EVERGY MISSOURI WEST

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 Missouri West. 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	$58,072,046
RAP	$28,265,320
RAP-	$20,354,849
MEEIA 3 Only	$8,132,600

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, WAACA, limits solar additions to the amount of solar capacity currently expected to meet solar compliance. Evergy Missouri West 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 Missouri West's MEEIA Cycle III approved programs. This scenario was modeled in Alternative Resource Plan WDDDU

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

Table 2: Evergy Missouri West Non-Solar Renewable Requirements

Year	Evergy Missouri West Retail Electric Sales (MWh)	Evergy Missouri West RES Requirement	Evergy Missouri West Requirement (MWh)
2021	8,235,969	14.70%	1,210,687
2022	8,232,552	14.70%	1,210,185
2023	8,250,592	14.70%	1,212,837
2024	8,232,668	14.70%	1,210,202
2025	8,271,918	14.70%	1,215,972
2026	8,348,204	14.70%	1,227,186
2027	8,396,542	14.70%	1,234,292
2028	8,448,748	14.70%	1,241,966
2029	8,494,002	14.70%	1,248,618
2030	8,540,714	14.70%	1,255,485
2031	8,613,064	14.70%	1,266,120
2032	8,703,180	14.70%	1,279,368
2033	8,799,532	14.70%	1,293,531
2034	8,899,590	14.70%	1,308,240
2035	8,995,014	14.70%	1,322,267
2036	9,085,675	14.70%	1,335,594
2037	9,178,729	14.70%	1,349,273
2038	9,265,748	14.70%	1,362,065
2039	9,355,331	14.70%	1,375,234
2040	9,444,878	14.70%	1,388,397

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 Missouri West 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 Missouri West “*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 thorough Table 9 below.

Table 3: Joint Planning Alternative Resource Plan Naming Convention

E	A	A	G	A

UTILITY
E = EVERGY

RETIREMENT UNITS
A =, LR 4/6, L-2, L-1, L-4, L-5, J-1, J-2, J-3, I-1
B = L-1, LR 4/6
C = L-2, LR 4/6
D = L-1, L-2, LR 4/6
E = H-5, L-2, LR 4/6
F = J-3, LR 4/6
G = LR 4/6 , J-2, J-3
H = J-1, J-2, J-3, LR 4/6
I - I-1, LR 4/6
J = L-4, LR 4/6
K = L-4, L-5, LR 4/6
L = L-4, L-5, LR 4/6, H-5
M =LR 4/6, J-1, J-2, J-3
N = L-4, L-5, LR 4/6, J-2, J-3
O = L-4, L-5,LR 4/6, J-1, J-2, J-3
P = L-4, L-5, LR 4/6, J-2, J-3, H-5
Q = L-4, L-5, LR 4/6, L-2
R = L-4, L-5, LR 4/6, J-3, L-2

RETIREMENT DATES
A = Dec 31, 2024 (LR 4/6), Dec 31, 2032 (L-1), Oct 1, 2029 (L-2), Oct 31, 2030 (L-4 and L-5), Dec 31, 2039 (J-1, J-2, J-3, I-1)
B = Dec 31, 2023 (L-1), Dec 31, 2024 (LR 4/6)
C = Dec 31, 2023 (L-2), Dec 31, 2024 (LR 4/6)
D = Dec 31, 2023 (L-1, L-2), Dec 31, 2024 (LR 4/6)
E = Dec 31, 2024 (H-5), Dec 31, 2024 (LR 4/6)
F = Dec 31, 2023 (J-3), Dec 31, 2024 (LR 4/6)
G = Dec 31, 2023 (J-2, J-3), Dec 31, 2024 (LR 4/6)
H = Dec 31, 2023 (J-1, J-2, J-3), Dec 31, 2024 (LR 4/6)
I = Dec 31, 2023 (I-1), Dec 31, 2024 (LR 4/6)
J = Dec 31, 2023 L-4), Dec 31, 2024 (LR 4/6)
K = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6)
L = = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6), Dec 31, 2039 (H-5)
M = Dec 31, 2024 (LR 4/6), Dec 31, 2030 (J-2, J-3)
N = Dec 31, 2024 (LR 4/6), Dec 31, 2030 (J-1, J-2, J-3)
O = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6), Dec 31, 2030 (J-2, J-3)
P = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6), Dec 31, 2026 (J-2, J-3)
Q = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6), Dec 31, 2029 (J-2, J-3)
R = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6), Dec 31, 2026 (J-1, J-2, J-3)
S = Dec 31, 2023 (L-4, L-5), Dec 31, 2026 (J-2, J-3), Dec 31, 2024 (LR 4/6), Dec 31, 2034 (J-1)
T = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6), Dec 31, 2026 (J-2, J-3), Dec 31, 2034 (H-5)
U = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6), Dec 31, 2039 (L-2)
V = Dec 31, 2023 (L-4, L-5), Dec 31, 2024 (LR 4/6), Dec 31, 2030 (J-3), Dec 31, 2039 (L-2)

GENERATION ADDITIONS
A = CT
B = CC
D = = 1700 MW Solar/CT + 500 MW of Storage
E = 3200 MW Solar/CT + 500 MW wind
G = 3500 MW Solar/CT + 200 MW of wind
H = 700 MW Solar/CT + 1000 MW wind
I = = 700 MW Solar/CC
J = 1700 MW Solar/CT + 1000 MW wind
K = 2200 MW Solar/CT + 1000 MW wind
L = 3200 MW Solar/CT + 1000 MW wind
M = 3200 MW Solar/CT
N = 4200 MW Solar/CT
P = 3200 MW Solar/CT + 1128 MW wind
R = 700 MW Solar/CT or Storage
S = 700 MW Solar/CT
T = 1200 MW Solar/CT
U = 1700 MW Solar/CT
V = 1000 MW Solar/CT or CC
W = 2200 MW Solar/CT
X = All Solar
Y = 2700 MW Solar/CT
Z = 3500 MW Solar/CT

DEMAND-SIDE MANAGEMENT
Option D = MEEIA 3 (EM and EMW) + existing programs (EKC)
Option E = MAP + DSR (EM) + MAP + DSR (EMW) + RAP- (EKC)
Option F = RAP + DSR (EM) + RAP + DSR (EMW) + RAP- (EKC)
Option G = RAP- + DSR (EM) + RAP- +

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

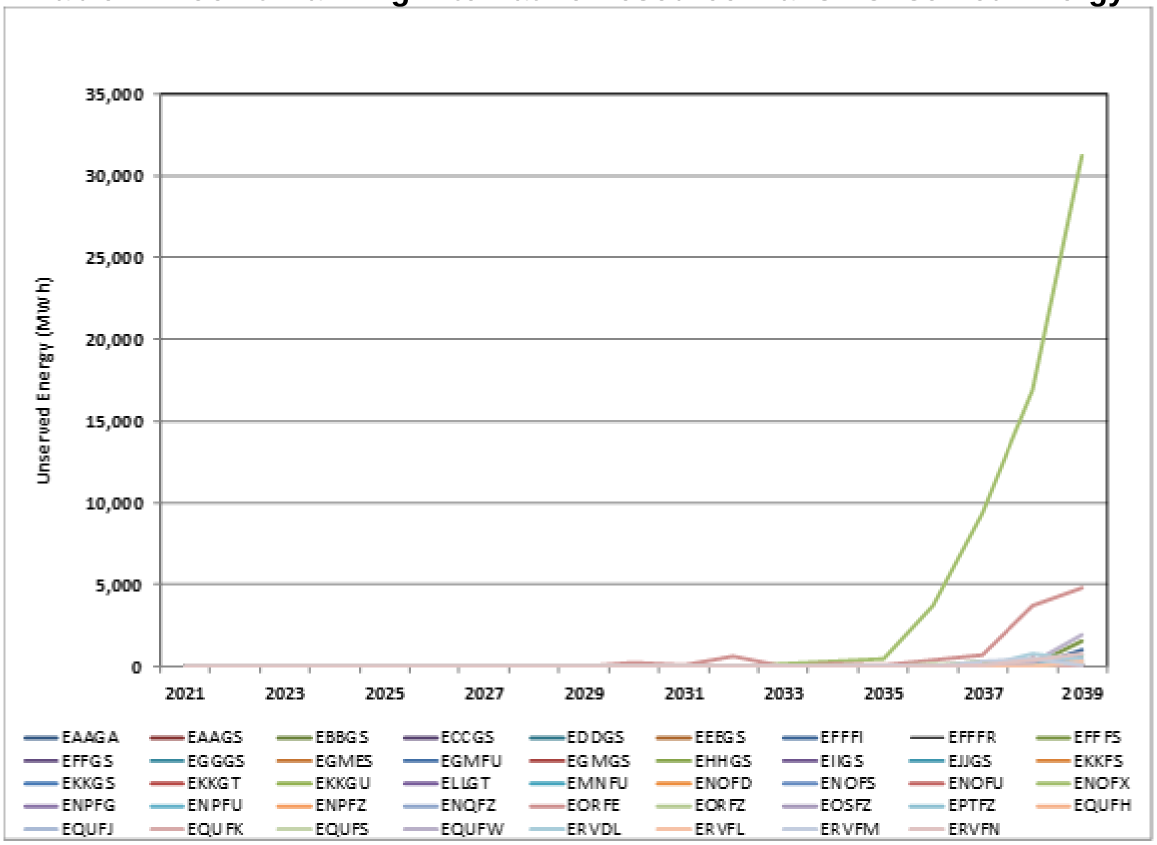
The resulting expected value NPVRR for each of the joint planning ARPs is detailed in Table 10 below.

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 Missouri West modeled several Alternative Resource Plans which included potential retirement of existing generation.

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 Missouri West'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
Clean Water Act 316(b) Fish Impingement	-	2025-2028	Final Rule May 2014	TBD	Lake Road 4/6
Effluent Guidelines Bottom Ash Transport Water	Wastewater Constituents	2021	Final Rule October 2020	Ash Handling Conversion	Jeffrey
Effluent Guidelines FGD Waste Water	Wastewater Constituents	2023	Final Rule October 2020	Zero Liquid Discharge	Jeffrey
Coal Combustion Residual (CCR) - Part A	Ash/Water	2021	Final Rule August 2020	Cease Waste Flows Into Unlined Impoundments	Jeffrey

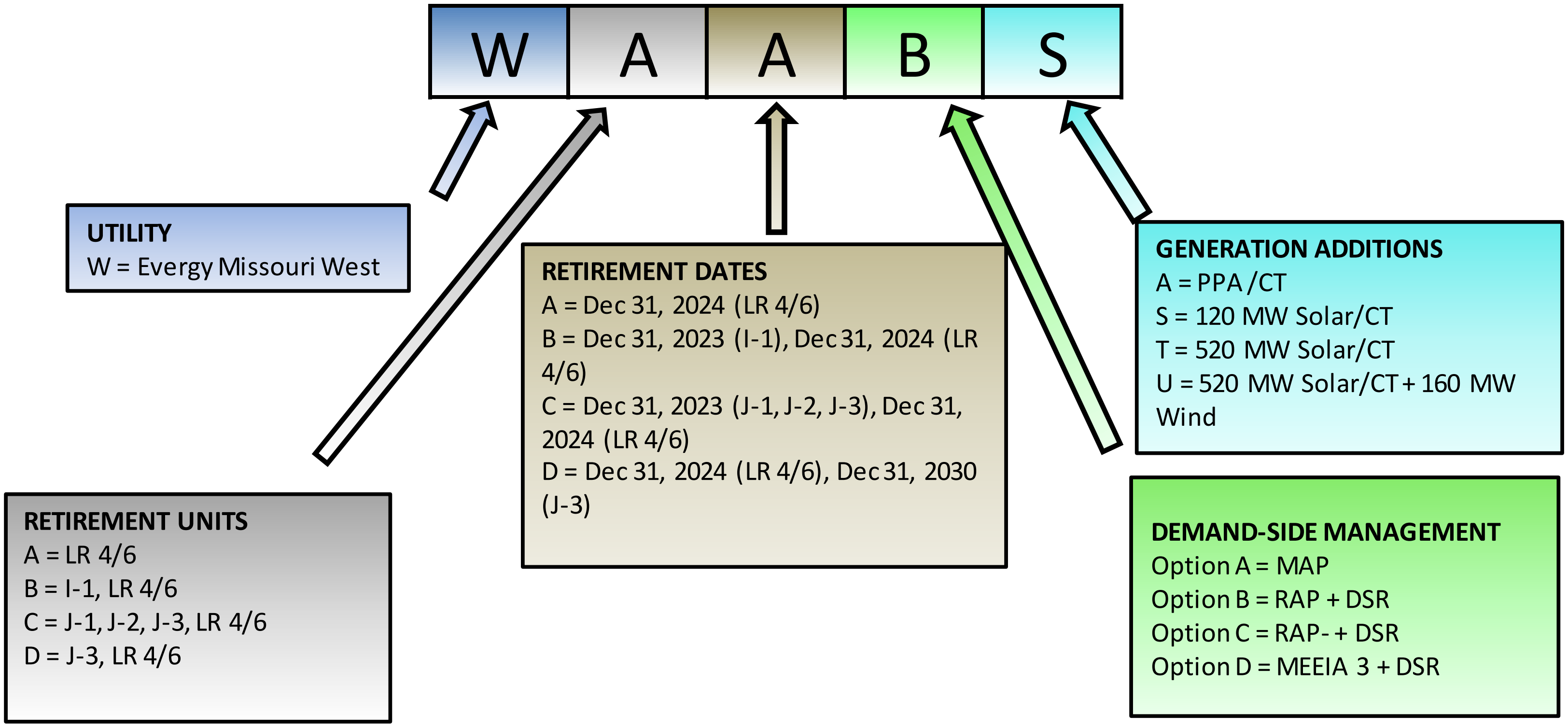
3. The conclusion of any currently implemented demand-side resources.

Alternative Resource Plan WDDDU was developed to evaluate this rule, which consists of Evergy Missouri West 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 Missouri West's Alternative Resource Plans developed is shown in Table 13 below:

Table 13: Alternative Resource Plan Naming Convention



Definitions:	**I-1 = Iatan-1**	**DSR: Demand-Side Rates**
LR 4/6: Lake Road 4/6	**MAP: Maximum Achievable Potential**	**PPA: Power Purchase Agreement**
J-1 = Jeffrey-1	**RAP: Realistic Achievable Potential**	**CT: Combustion Turbine**
J-2 = Jeffrey-2	**MEEIA: Missouri Energy Efficiency Investment Act**	
J-3 = Jeffrey-3		

Alternative Resource Plans were developed for Evergy Missouri West integrated resource analysis. The following table, Table 14, provides 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 15 through Table 24 below.

Table 14: Overview of Alternative Resource Plans

Plan Name	DSM Level	Retire	Renewable Additions		Generation Additions (if needed)
WAAAS	MAP + DSR	Lake Road 4/6: Dec 31, 2024 JEC: Dec 31, 2039 Iatan-1: Dec 31, 2039		120 MW Solar (2024)	PPA 1 CT (233 MW) in 2036 2 CT (466 MW) in 2040
WAABS	RAP + DSR	Lake Road 4/6: Dec 31, 2024 JEC: Dec 31, 2039 Iatan-1: Dec 31, 2039		120 MW Solar (2024)	PPA 1 CT (233 MW) in 2033 1 CT (233 MW) in 2037 1 CT (233 MW) in 2040
WAACA	RAP- + DSR	Lake Road 4/6: Dec 31, 2024 JEC: Dec 31, 2039 Iatan-1: Dec 31, 2039		10 MW Solar (2027)	PPA 2 CT (466 MW) in 2033 1 CT (233 MW) in 2039 1 CT (233 MW) in 2040
WAACS	RAP- + DSR	Lake Road 4/6: Dec 31, 2024 JEC: Dec 31, 2039 Iatan-1: Dec 31, 2039		120 MW Solar (2024)	PPA 2 CT (466 MW) in 2033 2 CT (466 MW) in 2040
WBBCS	RAP- + DSR	Lake Road 4/6: Dec 31, 2024 JEC: Dec 31, 2039 Iatan-1: Dec 31, 2023		120 MW Solar (2024)	PPA 2 CT (466 MW) in 2033 1 CT (233 MW) in 2037 1 CT (233 MW) in 2040
WCCCS	RAP- + DSR	Lake Road 4/6: Dec 31, 2024 JEC: Dec 31, 2023 Iatan-1: Dec 31, 2039		120 MW Solar (2024)	PPA 1 CT (699 MW) in 2032 2 CT (466 MW) in 2033 1 CT (233 MW) in 2040
WDDBS	RAP + DSR	Lake Road 4/6: Dec 31, 2024 J-3: Dec 31, 2030 J-1 & J-2: Dec 31, 2039 Iatan-1: Dec 31, 2039		120 MW Solar (2024)	PPA 2 CT (466 MW) in 2033 1 CT (233 MW) in 2040
WDDBT	RAP + DSR	Lake Road 4/6: Dec 31, 2024 J-3: Dec 31, 2030 J-1 & J-2: Dec 31, 2039 Iatan-1: Dec 31, 2039		120 MW Solar (2024) 80 MW Solar (2028, 2029, 2030, 2031, 2032)	PPA 1 CT (233 MW) in 2033 1 CT (233 MW) in 2039 1 CT (233 MW) in 2040
WDDBU	RAP + DSR	Lake Road 4/6: Dec 31, 2024 J-3: Dec 31, 2030 J-1 & J-2: Dec 31, 2039 Iatan-1: Dec 31, 2039	80 MW Wind (2025, 2026)	120 MW Solar (2024) 80 MW Solar (2028, 2029, 2030, 2031, 2032)	PPA 1 CT (233 MW) in 2033 1 CT (233 MW) in 2039 1 CT (233 MW) in 2040
WDDDU	MEEIA 3 + DSR	Lake Road 4/6: Dec 31, 2024 J-3: Dec 31, 2030 J-1 & J-2: Dec 31, 2039 Iatan-1: Dec 31, 2039	80 MW Wind (2025, 2026)	120 MW Solar (2024) 80 MW Solar (2028, 2029, 2030, 2031, 2032)	PPA 1 CT (233 MW) in 2024 1 CT (233 MW) in 2033 1 CT (233 MW) in 2038 1 CT (233 MW) in 2040

The individual plans are shown in the following tables:

Table 15: Alternative Resource Plan WAAAS

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			258	
2024	0		120	308	97
2025	0			339	
2026	0			368	
2027	0			394	
2028	0			415	
2029	0			438	
2030	0			460	
2031	0			469	
2032	0			472	
2033	0			475	
2034	0			478	
2035	0			481	
2036	233			486	
2037	0			495	
2038	0			500	
2039	0			502	300
2040	466			502	

Plan WAAAS assumes retirements of Lake Road 4/6 in 2024, Jeffrey 1, 2, and 3 and Iatan-1 in 2039, 120 MW of new solar in 2024, DSM Option A, 1 CT (233 MW) in 2036, 2 CT's (466 MW) in 2040.

