensitive to the CO_2 emission allowance pricing, future potential CO2 restrictions were found to be a critical uncertain factor and therefore included in the integrated analysis.

(D) Relative real fuel prices;

Natural Gas:

High and low natural gas price forecast scenarios were developed as inputs into the MIDAS Gold™ model. Plan rankings were found to be materially impacted by natural gas price assumptions; therefore, it was determined to be a critical uncertain factor.

Coal

High and low delivered coal price forecast scenario was modeled in MIDAS Gold™. No material changes were identified in plan rankings therefore this risk was not included in the integrated analysis. Coal price forecast development is detailed in Volume 4, Supply-Side Analysis.

(E) Siting and permitting costs and schedules for new generation and generation-related transmission facilities for the utility, for a regional transmission organization, and/or other transmission systems;

Siting and permitting costs are incorporated into the cost of construction risk detailed in 22.060 (5) (F).

(F) Construction costs and schedules for new generation and generation-related transmission facilities for the utility, for a regional transmission organization, and/or other transmission systems;

The company determined high and low construction cost estimates for each supply technology that passed the preliminary screening process and was moved into the integrated resource analysis. These high and low construction costs scenarios were modeled in MIDAS Gold™. Plan rankings were not materially impacted for either the high or the low construction cost estimates. Construction cost was not identified as a critical uncertain factor, and this risk was not included in the integrated analysis.

Construction cost risks vary by technology. Detailed information for each of the resource options identified can be viewed in Volume 4.

(G) Purchased power availability, terms, cost, optionality, and other benefits;

High and low purchased power availability was simulated with a high and low cost for the capacity terms of the contracts. High and low purchased power availability scenarios were modeled in MIDAS Gold™. No material changes found in plan rankings therefore purchased power availability was not identified as a critical uncertain factor. This risk was not included in the integrated analysis.

(H) Price of emission allowances, including at a minimum sulfur dioxide, carbon dioxide, and nitrogen oxides;

SO_2 credit price forecast development is detailed in Volume 4, Supply-Side Analysis. High and low SO_2 credit price forecasts were simulated in the MIDAS Gold™ model. Plan rankings did not materially change as this cost was varied. SO_2 credit prices are not considered a critical resource factor and were not used as part of the integrated analysis.

NO_X credit price forecast development is detailed in Volume 4, Supply-Side Analysis. High and low NO_X credit price forecasts were simulated in the MIDAS Gold™ model. Resulting plan rankings did not change as this cost was varied. NO_X credit prices are not considered a critical resource factor and were not used as part of the integrated analysis.

CO_2 credit price forecast development is detailed in Volume 4, Supply-Side Analysis. Please see the description of CO_2 factor testing under the legal mandate section.

(I) Fixed operation and maintenance costs for new and existing generation facilities;

High and low Fixed O&M costs were simulated in the MIDAS Gold™ model. Resulting plan ranking did not materially change as this cost was varied. Therefore, fixed O&M costs were not considered a critical resource factor and were not used as part of the integrated analysis.

(J) Equivalent or full- and partial-forced outage rates for new and existing generation facilities;

High and low equivalent forced outage rates were simulated in the MIDAS Gold™ model. Resulting plan ranking did not materially change as this factor was varied. Therefore, equivalent forced outage rates were not considered a critical resource factor and were not used as part of the integrated analysis.

(K) Future load impacts of demand-side programs and demand-side rates:

High and low load impacts of DSM were simulated in the MIDAS Gold™ model. Resulting plan ranking did not materially change as this factor was varied. Therefore, load impacts of DSM were not considered a critical resource factor and were not used as part of the integrated analysis.

(L) Utility marketing and delivery costs for demand-side programs and demand-side rates; and

High and low marketing costs of DSM were simulated in the MIDAS Gold™ model. Resulting plan ranking did not change as this factor was varied. Therefore, marketing costs of DSM were not considered a critical resource factor and were not used as part of the integrated analysis.

(M) Any other uncertain factors that the utility determines may be critical to the performance of alternative resource plans.