Table 16: Alternative Resource Plan WAABS

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			137	
2024	0		120	166	97
2025	0			191	
2026	0			215	
2027	0			237	
2028	0			257	
2029	0			278	
2030	0			296	
2031	0			301	
2032	0			299	
2033	233			298	
2034	0			300	
2035	0			301	
2036	0			303	
2037	233			307	
2038	0			310	
2039	0			311	300
2040	233			310	

Plan WAABS assumes retirements of Lake Road 4/6 in 2024, Jeffrey 1, 2, and 3 and Iatan-1 in 2039, 120 MW of new solar in 2024, DSM Option B, 1 CT (233 MW) in 2033,1 CT (233 MW) in 2037, 1 CT (233 MW) in 2040.

Table 17: Alternative Resource Plan WAACA

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			129	
2024	0			148	97
2025	0			161	
2026	0			175	
2027	0		10	187	
2028	0			198	
2029	0			212	
2030	0			222	
2031	0			222	
2032	0			215	
2033	466			211	
2034	0			210	
2035	0			209	
2036	0			208	
2037	0			209	
2038	0			210	
2039	233			208	300
2040	233			205	

Plan WAACA assumes retirements of Lake Road 4/6 in 2024, Jeffrey 1, 2, and 3 and Iatan-1 in 2039, 10 MW of new solar in 2027, DSM Option C, 2 CT’s (466 MW) in 2033,1 CT (233 MW) in 2039, 1 CT (233 MW) in 2040.

Table 18: Alternative Resource Plan WAACS

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			129	
2024	0		120	148	97
2025	0			161	
2026	0			175	
2027	0			187	
2028	0			198	
2029	0			212	
2030	0			222	
2031	0			222	
2032	0			215	
2033	466			211	
2034	0			210	
2035	0			209	
2036	0			208	
2037	0			209	
2038	0			210	
2039	0			208	300
2040	466			205	

Plan WAACS assumes retirements of Lake Road 4/6 in 2024, Jeffrey 1, 2, and 3 and Iatan-1 in 2039, 120 MW of new solar in 2024, DSM Option C, 2 CT's (466 MW) in 2033, 2 CT's (466 MW) in 2040.

Table 19: Alternative Resource Plan WBBCS

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			129	126
2024	0		120	148	97
2025	0			161	
2026	0			175	
2027	0			187	
2028	0			198	
2029	0			212	
2030	0			222	
2031	0			222	
2032	0			215	
2033	466			211	
2034	0			210	
2035	0			209	
2036	0			208	
2037	233			209	
2038	0			210	
2039	0			208	174
2040	233			205	

Plan WBBCS assumes retirements of Iatan-1 in 2023, Lake Road 4/6 in 2024, and Jeffrey 1, 2, and 3 in 2039, 120 MW of new solar in 2024, DSM Option C, 2 CT's (466 MW) in 2033, 1 CT (233 MW) in 2037, 1 CT (233 MW) in 2040.

Table 20: Alternative Resource Plan WCCCS

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			129	174
2024	0		120	148	97
2025	0			161	
2026	0			175	
2027	0			187	
2028	0			198	
2029	0			212	
2030	0			222	
2031	0			222	
2032	233			215	
2033	466			211	
2034	0			210	
2035	0			209	
2036	0			208	
2037	0			209	
2038	0			210	
2039	0			208	126
2040	233			205	

Plan WCCCS assumes retirements of Lake Road 4/6 in 2024, Iatan-1 in 2023, and Jeffrey 1, 2, and 3 in 2039, 120 MW of new solar in 2024, DSM Option C, 1 CT (233 MW) in 2032, 2 CT's (466 MW) in 2033, 1 CT (233 MW) in 2040.

Table 21: Alternative Resource Plan WDDBS

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			137	
2024	0		120	166	97
2025	0			191	
2026	0			215	
2027	0			237	
2028	0			257	
2029	0			278	
2030	0			296	58
2031	0			301	
2032	0			299	
2033	466			298	
2034	0			300	
2035	0			301	
2036	0			303	
2037	0			307	
2038	0			310	
2039	0			311	242
2040	233			310	

Plan WDDBS assumes retirements of Lake Road 4/6 in 2024, Jeffrey 3 in 2030, Iatan-1, Jeffrey 2 and 3 in 2039, 120 MW of new solar in 2024, DSM Option B, 2 CT's (466 MW) in 2033, 1 CT (233 MW) in 2040.

Table 22: Alternative Resource Plan WDDBT

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			137	
2024	0		120	166	97
2025	0			191	
2026	0			215	
2027	0			237	
2028	0		80	257	
2029	0		80	278	
2030	0		80	296	58
2031	0		80	301	
2032	0		80	299	
2033	233			298	
2034	0			300	
2035	0			301	
2036	0			303	
2037	0			307	
2038	0			310	
2039	233			311	242
2040	233			310	

Plan WDDBT assumes retirements of Lake Road 4/6 in 2024, Jeffrey 3 in 2030, Iatan-1, Jeffrey 2 and 3 in 2039, 120 MW of new solar in 2024, 80 MW of new solar in 2028, 2029, 2030, 2031, and 2032, DSM Option B, 1 CT (233 MW) in 2033, 1 CT (233 MW) in 2039, 1 CT (233 MW) in 2040.

Table 23: Alternative Resource Plan WDDBU

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			137	
2024	0		120	166	97
2025	0	80		191	
2026	0	80		215	
2027	0			237	
2028	0		80	257	
2029	0		80	278	
2030	0		80	296	58
2031	0		80	301	
2032	0		80	299	
2033	233			298	
2034	0			300	
2035	0			301	
2036	0			303	
2037	0			307	
2038	0			310	
2039	233			311	242
2040	233			310	

Plan WDDBU assumes retirements of Lake Road 4/6 in 2024, Jeffrey 3 in 2030, Iatan-1, Jeffrey 2 and 3 in 2039, 120 MW of new solar in 2024, 80 MW of new solar in 2028, 2029, 2030, 2031, and 2032, 80 MW of wind in 2025 and 2026, DSM Option B, 1 CT (233 MW) in 2033, 1 CT (233 MW) in 2039, 1 CT (233 MW) in 2040.

Table 24: Alternative Resource Plan WDDDU

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			39	
2024	233		120	45	97
2025	0	80		48	
2026	0	80		53	
2027	0			59	
2028	0		80	66	
2029	0		80	74	
2030	0		80	81	58
2031	0		80	77	
2032	0		80	67	
2033	233			61	
2034	0			60	
2035	0			59	
2036	0			59	
2037	0			59	
2038	233			59	
2039	0			57	242
2040	233			54	

Plan WDDDU assumes retirements of Lake Road 4/6 in 2024, Jeffrey 3 in 2030, Iatan-1, Jeffrey 2 and 3 in 2039, 120 MW of new solar in 2024, 80 MW of new solar in 2028, 2029, 2030, 2031, and 2032, 80 MW of wind in 2025 and 2026, DSM Option D, 1 CT (233 MW) in 2024, 1 CT (233 MW) in 2033, 1 CT (233 MW) in 2038, 1 CT (233 MW) in 2040.

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 25: 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
WDDBU	9,830	753	28.27	0.1062	10.51%	4.16	49.51
WDDBT	9,890	821	28.27	0.1071	11.97%	4.19	49.51
WDDDU	9,964	786	8.13	0.1049	10.45%	4.07	49.51
WAABS	9,995	944	28.27	0.1087	12.84%	4.22	49.51
WDDBS	9,999	915	28.27	0.1079	12.90%	4.21	49.51
WAACS	10,030	961	20.35	0.1079	13.19%	4.18	49.51
WCCCS	10,064	873	20.35	0.1085	13.02%	4.18	49.51
WBBCS	10,082	931	20.35	0.1085	12.89%	4.18	49.50
WAACA	10,084	991	20.35	0.1087	13.80%	4.19	49.51
WAAAS	10,156	909	58.07	0.1132	11.94%	4.36	49.51

(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

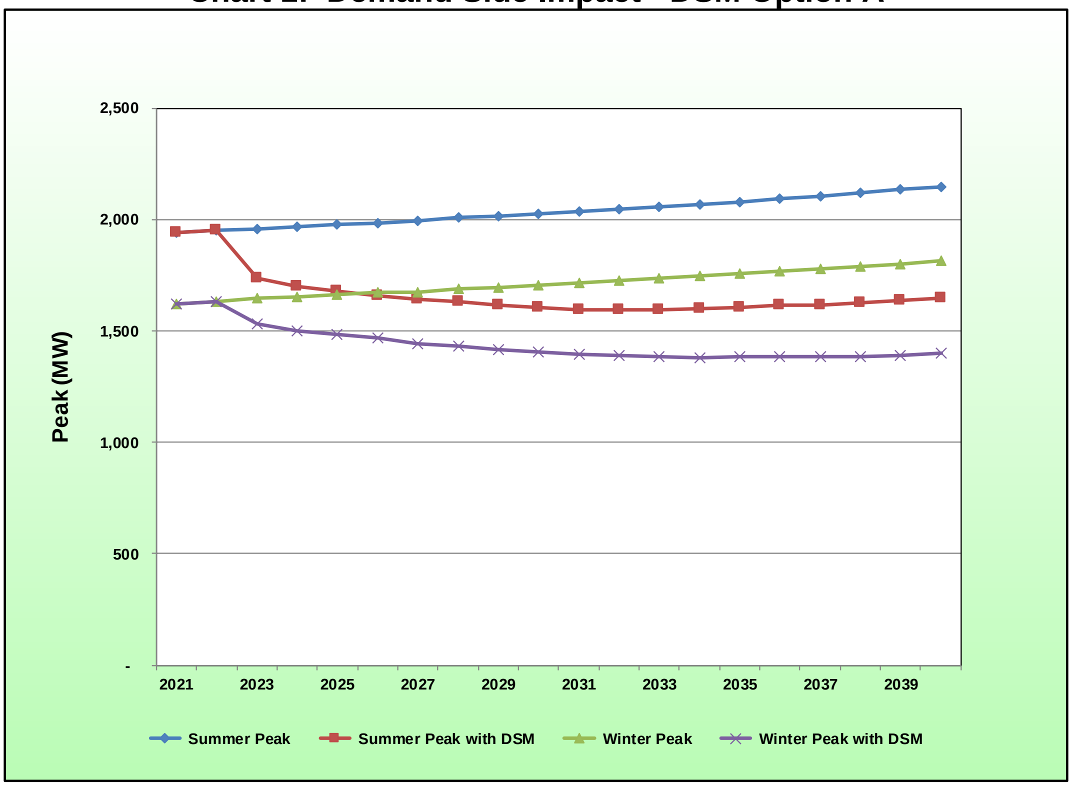


Chart 2: Demand Side Impact - DSM Option B

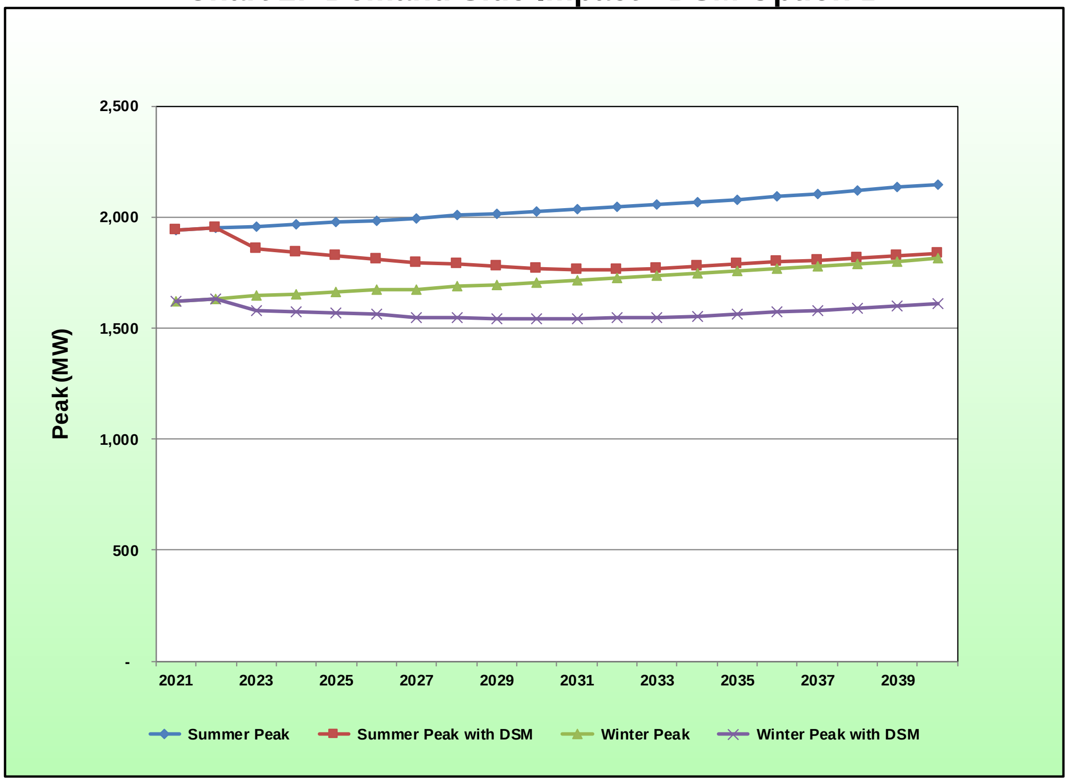


Chart 3: Demand Side Impact - DSM Option C

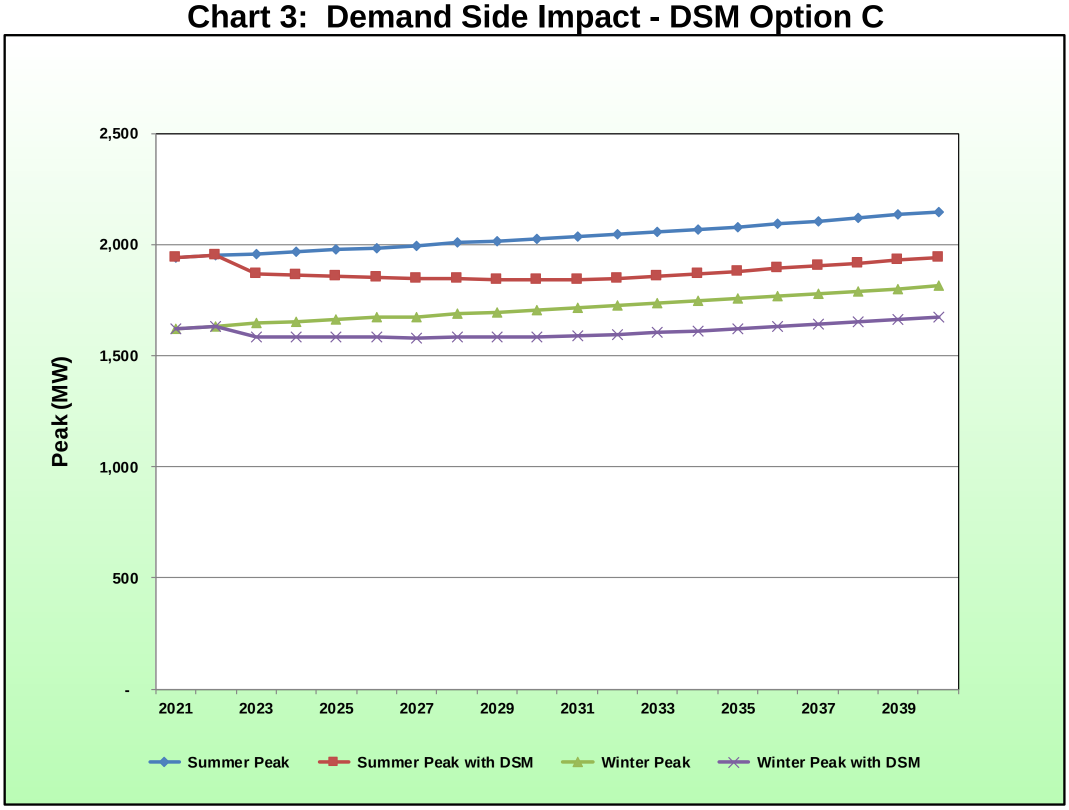
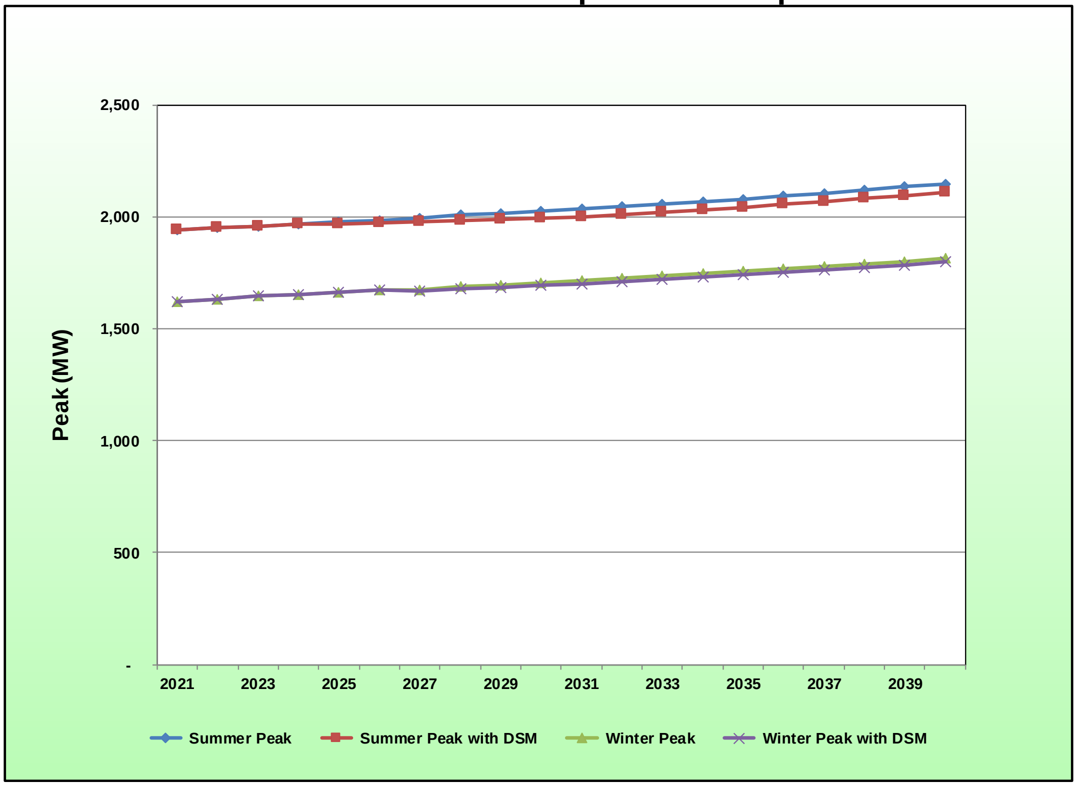