As part of the 2021 IRP analysis, the Company evaluated the impact from a potential increase in customer-installed distributed solar and battery storage systems on average rates. The solar and battery storage installations and impacts were taken from a recently completed behind-the-meter solar and battery storage

potential study conducted for the Company by ICF. The Company engaged ICF in 2020 to evaluate the potential for retail customers to install solar and battery storage systems on the customer side of the meter. The complete study can be found in Appendix 5G. Three different adoption scenarios were developed. The High adoption scenario results were used to effectively modify the 20-year total Metro hourly load profile to account for this solar and battery storage adoption. The annual revenue requirements were then estimated for selected Evergy Metro Alternative Resource Plans based on these modifications. Average customer rates where then calculated and compared to the same plan's average rates without the increase in distributed solar and battery storage. This was done for each combination of natural gas price and CO_2 cost assumptions (nine scenarios in total). The expected value of the average rate impacts is shown in Table 108 below. Given the minimal change in rates, this was not considered a critical uncertain factor.

Table 108: Behind the Meter Solar and Battery Storage Impacts on Average Rates

Year	MAABS		MCGBU	
	$/MWh	%	$/MWh	%
2021	$ 0.48	0.4%	$ 0.48	0.4%
2022	$ 0.60	0.5%	$ 0.60	0.5%
2023	$ 0.76	0.7%	$ 0.76	0.7%
2024	$ 0.89	0.8%	$ 0.90	0.8%
2025	$ 1.04	1.0%	$ 1.05	1.0%
2026	$ 1.17	1.1%	$ 1.20	1.1%
2027	$ 1.26	1.2%	$ 1.28	1.2%
2028	$ 1.34	1.2%	$ 1.37	1.2%
2029	$ 1.40	1.3%	$ 1.43	1.3%
2030	$ 1.18	1.0%	$ 1.18	1.0%
2031	$ 1.24	1.1%	$ 1.26	1.1%
2032	$ 1.25	1.1%	$ 1.28	1.1%
2033	$ 1.27	1.1%	$ 1.28	1.1%
2034	$ 1.15	1.0%	$ 1.13	1.0%
2035	$ 0.97	0.8%	$ 0.93	0.8%
2036	$ 1.05	0.9%	$ 0.98	0.8%
2037	$ 0.94	0.8%	$ 0.85	0.7%
2038	$ 0.79	0.6%	$ 0.64	0.5%
2039	$ 0.70	0.5%	$ 0.54	0.4%
2040	$ 0.64	0.5%	$ 0.47	0.4%

The Company also evaluated the potential impact of coal plant retirements in the Southwest Power Pool (SPP) under two different assumptions, all coal plants are retired at 50 years of age and 60 years of age. Plan ranking was not materially different under these two scenarios. Therefore, the pace of coal plant retirements was not considered a critical uncertain factor.

The Company also evaluated the impact of additional renewable resource additions in the SPP footprint. Two different levels were assumed. Table 109 and Table 110 below summarizes the two scenarios tested:

Table 109: High Renewable Penetration

Capacity (MW)	2022	2025	2030	2035	2040
Solar PV	397	15,000	25,000	27,500	30,000
Wind	24,481	30,067	36,000	36,912	37,823
Battery Storage	119	7,500	12,500	13,750	15,000

Table 110: Low Renewable Penetration

Capacity (MW)	2022	2025	2030	2035	2040
Solar PV	397	3,997	6,995	8,498	10,000
Wind	24,481	26,070	28,068	28,284	28,501
Battery Storage	48	799	1,399	1,700	2,000

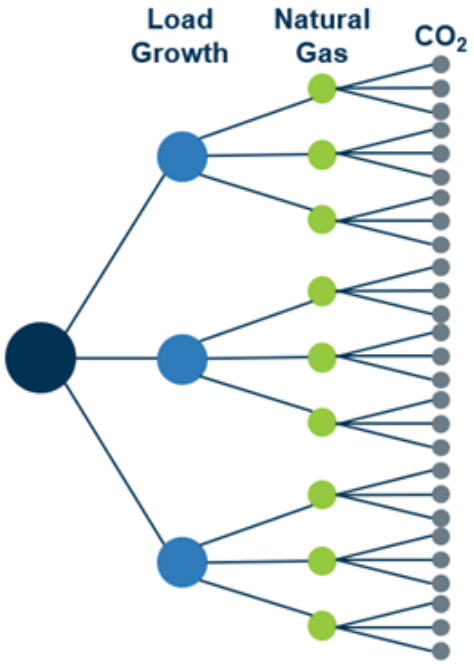
While plan ranking changed somewhat, it was not deemed significant enough to become a critical uncertain factor for this analysis.