Chart 4: Demand Side Impact - DSM Option D



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

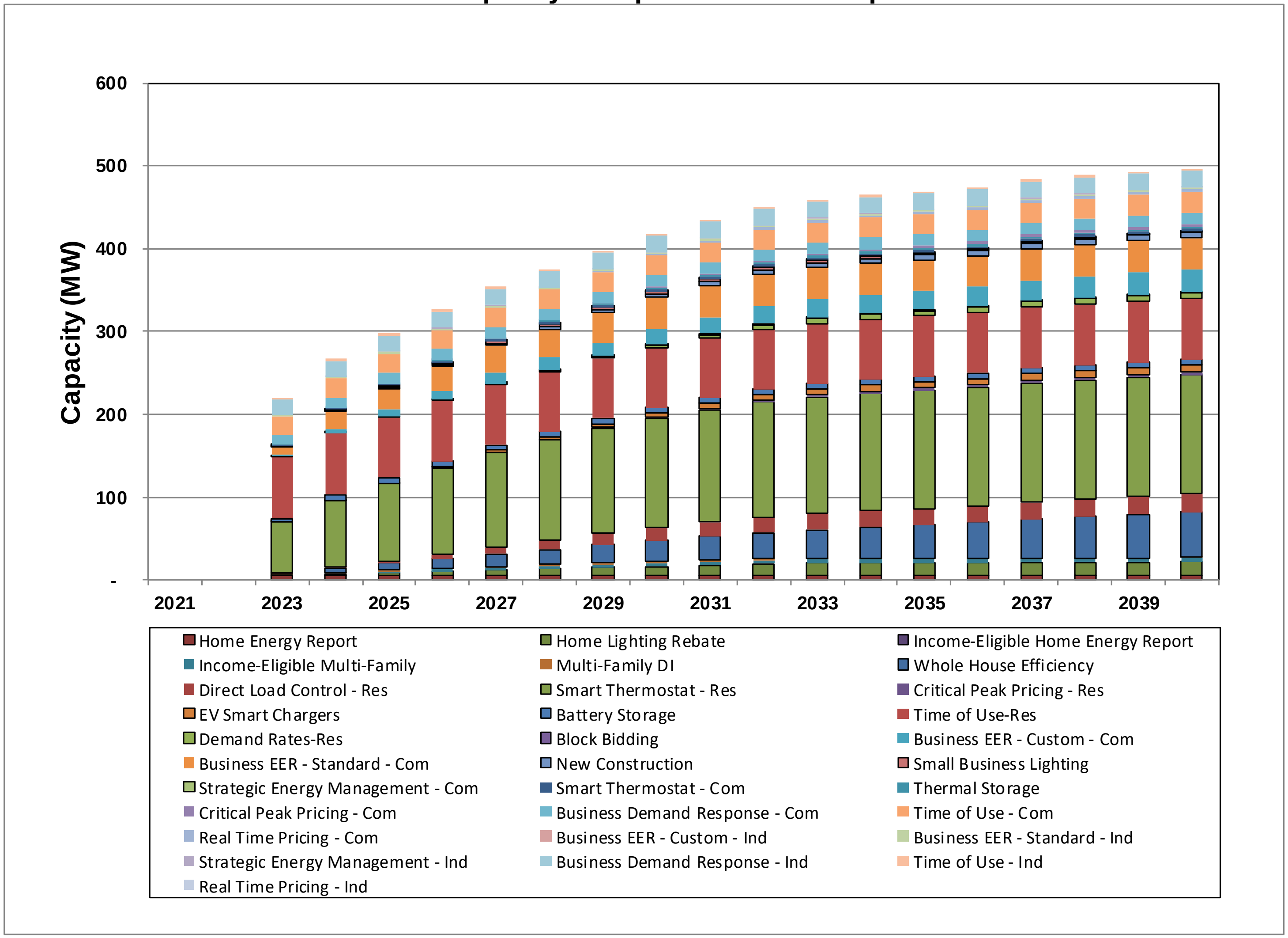


Chart 6: Capacity Composition – DSM Option B

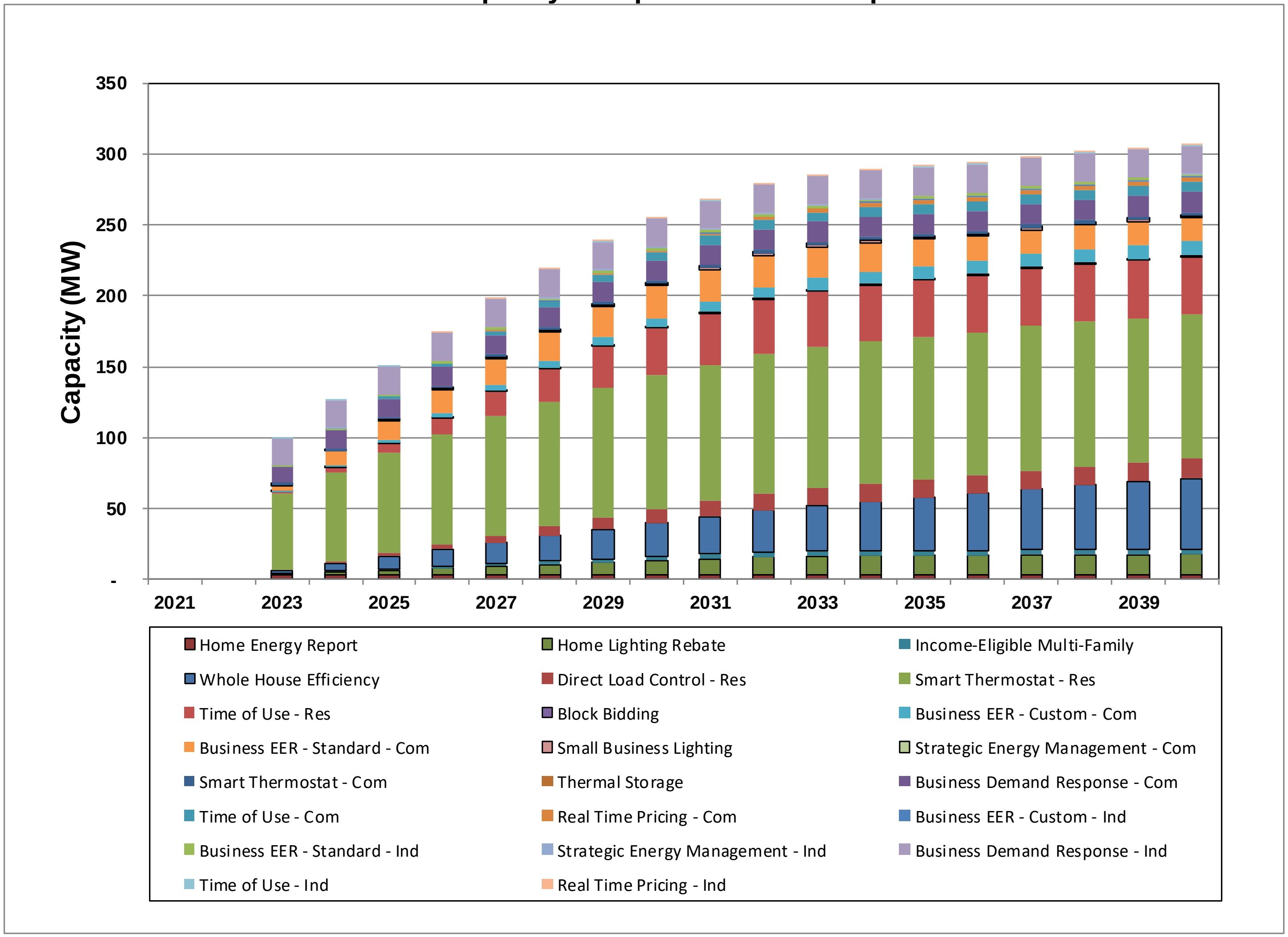


Chart 7: Capacity Composition – DSM Option C

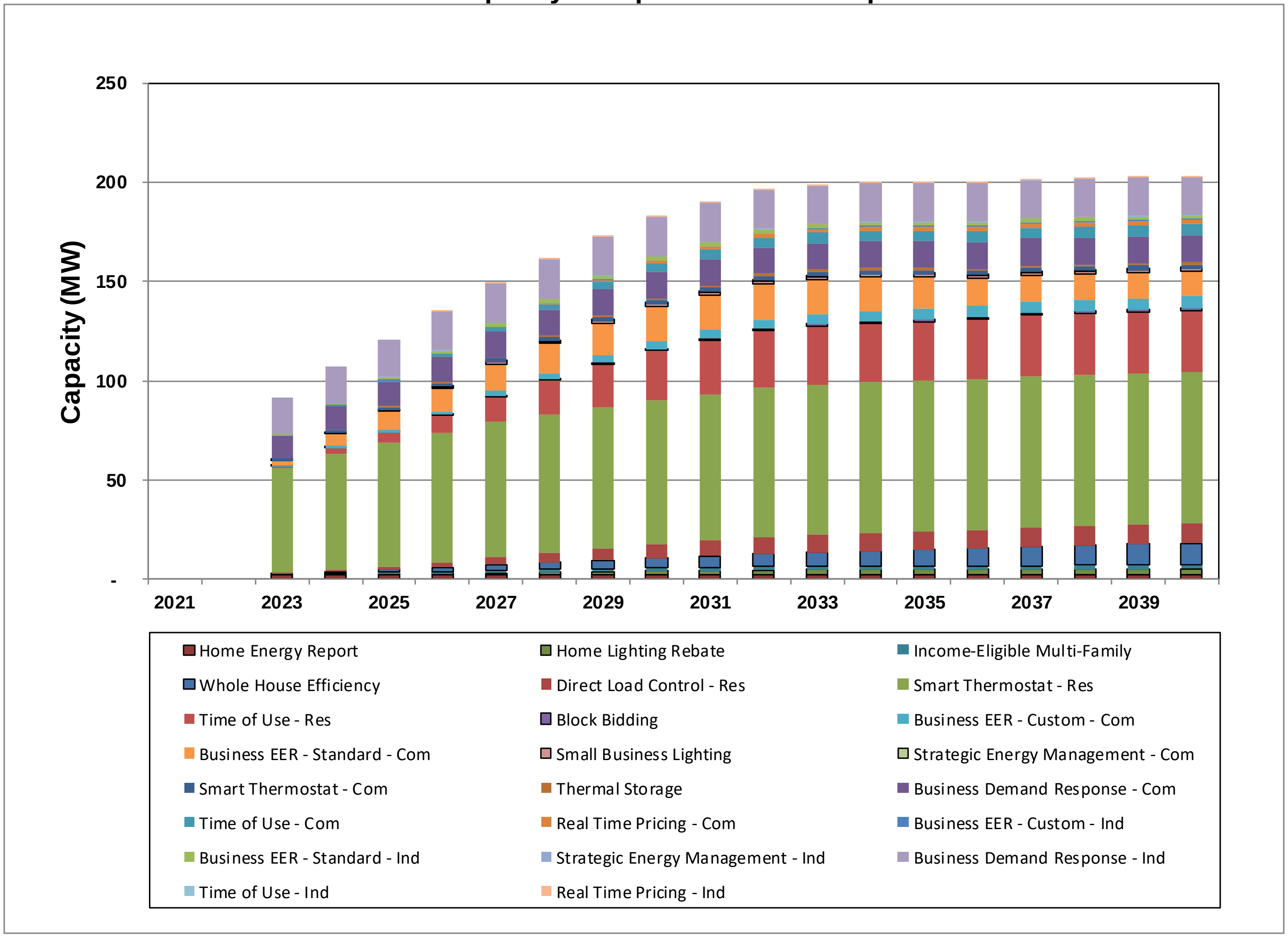
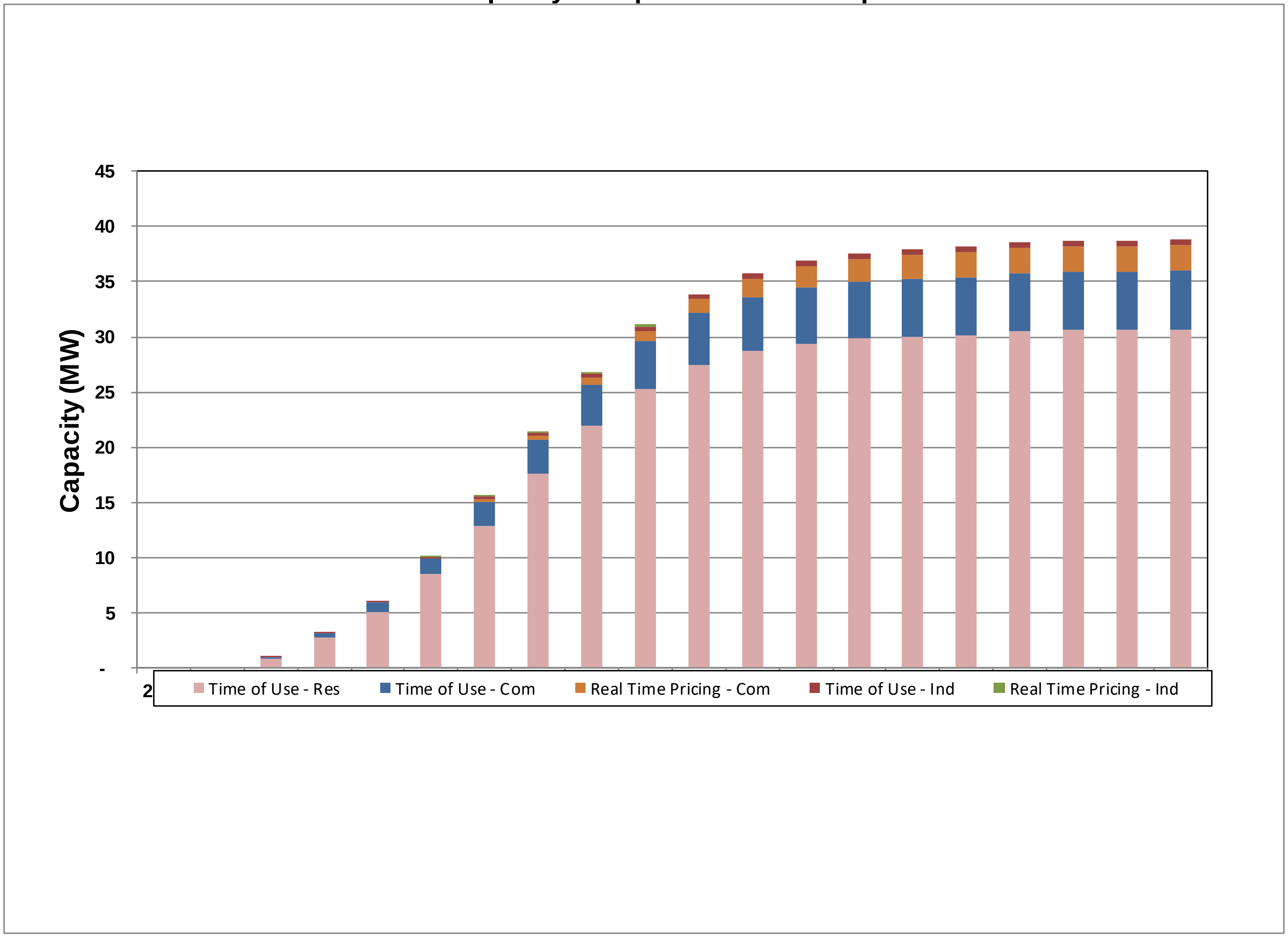


Chart 8: Capacity Composition – DSM Option D



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 26: Alternative Resource Plan WAAAS - Capacity

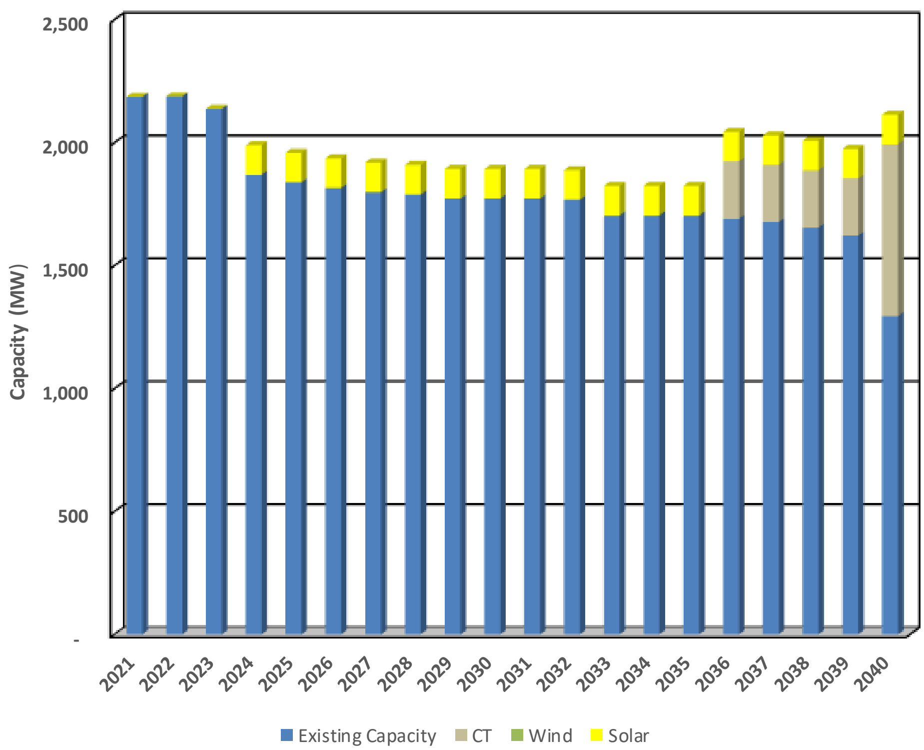


Table 27: Alternative Resource Plan WAABS - Capacity

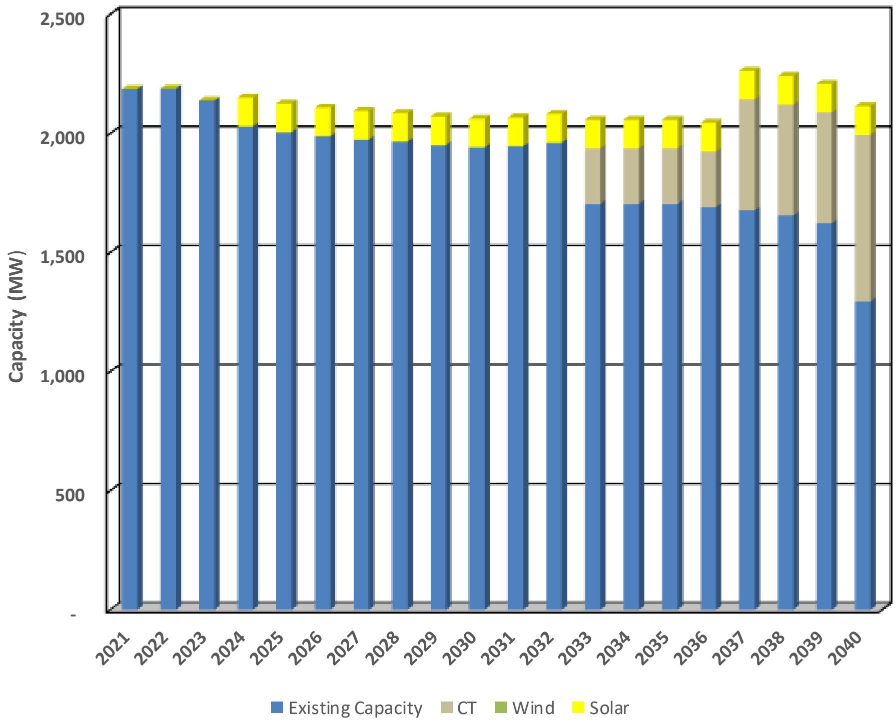


Table 28: Alternative Resource Plan WAACA – Capacity

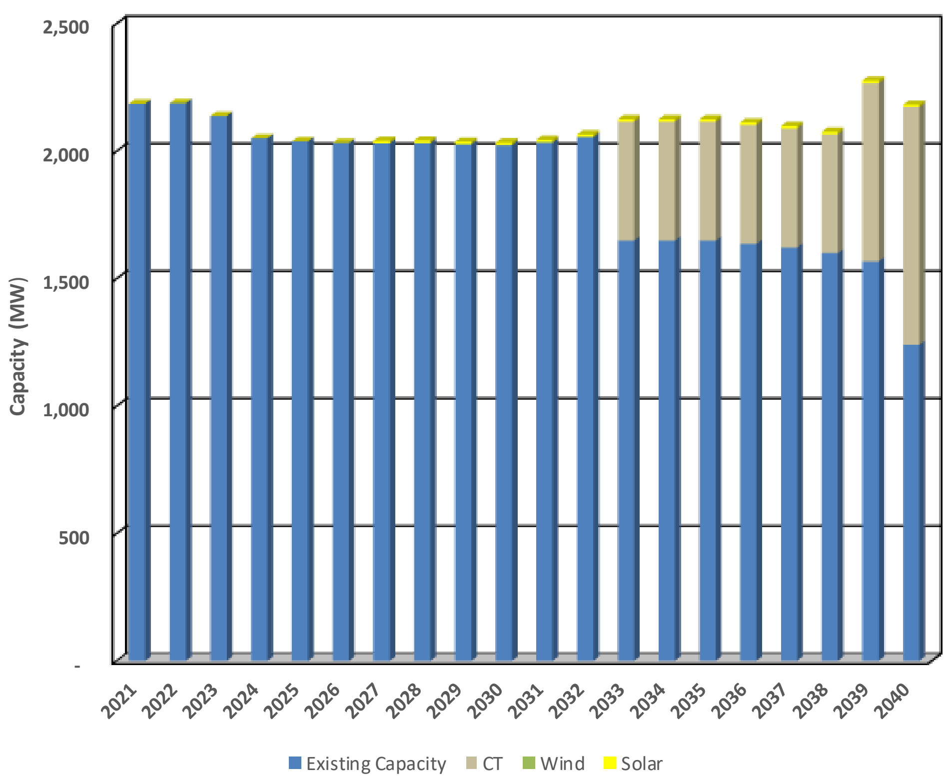


Table 29: Alternative Resource Plan WAACS - Capacity

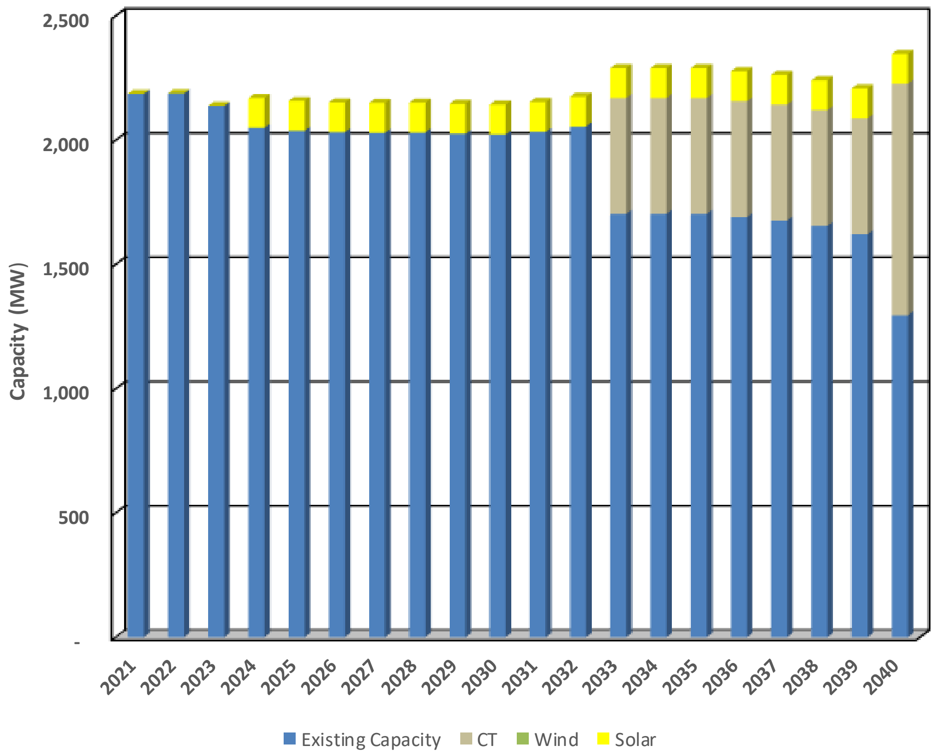


Table 30: Alternative Resource Plan WBBCS - Capacity

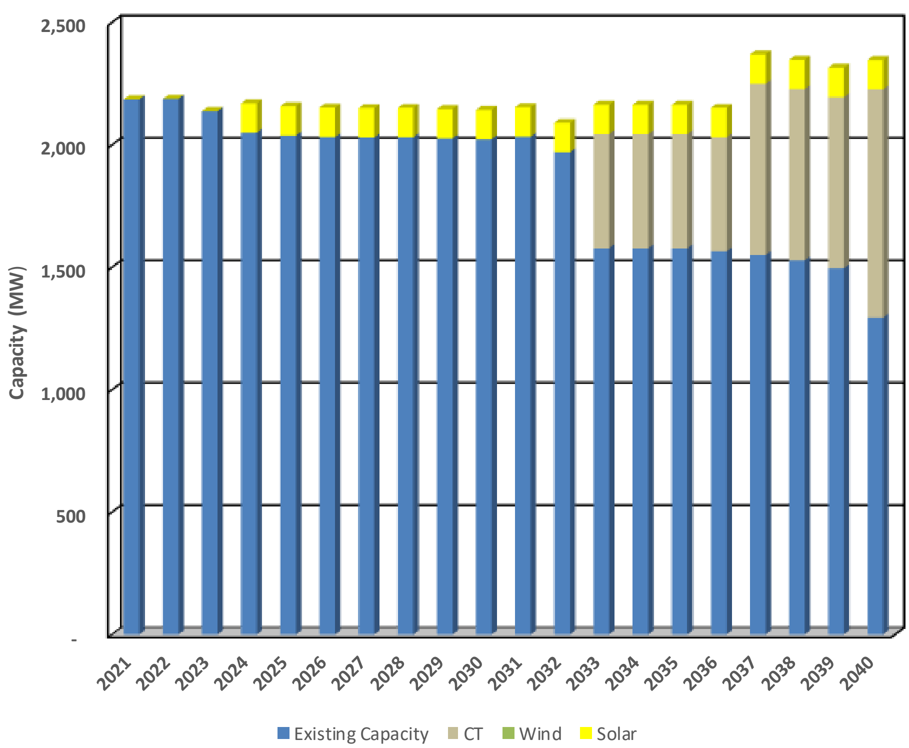


Table 31: Alternative Resource Plan WCCCS - Capacity

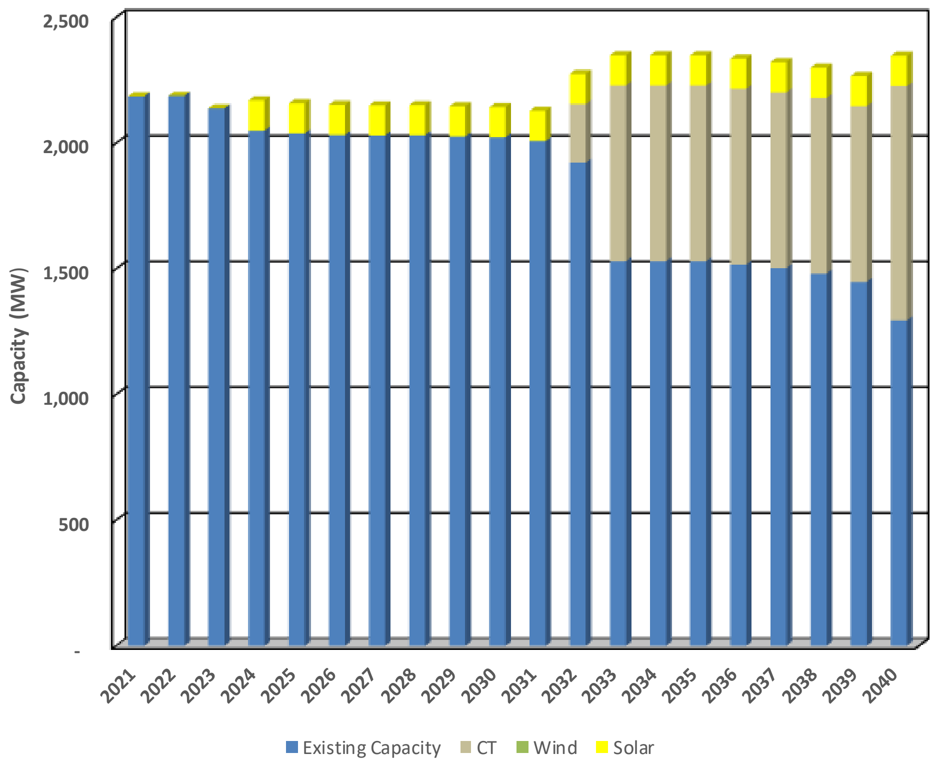


Table 32: Alternative Resource Plan WDDBS - Capacity

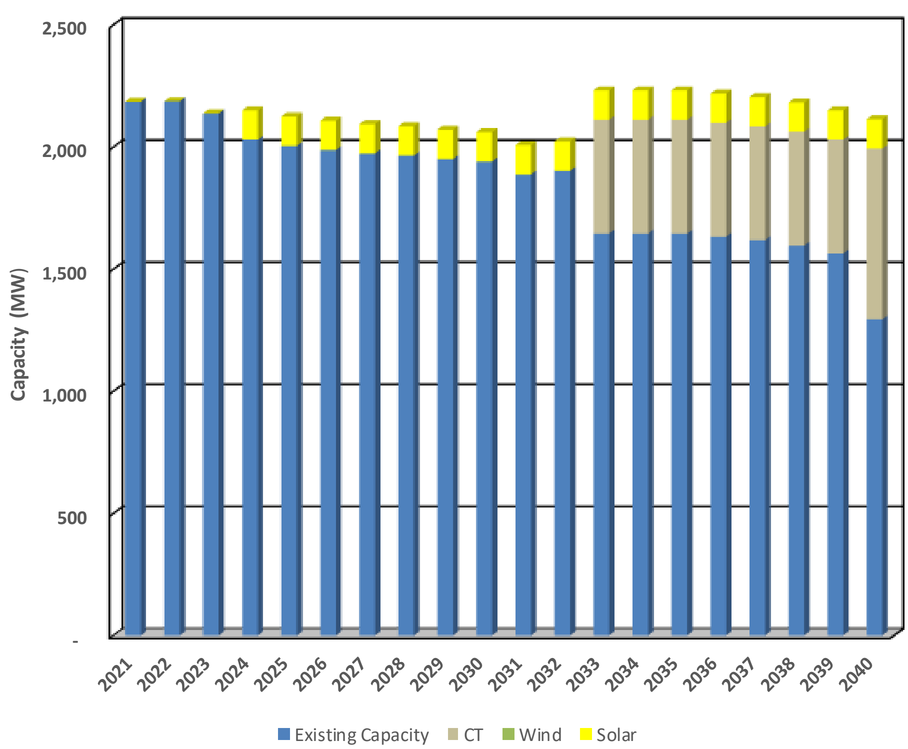