SECTION 6: CRITICAL UNCERTAIN FACTORS ASSESSMENT

(6) The utility shall describe and document its assessment of the impacts and interrelationships of critical uncertain factors on the expected performance of each of the alternative resource plans developed pursuant to 4 CSR 240-22.060(3) and analyze the risks associated with alternative resource plans. This assessment shall explicitly describe and document the probabilities that utility decision makers assign to each critical uncertain factor.

To summarize the results described in Section 5 above, the company analyzed several uncertain factors individually to determine which were critical – meaning that a factor would impact Alternative Resource Plan ranking results. Three uncertain factors were determined to be critical uncertain factors - load growth, natural gas prices and CO_2 credit prices. Once identified, these three critical uncertain factors were utilized to construct scenarios as shown in Figure 1 below.

Figure 1: Critical Uncertain Factor Scenarios



The three critical uncertain factors were assigned the following probability distributions:

Figure 2: Critical Uncertain Factor Probability Distribution

	Low	Mid	High
Load Growth	35%	50%	15%
Natural Gas	35%	50%	15%
CO_2 Price	20%	60%	20%

These probabilities were assigned by the Operations Executive Leadership team after review and discussion of the various forecasts.

For each of the twenty-seven endpoint scenarios, the weighted endpoint probability is the product of the probability distribution assignments an shown in below:

Figure 3: Scenario Weighted Endpoint Probabilities

Endpoint	Load Growth	Natural Gas	CO_2	Endpoint Probability
1	High	High	High	0.5%
2	High	High	Mid	1.4%
3	High	High	Low	0.5%
4	High	Mid	High	1.5%
5	High	Mid	Mid	4.5%
6	High	Mid	Low	1.5%
7	High	Low	High	1.1%
8	High	Low	Mid	3.2%
9	High	Low	Low	1.1%
10	Mid	High	High	1.5%
11	Mid	High	Mid	4.5%
12	Mid	High	Low	1.5%
13	Mid	Mid	High	5.0%
14	Mid	Mid	Mid	15.0%
15	Mid	Mid	Low	5.0%
16	Mid	Low	High	3.5%
17	Mid	Low	Mid	10.5%
18	Mid	Low	Low	3.5%
19	Low	High	High	1.1%
20	Low	High	Mid	3.2%
21	Low	High	Low	1.1%
22	Low	Mid	High	3.5%
23	Low	Mid	Mid	10.5%
24	Low	Mid	Low	3.5%
25	Low	Low	High	2.5%
26	Low	Low	Mid	7.4%
27	Low	Low	Low	2.5%

In order to assess the full range of risks, each possible combination of covariant risk is simulated. These risks are used to develop an overall distribution of risk using every combination of risk factors. A cumulative risk distribution is then derived from the joint probability calculation of each scenario component risk that defines the scenario.

The Company has used all combinations of identified risk drivers in its analysis. This includes scenarios that exhibited both strong positive and strong negative correlations among risk drivers. By using regression methods, the Company tested the effects of all extreme risk drivers and the cases of strong positive and strong negative correlations.

Results of the study are presented in the following table of regression results.

Table 111: Regression Study Results

Regression Statistics				
Multiple R	0.977681506			
R Square	0.955861128			
Adjusted R Square	0.954969434			
Standard Error	310.6583317			
Observations	405			
ANOVA				
	df	*SS*	*MS*	*F*
Regression	8	827627225.1	1.03E+08	1071.96
Residual	396	38217405.22	96508.6	
Total	404	865844630.3		
	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	18615.386	51.198	363.597	0.000
HCO2	1947.435	59.786	32.573	0.000
LCO2	-1114.542	59.786	-18.642	0.000
HGas	-165.834	59.786	-2.774	0.006
LGas	9.024	59.786	0.151	0.880
HLoad	1067.584	37.812	28.234	0.000
LLoad	-458.781	37.812	-12.133	0.000
NG+CO2	273.430	73.223	3.734	0.000
NG-CO2	-149.028	73.223	-2.035	0.042

SECTION 7: CRITICAL UNCERTAIN FACTOR PROBABILITIES

(7) The utility decision-makers shall assign a probability pursuant to section (5) of this rule to each uncertain factor deemed critical by the utility. The utility shall compute the cumulative probability distribution of the values of each performance measure specified pursuant to 4 CSR 240-22.060(2). Both the expected performance and the risks of each alternative resource plan shall be quantified. The utility shall describe and document its risk assessment of each alternative resource plan.

The probability distributions have been combined to produce overall joint probabilities for critical factor combinations.

(A) The expected performance of each resource plan shall be measured by the statistical expectation of the value of each performance measure.

Table 112: Expected Value Plan Performance Measures

Plan	NPVRR ($MM)	Probable Environmental Costs ($MM)	DSM Performance Incentive Costs ($MM)	Levelized Annual Rates ($/KW-hr)	Maximum Rate Increase	Times Interest Earned	Total Debt to Capital
MCGDU	18,655	1,098	6.37	0.112	9.76%	4.23	47.46
MCGCU	18,702	1,038	29.78	0.114	8.34%	4.21	47.46
MCGBU	18,716	1,019	37.04	0.115	6.67%	4.20	47.46
MCGCT	18,724	1,140	29.78	0.115	8.38%	4.13	47.46
MDDCS	18,728	1,176	29.78	0.115	8.32%	4.00	47.46
MBBCS	18,754	1,188	29.78	0.115	8.30%	4.01	47.46
MCCCS	18,774	1,210	29.78	0.116	8.29%	4.01	47.46
MCGDS	18,784	1,343	6.37	0.113	8.61%	4.04	47.46
MAABS	18,787	1,207	37.04	0.116	7.35%	4.00	47.46
MCGCS	18,789	1,284	29.78	0.116	10.14%	4.01	47.46
MAACS	18,795	1,224	29.78	0.116	8.28%	4.02	47.46
MFFCS	18,840	1,116	29.78	0.116	7.27%	4.03	47.46
MAACA	18,855	1,284	29.78	0.116	8.24%	3.98	47.46
MEECS	18,908	1,080	29.78	0.117	7.50%	4.08	47.46
MAAAS	19,058	1,169	78.35	0.120	8.24%	4.01	47.46

(B) The risk associated with each resource plan shall be characterized by some measure of the dispersion of the probability distribution for each performance measure, such as the standard deviation or the values associated with specified percentiles of the distribution.

Table 113: Standard Deviation Plan Performance Measures

Plan	NPVRR ($MM)	Probable Environmental Costs ($MM)	DSM Performance Incentive Costs ($MM)	Levelized Annual Rates ($/KW-hr)	Maximum Rate Increase	Times Interest Earned	Total Debt to Capital
MCGDU	1,364	121.94	0.00	0.010	1.98%	0.00	0.00
MCGCU	1,307	115.98	0.00	0.010	1.94%	0.00	0.00
MCGBU	1,290	114.00	0.00	0.010	2.10%	0.00	0.00
MCGCT	1,402	126.48	0.00	0.011	2.10%	0.00	0.00
MDDCS	1,476	138.43	0.00	0.012	2.37%	0.00	0.00
MBBCS	1,484	137.68	0.00	0.012	2.38%	0.00	0.00
MCCCS	1,498	138.33	0.00	0.012	2.27%	0.00	0.00
MCGDS	1,545	149.97	0.00	0.012	2.37%	0.00	0.00
MAABS	1,489	135.81	0.00	0.012	2.35%	0.00	0.00
MCGCS	1,545	144.03	0.00	0.012	2.39%	0.00	0.00
MAACS	1,507	137.48	0.00	0.012	2.38%	0.00	0.00
MFFCS	1,429	129.03	0.00	0.011	2.23%	0.00	0.00
MAACA	1,569	143.39	0.00	0.012	2.47%	0.00	0.00
MEECS	1,411	123.43	0.00	0.011	2.34%	0.00	0.00
MAAAS	1,449	131.11	0.00	0.012	2.46%	0.00	0.00

Note: Several performance measures are not affected by the individual scenario risk and therefore exhibits no standard deviation.

(C) The utility shall provide—

1. A discussion of the method the utility used to determine the cumulative probability—

For the overall risk analysis, the company assumed independence of the three critical uncertain factors for this long-term analysis. The individual scenarios utilized a joint probability of the probabilistic occurrence of each risk component that defined the scenario. This method and its statistical performance is described in Section 6 of this Volume.

A. An explanation of how the critical uncertain factors were identified, how the ranges of potential outcomes for each uncertain factor were determined, and how the probabilities for each outcome were derived; and

The method for determining whether or not a risk was an uncertain factor is detailed in Section 5 of this Volume.

B. Analyses supporting the utility's choice of ranges and probabilities for the uncertain factors;

Supporting documentation for the choice of probabilistic range is in Volume 3 for the load growth risk and Volume 4 for Natural Gas and CO_2 credit price risk.