Table 33: Alternative Resource Plan WDDBT - Capacity

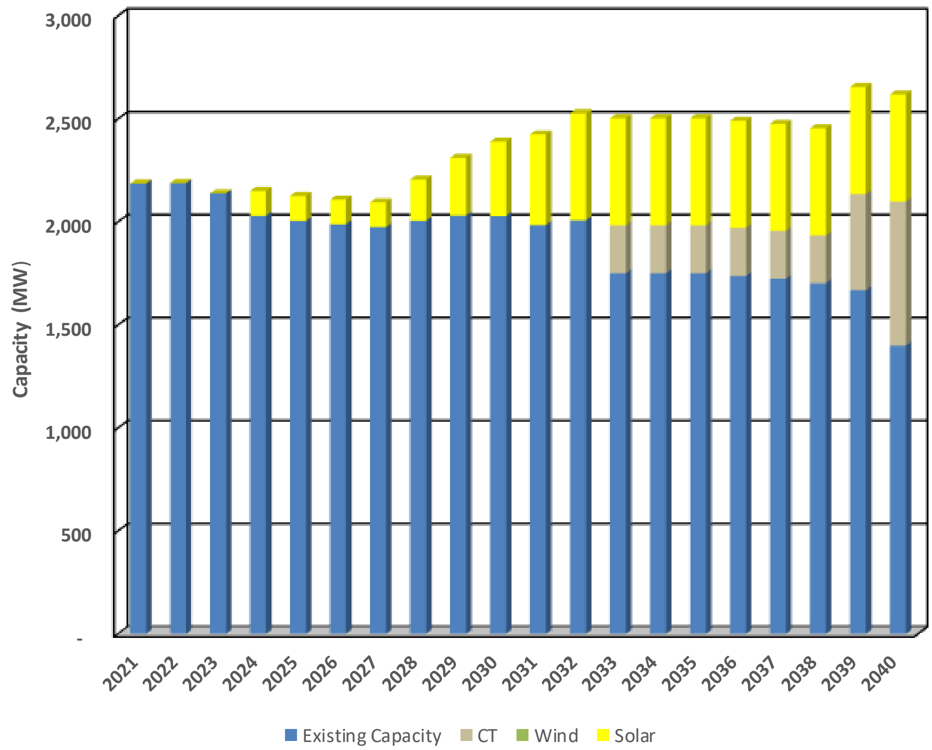


Table 34: Alternative Resource Plan WDDBU - Capacity

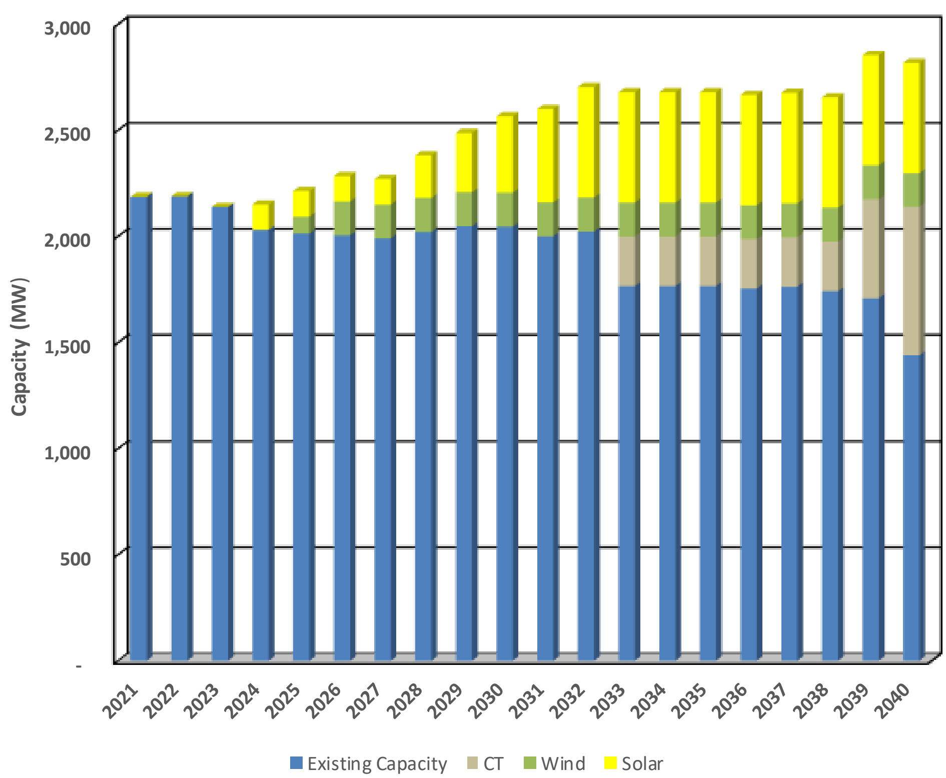
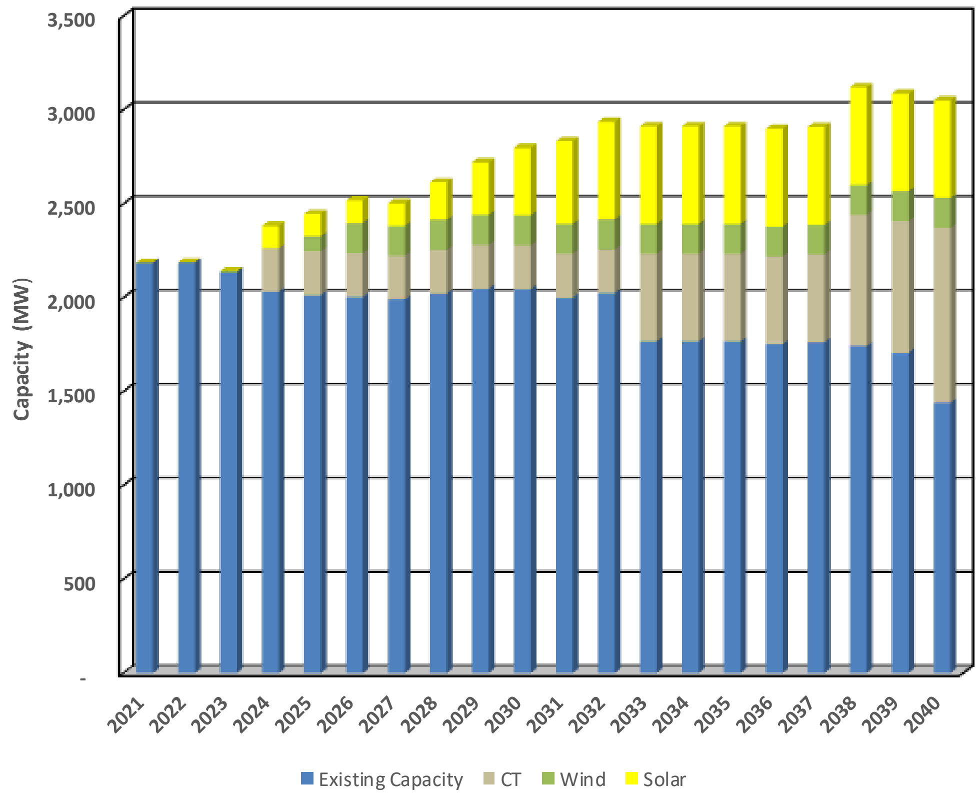


Table 35: Alternative Resource Plan WDDDU – Capacity



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

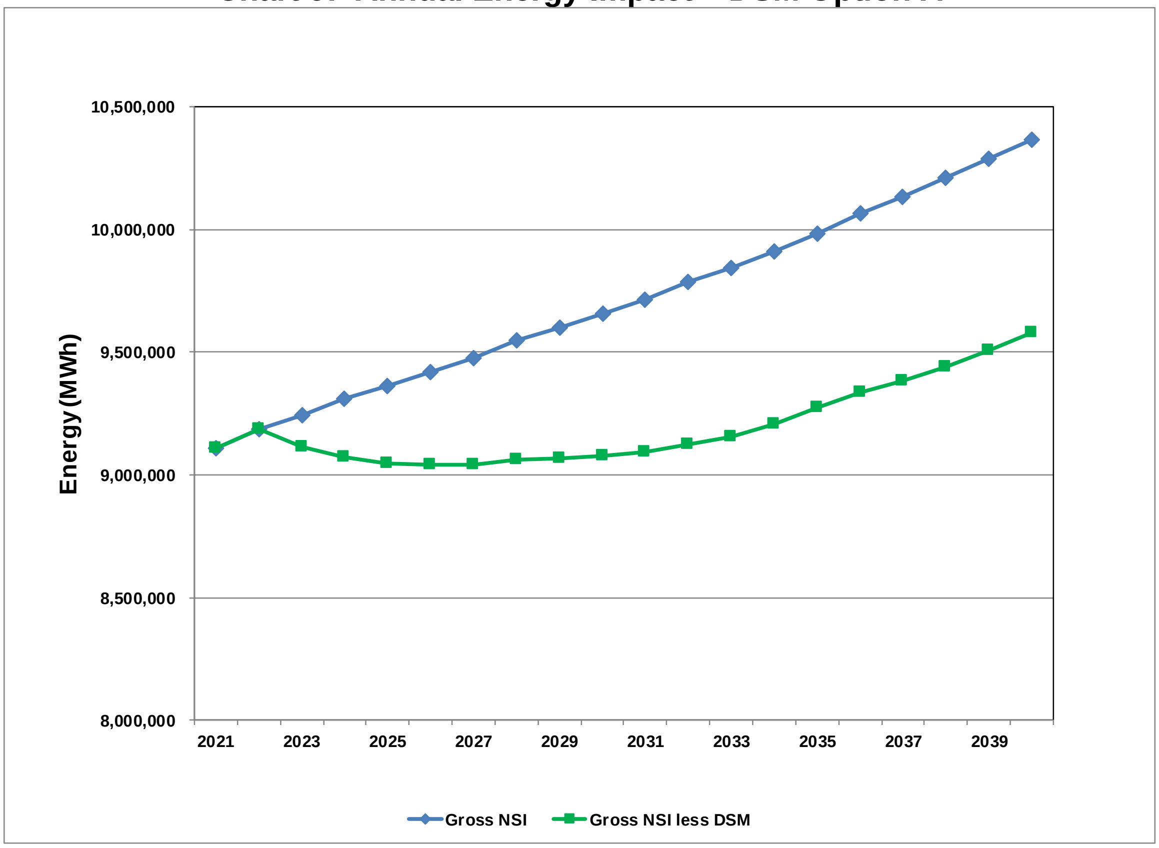


Chart 10: Annual Energy Impact – DSM Option B

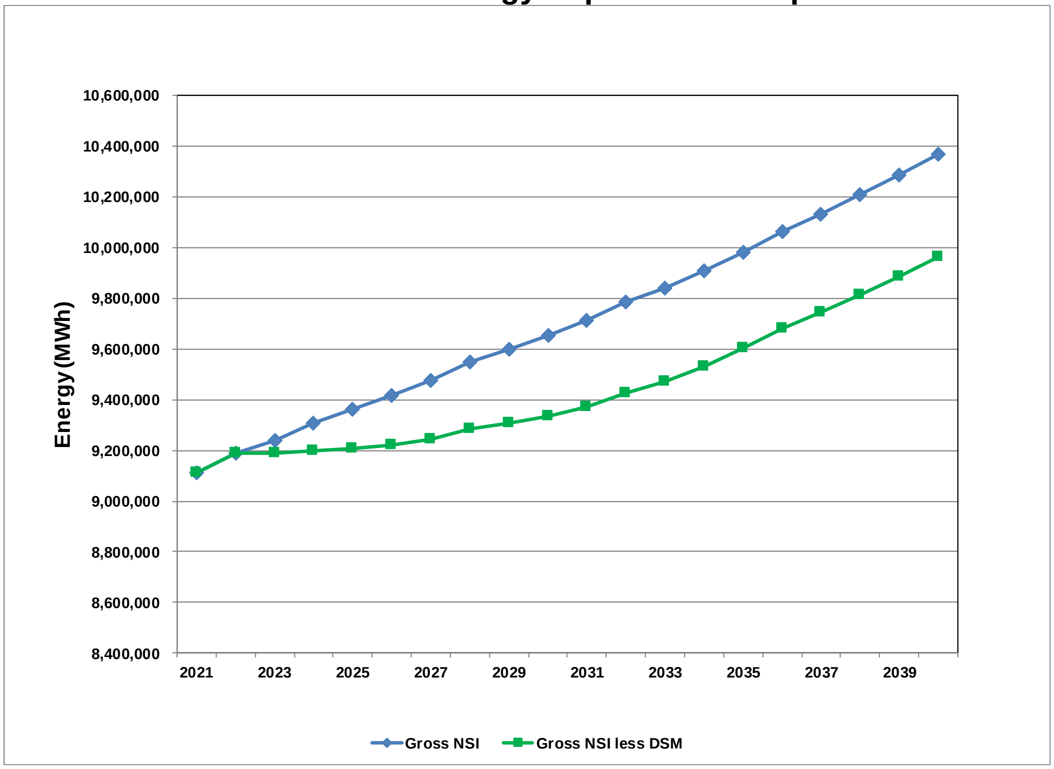


Chart 11: Annual Energy Impact – DSM Option C

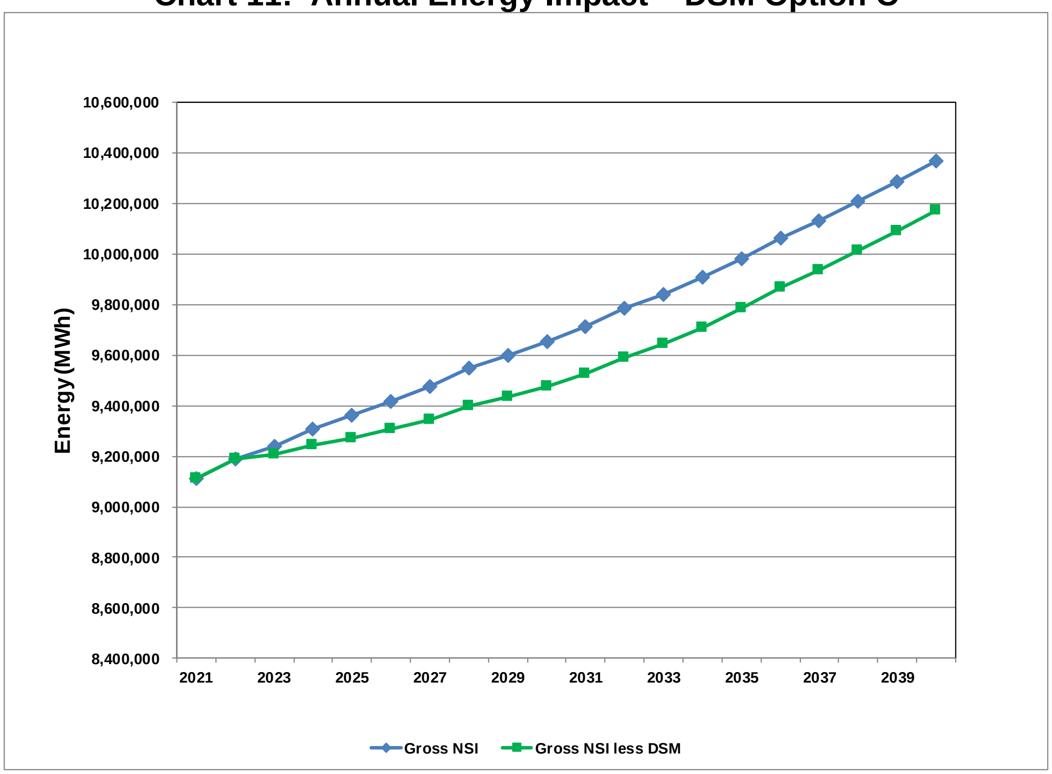
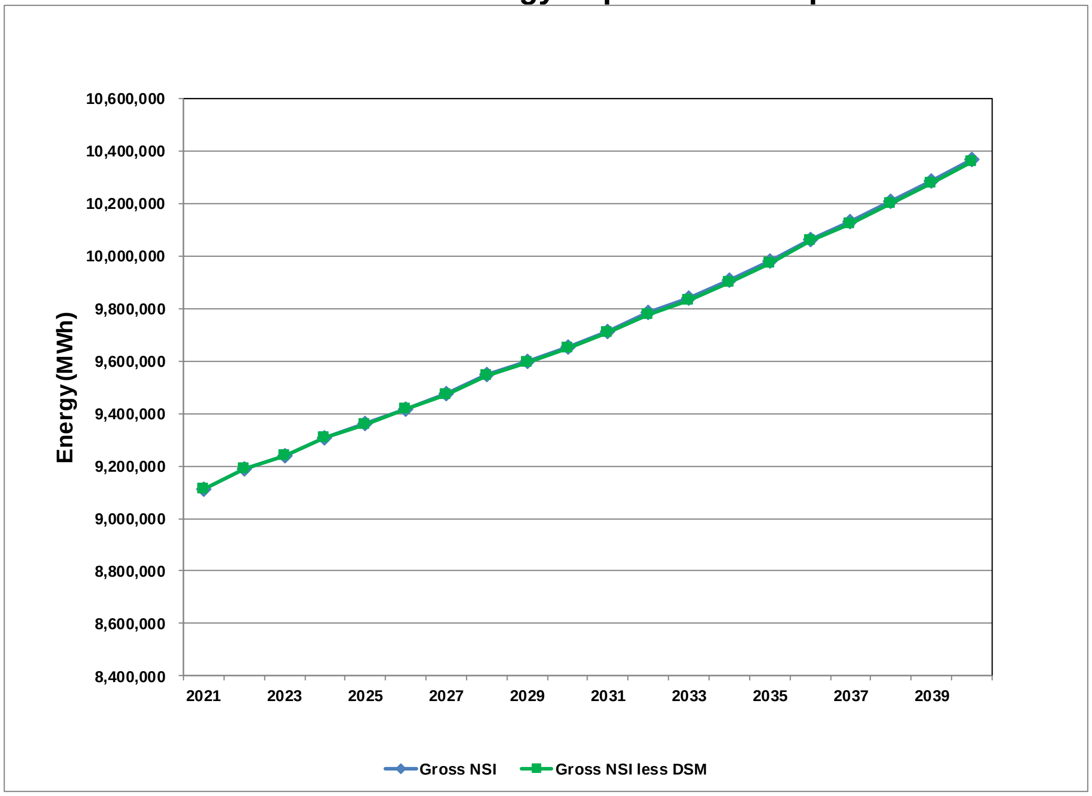