2. Plots of the cumulative probability distribution of each distinct performance measure for each alternative resource plan;

Chart 18: Cumulative Probability - NPVRR

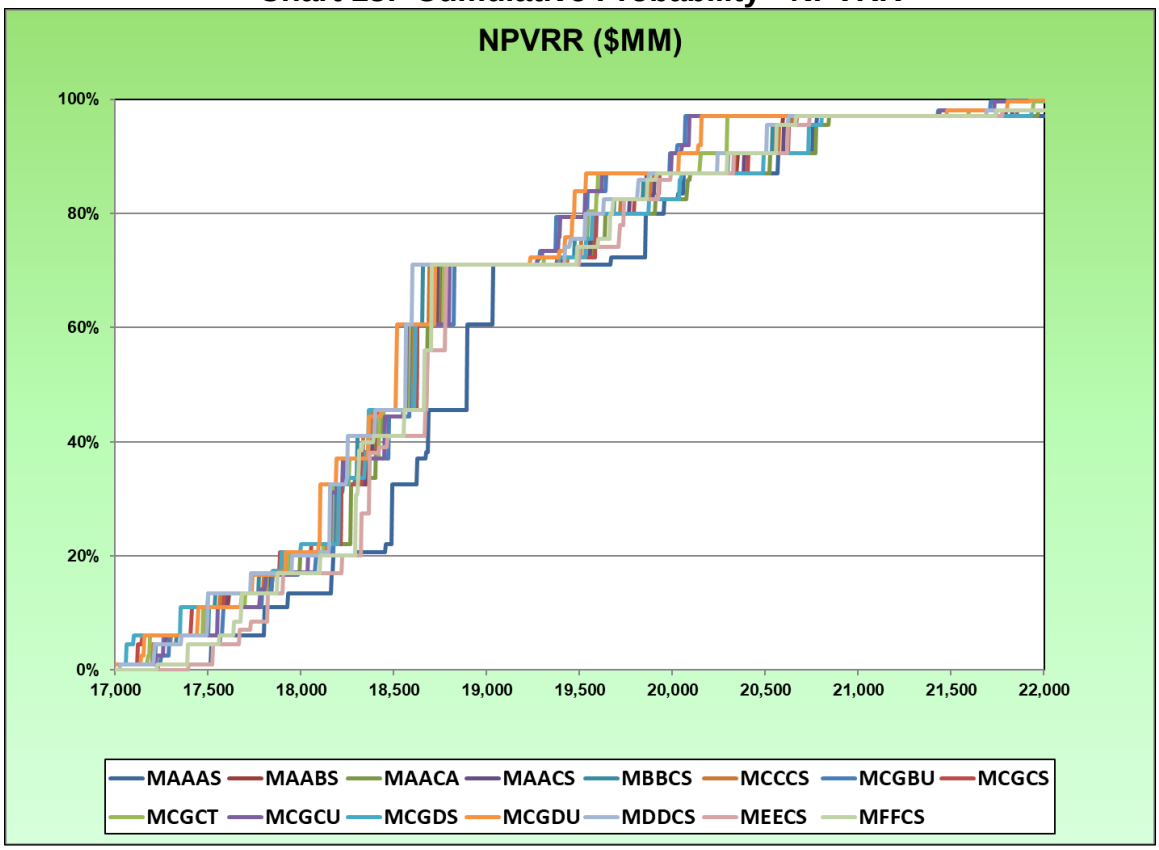


Chart 19: Cumulative Probability - PEC

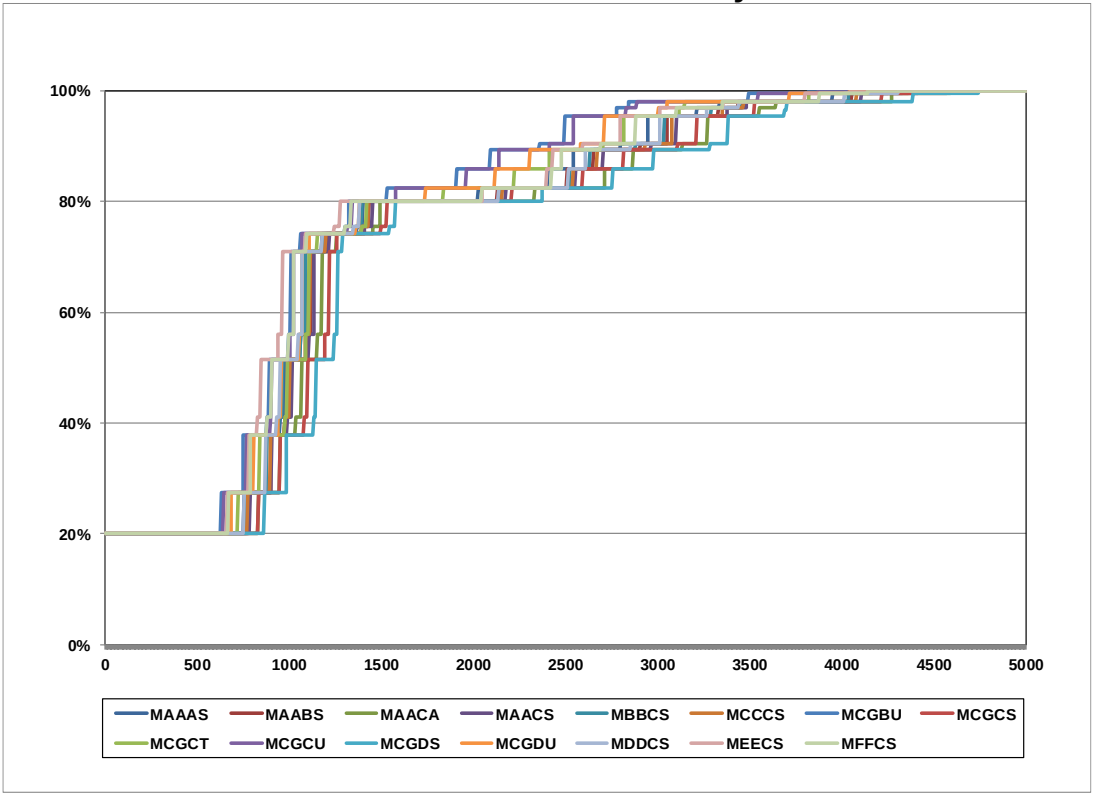


Chart 20: Cumulative Probability - Average Rates