Chart 12: Annual Energy Impact – DSM Option D



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

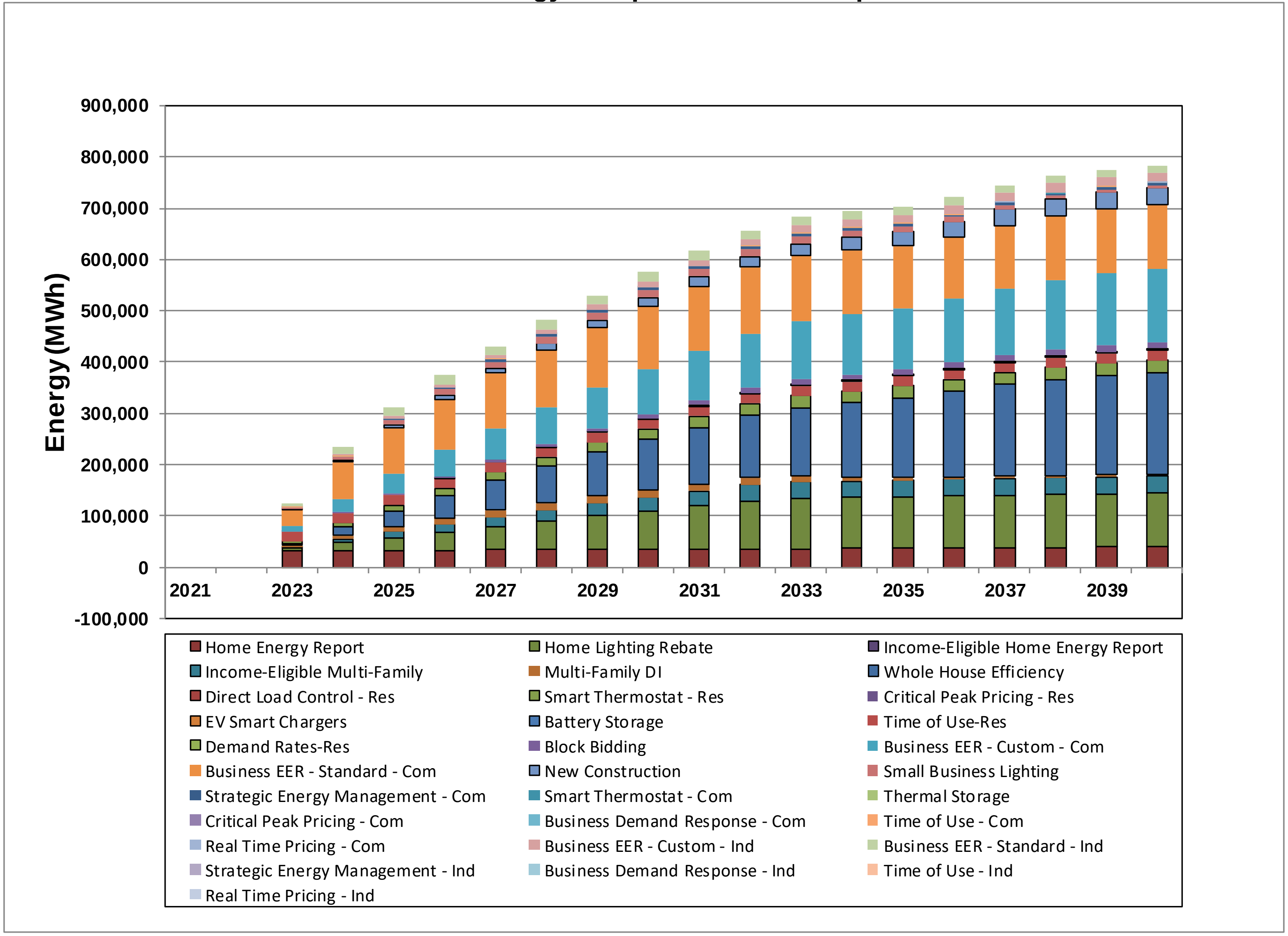


Chart 14: Energy Composition – DSM Option B

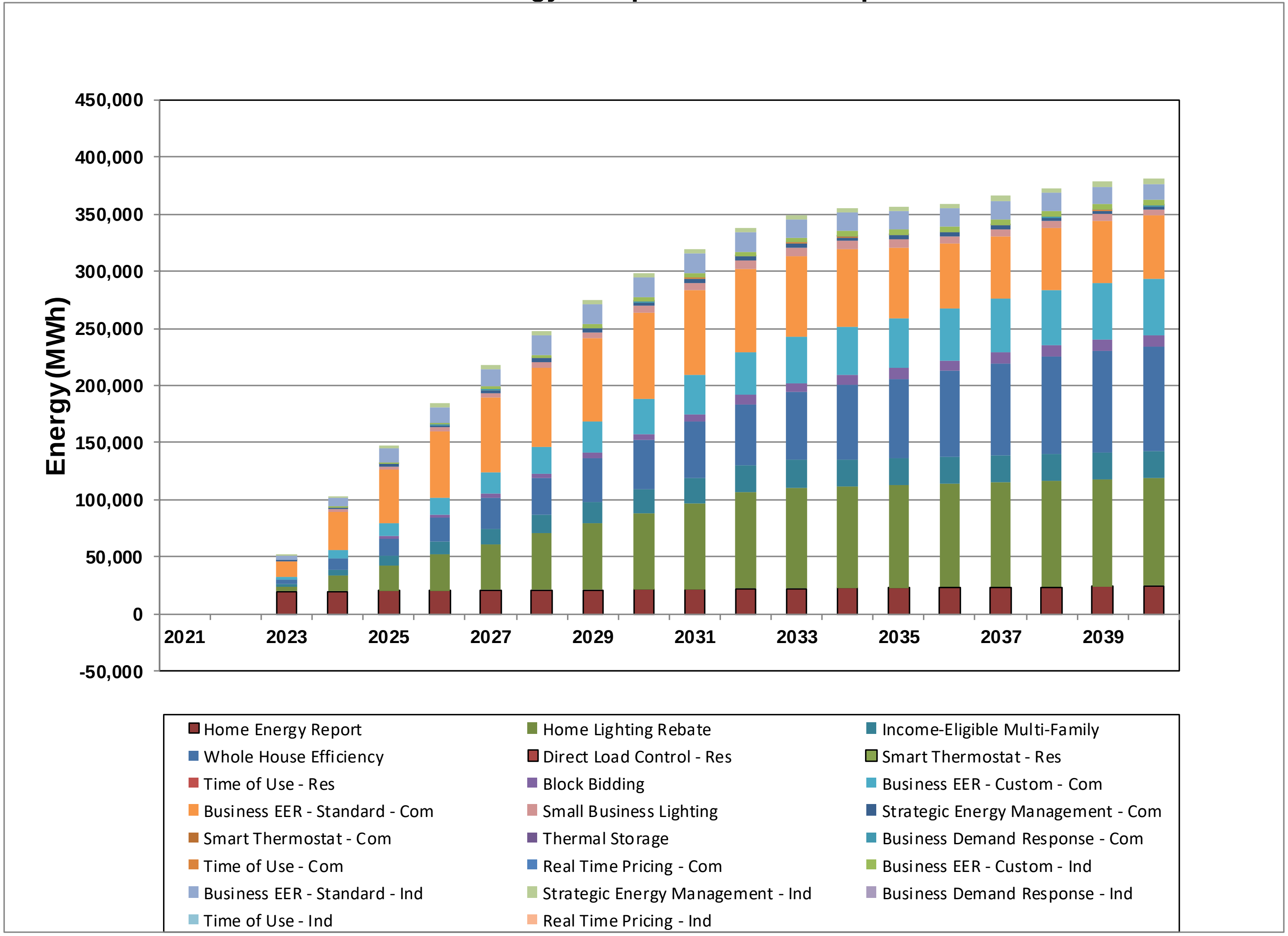


Chart 15: Energy Composition – DSM Option C

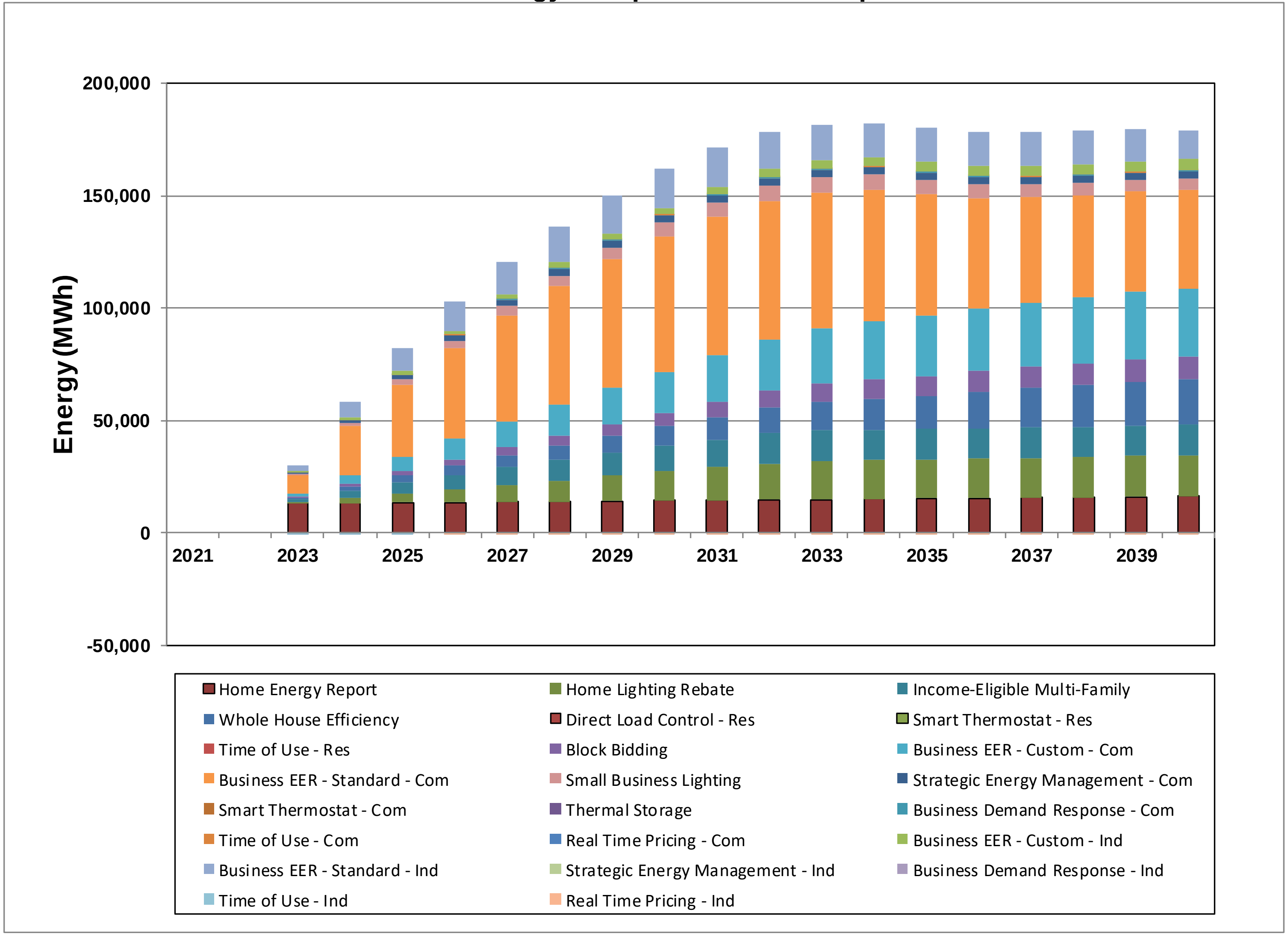
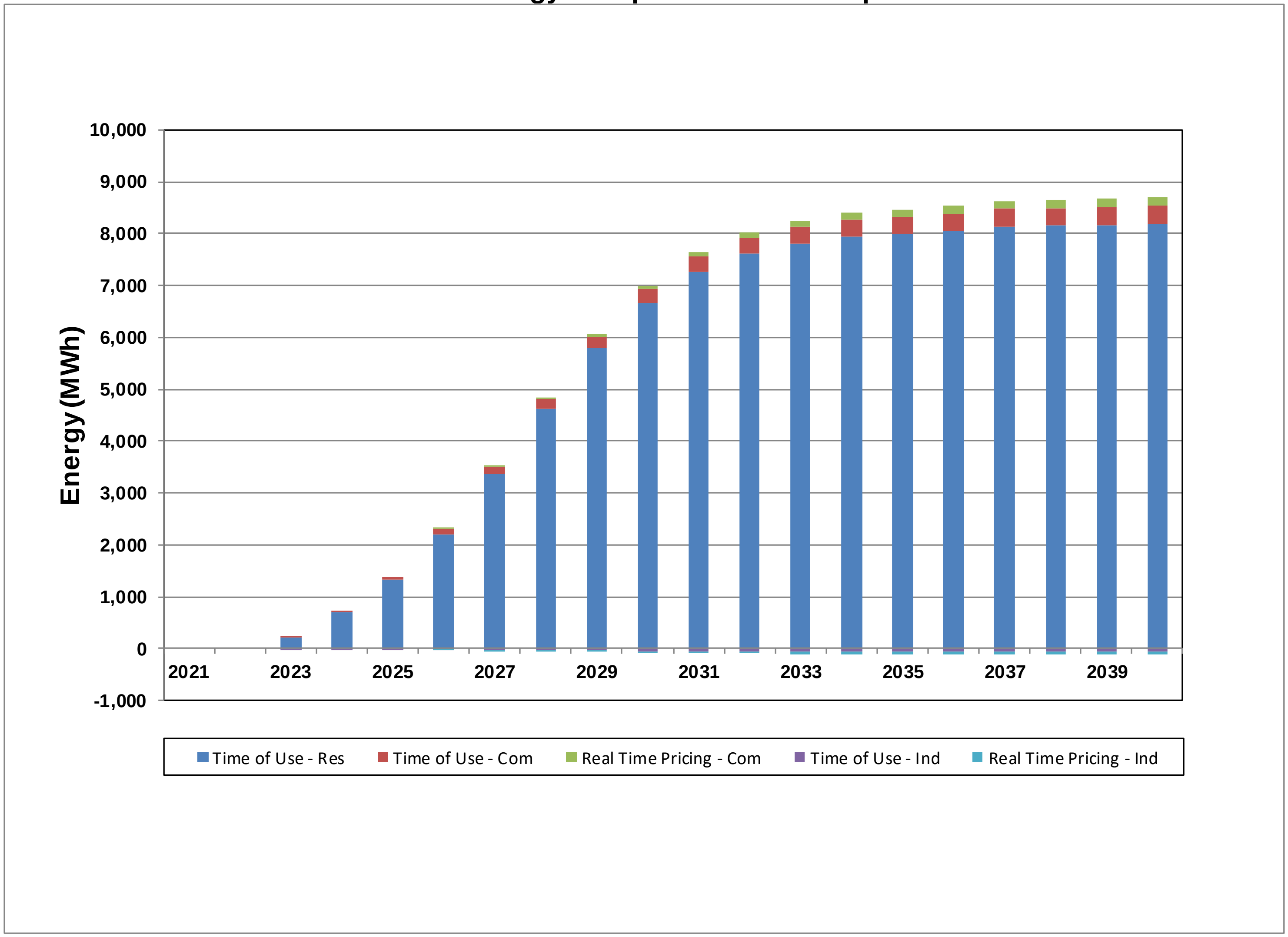


Chart 16: Energy Composition – DSM Option D



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 36: Annual Generation WAAAS