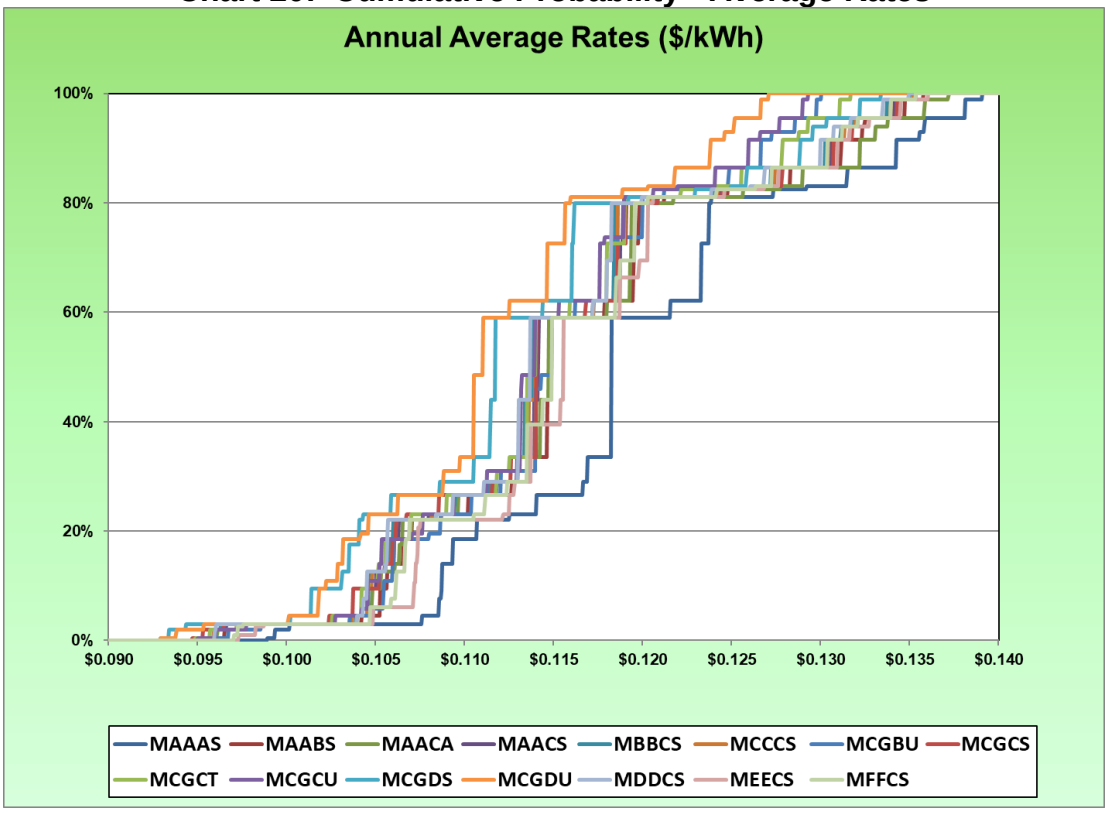
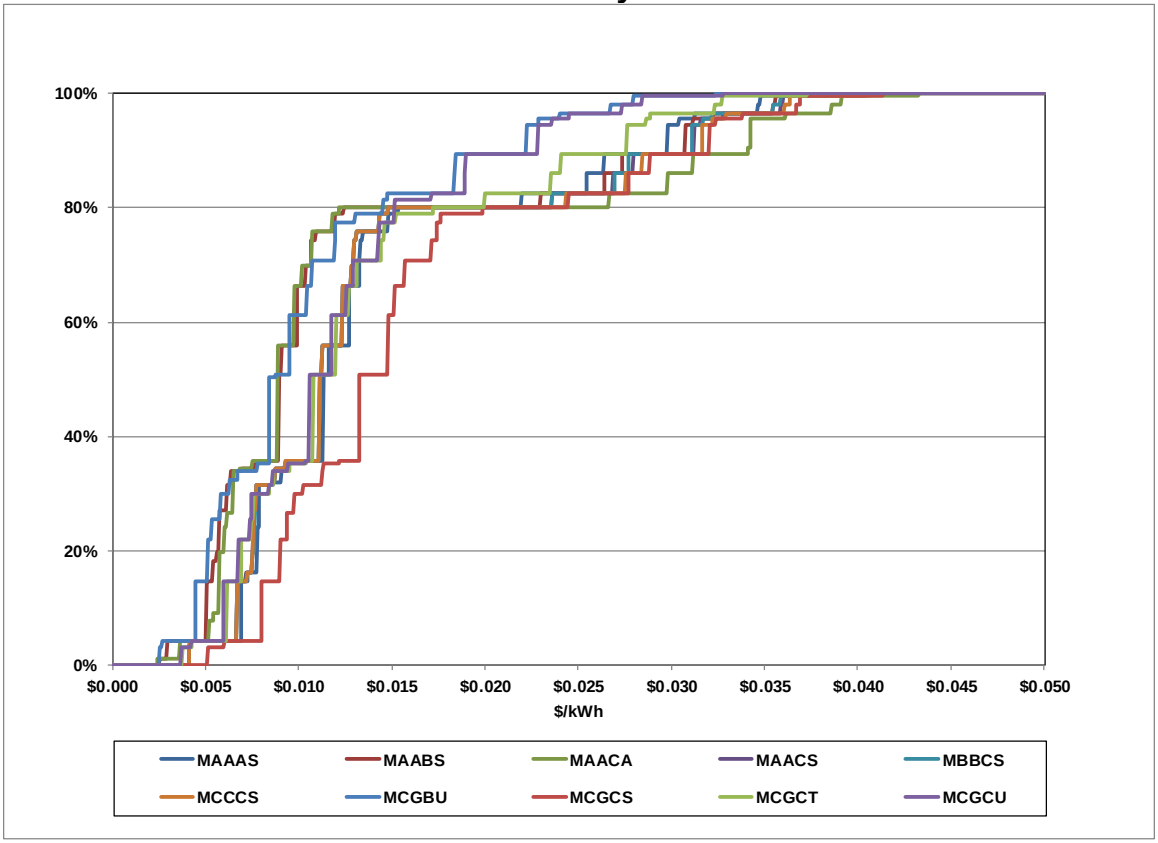


Chart 21: Cumulative Probability - Maximum Rate Increase



Values for all other performance measures do not vary enough over the range of scenarios to allow for graphical display.

3. For each performance measure, a table that shows the expected value and the risk of each alternative resource plan; and

See Table 112 and Table 113 above.

4. A plot of the expected level of annual unserved hours for each alternative resource plan over the planning horizon.

There was no unserved energy in any of the alternative resource plans.