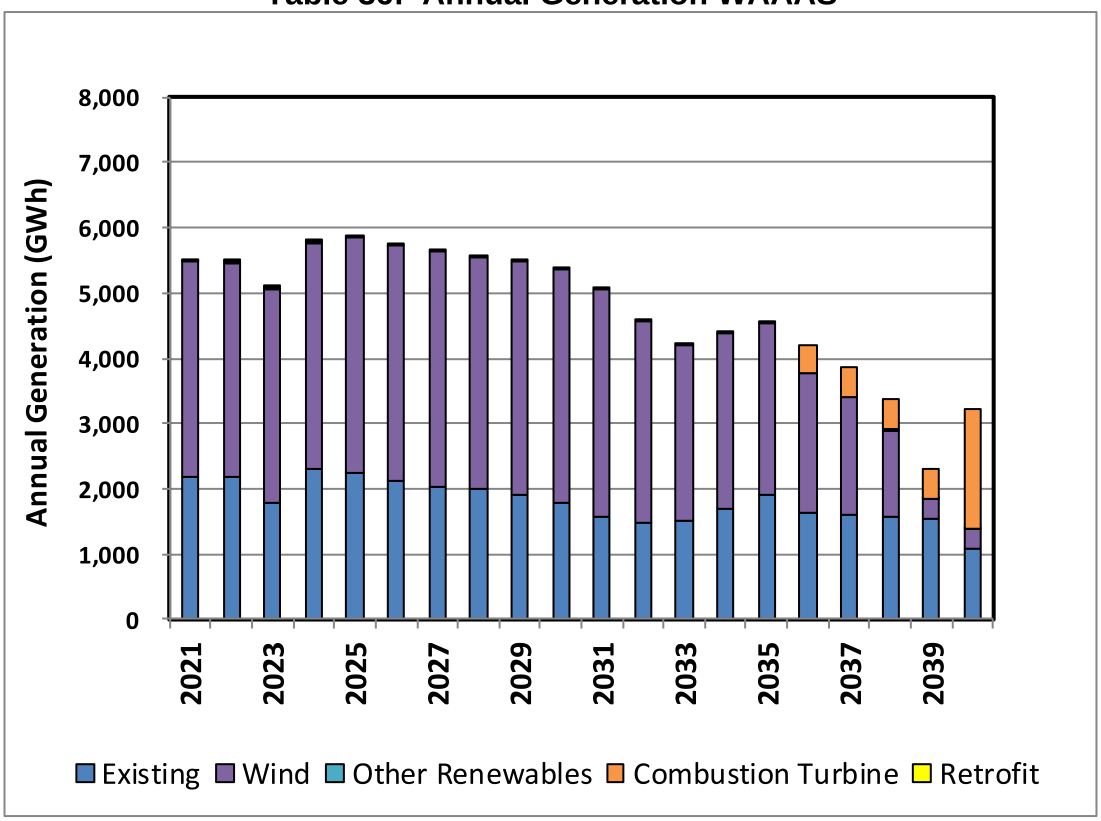


Table 37: Annual Generation WAABS

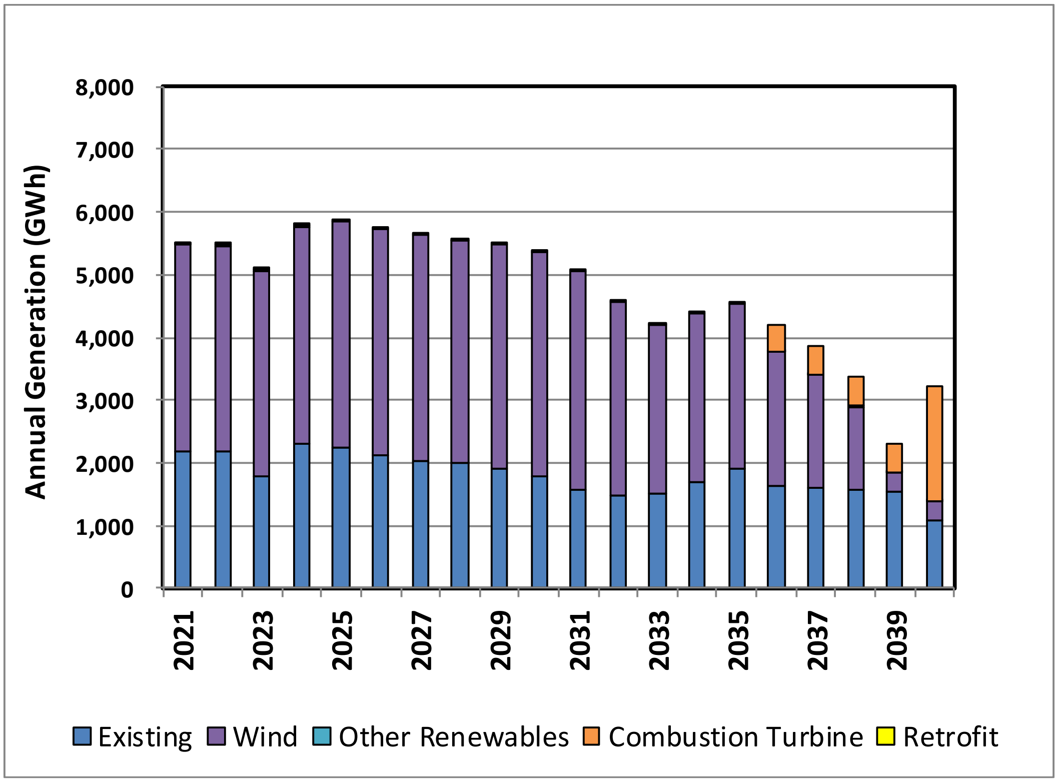


Table 38: Annual Generation WAACA

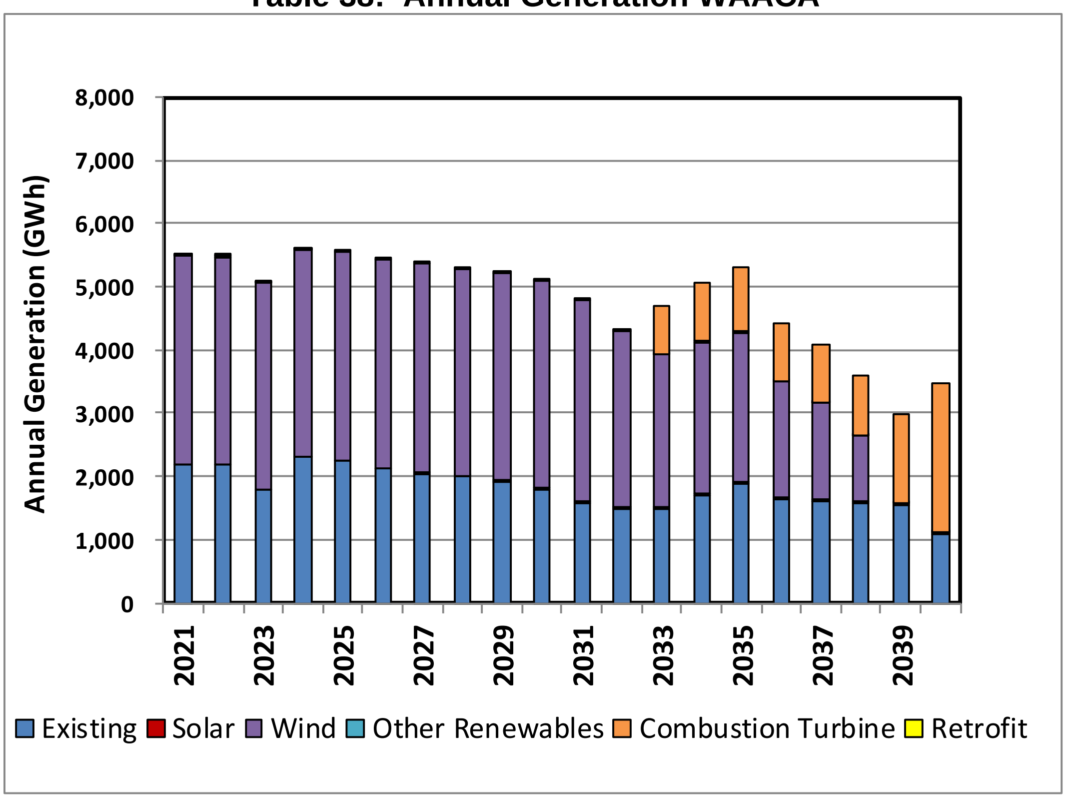


Table 39: Annual Generation WAACS

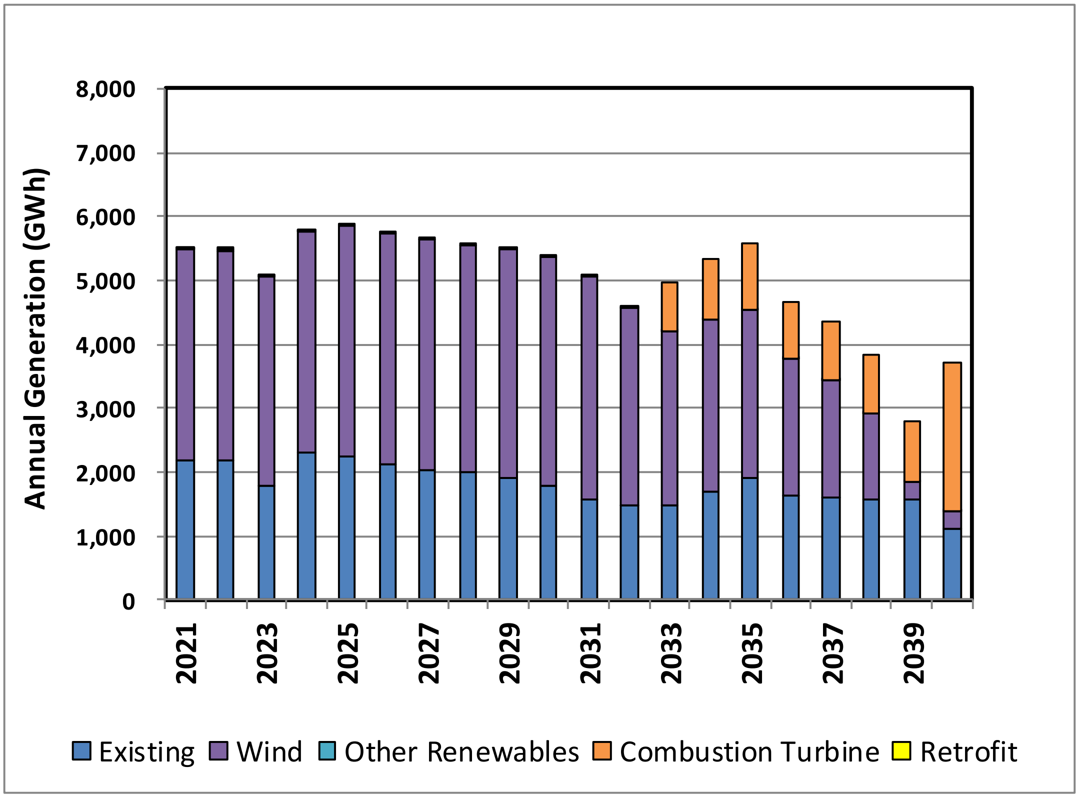


Table 40: Annual Generation WBBCS

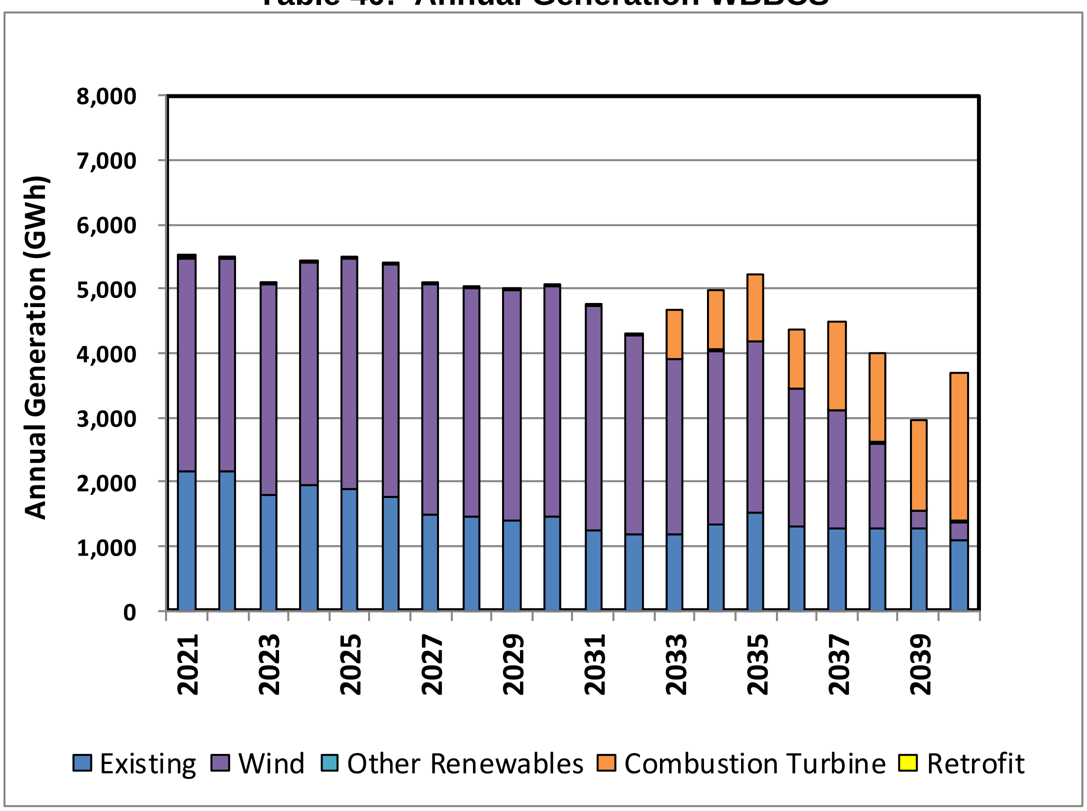


Table 41: Annual Generation WCCCS

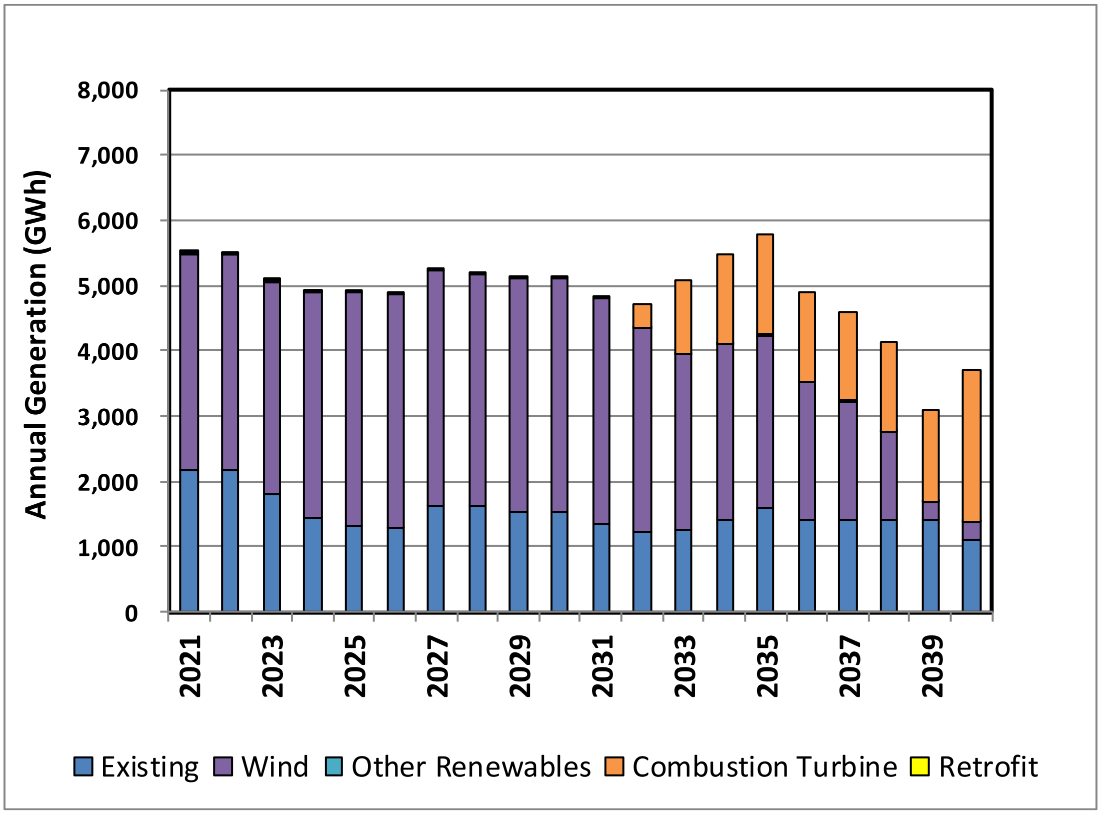


Table 42: Annual Generation WDDBS

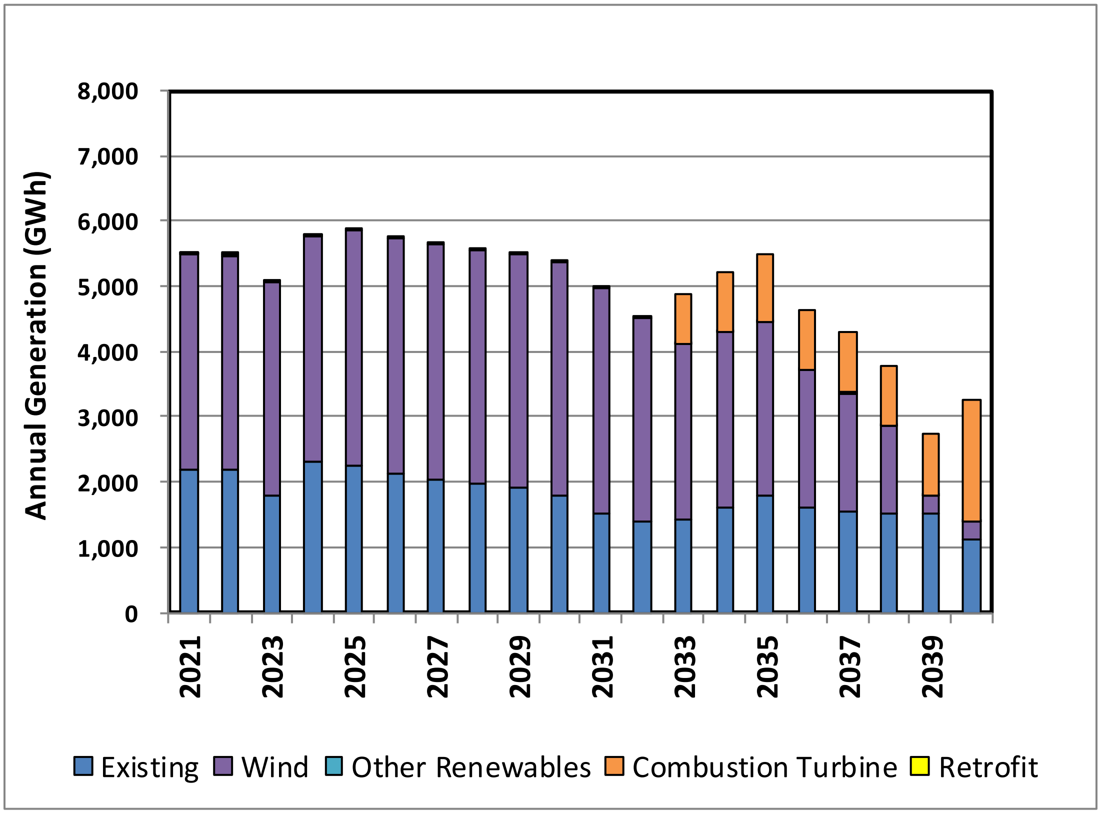


Table 43: Annual Generation WDDBT

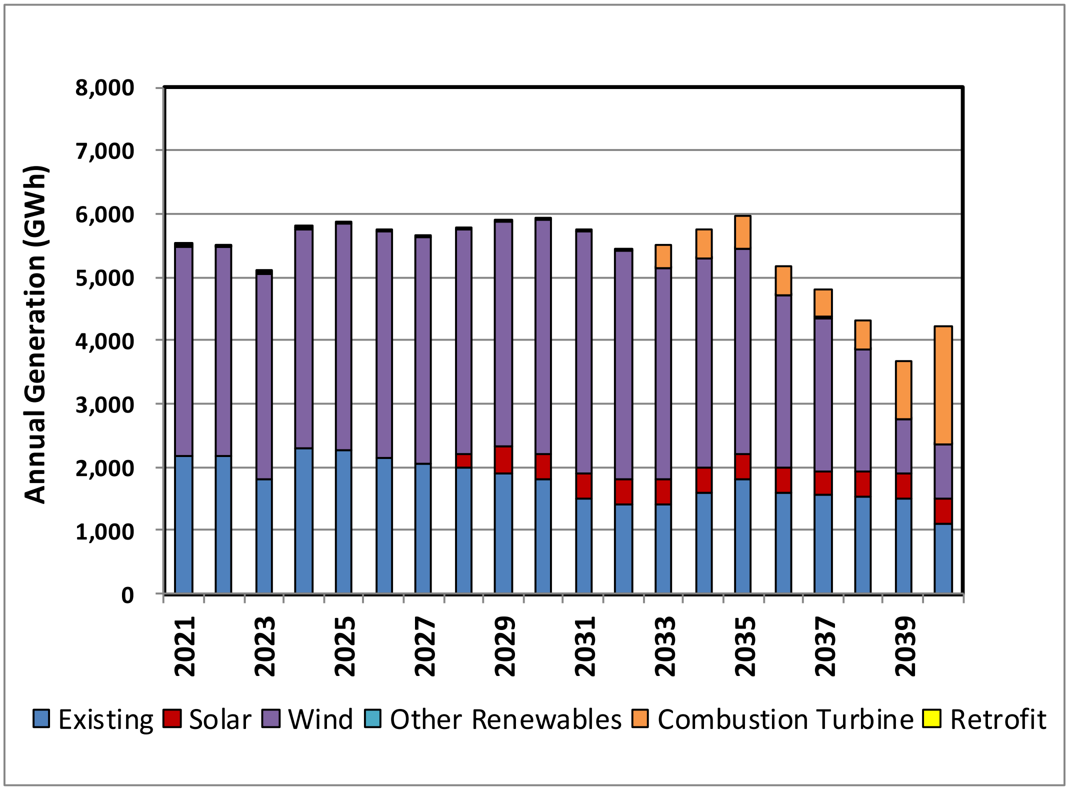


Table 44: Annual Generation WDDBU

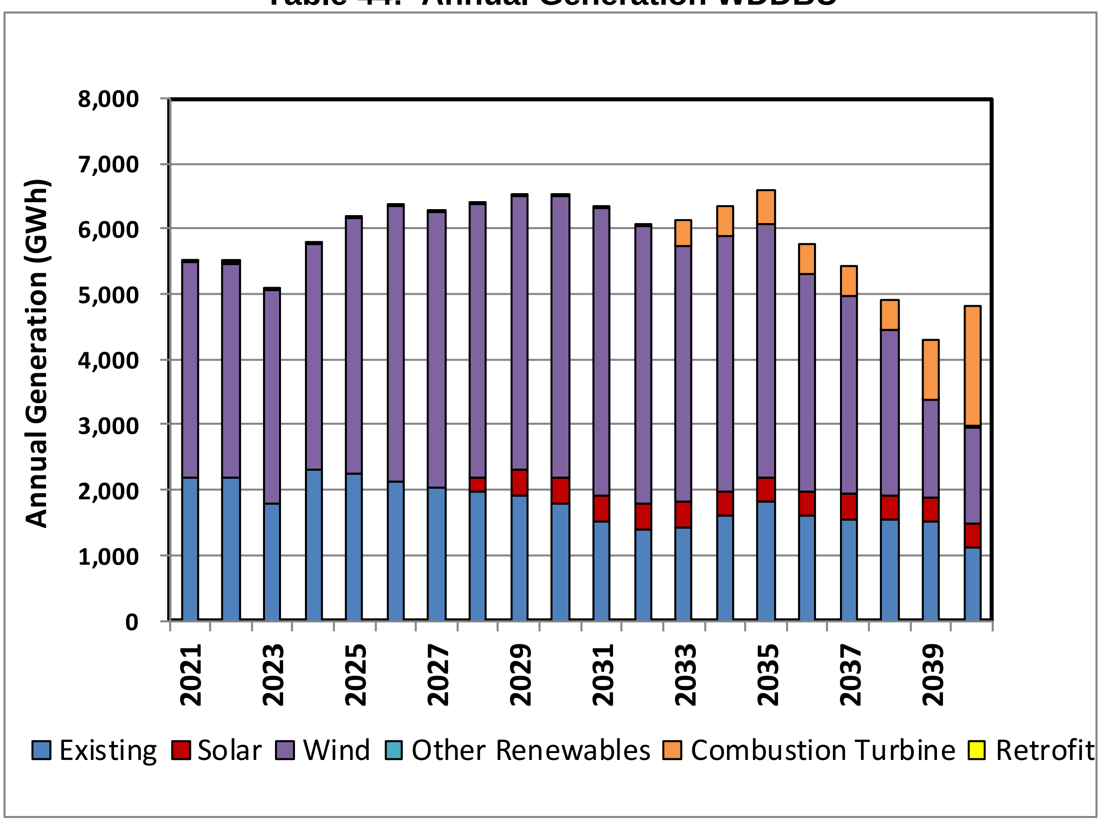
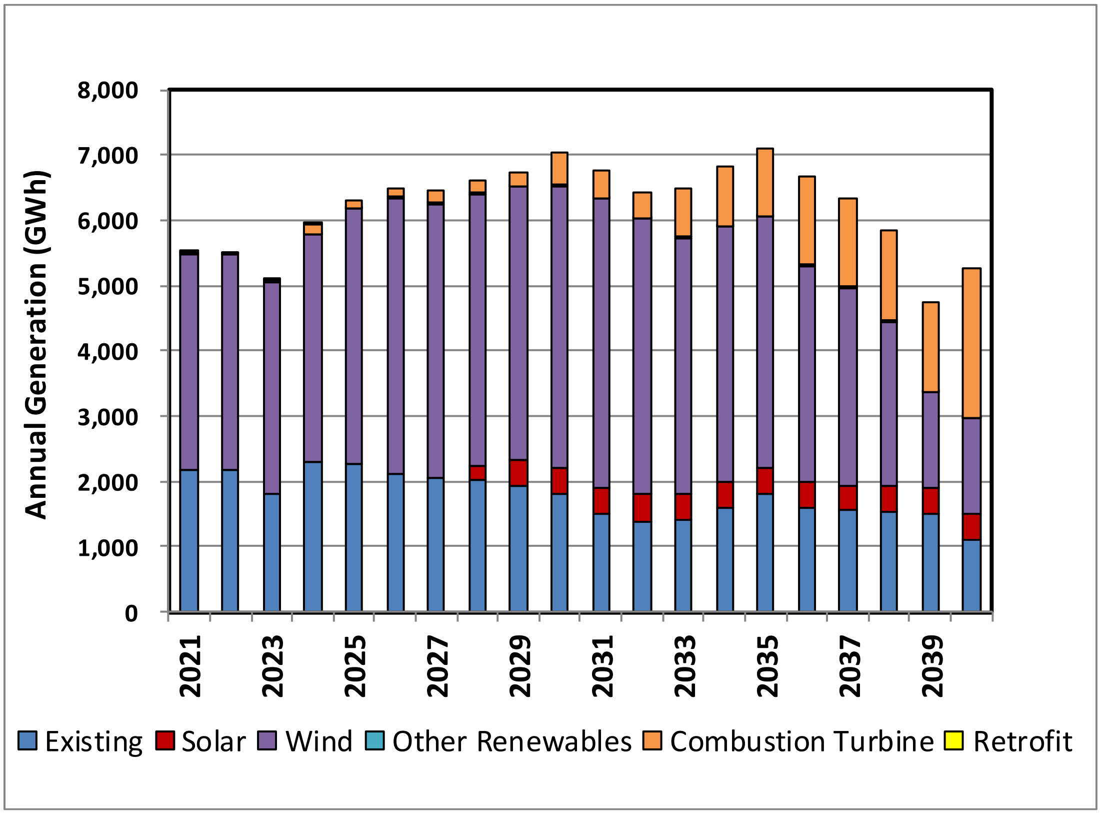


Table 45: Annual Generation WDDDU



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 46: Annual Emissions - WAAAS

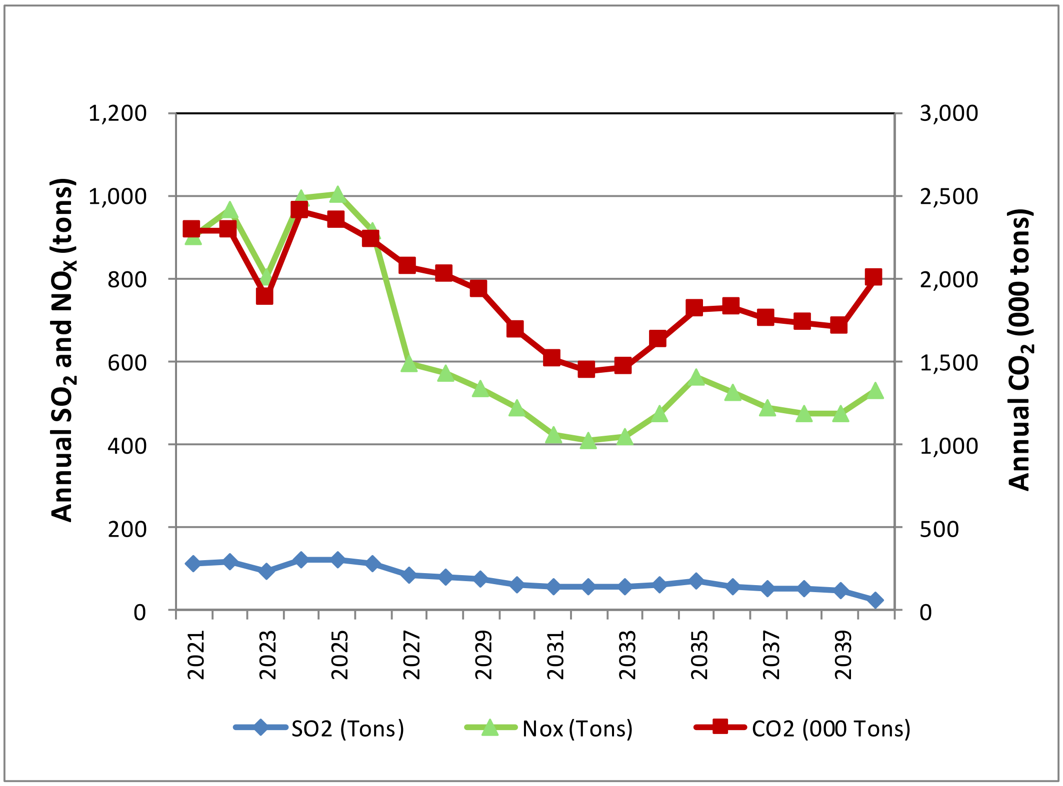


Table 47: Annual Emissions WAABS

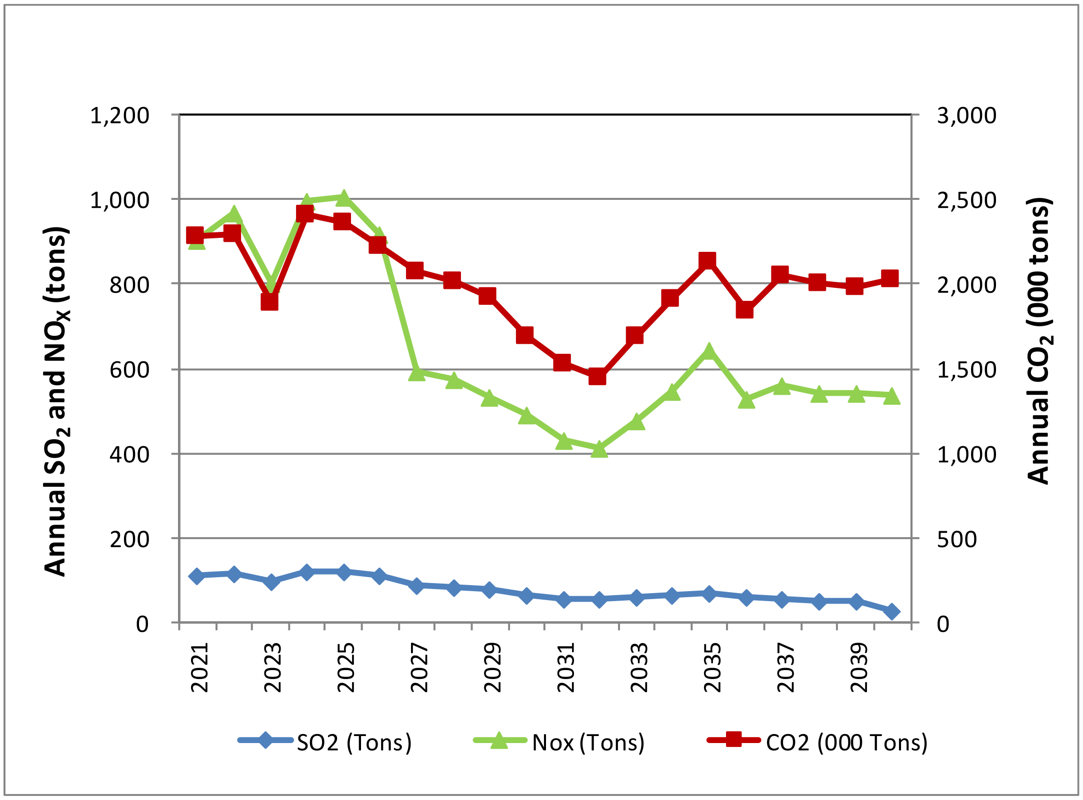


Table 48: Annual Emissions WAACA

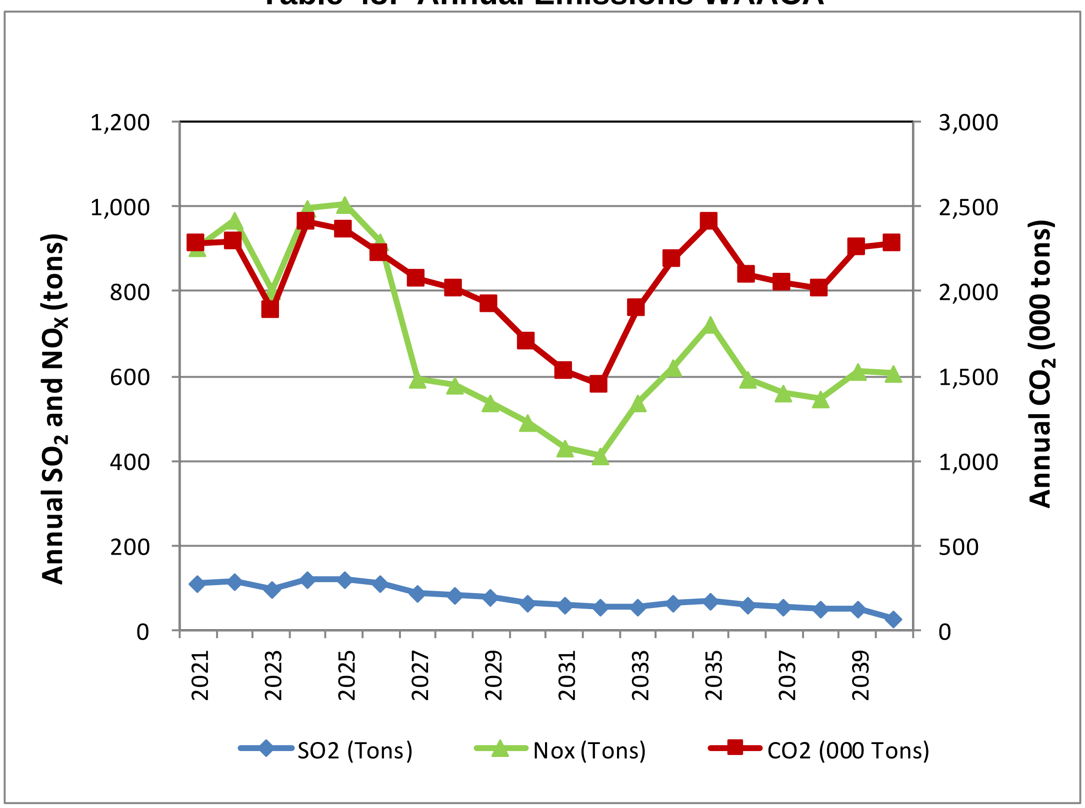


Table 49: Annual Emissions WAACS

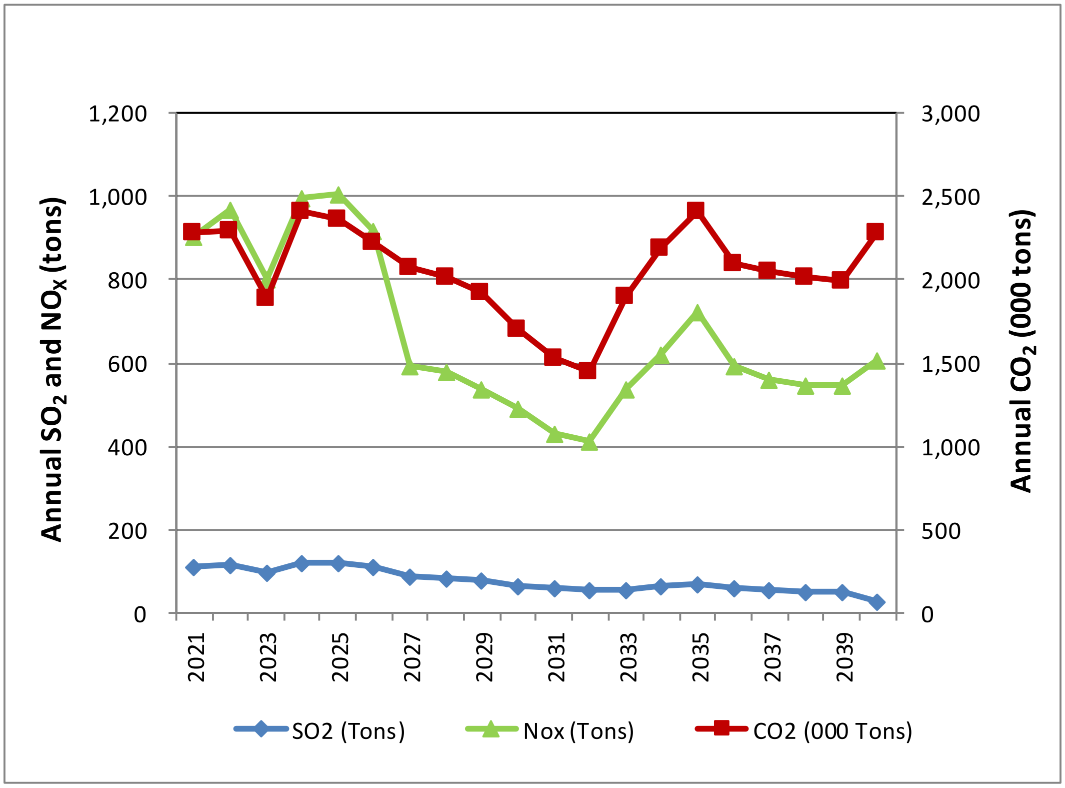


Table 50: Annual Emissions WBBCS

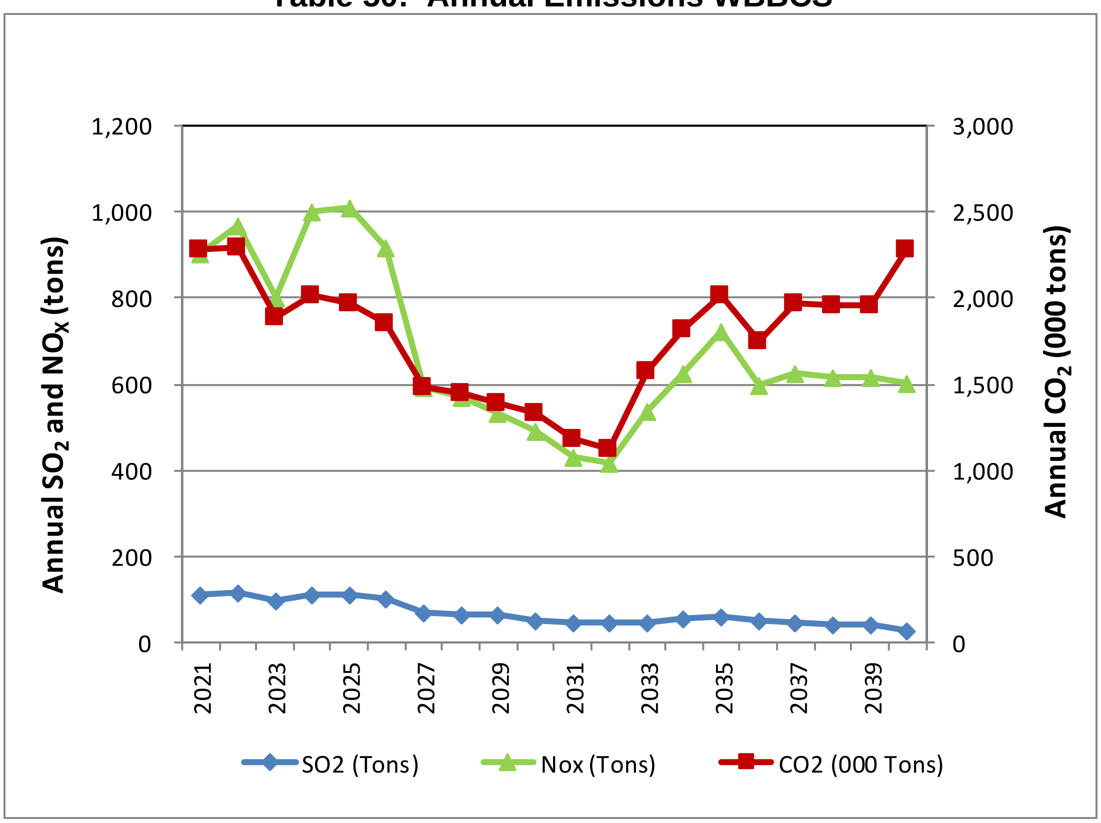


Table 51: Annual Emissions WCCCS

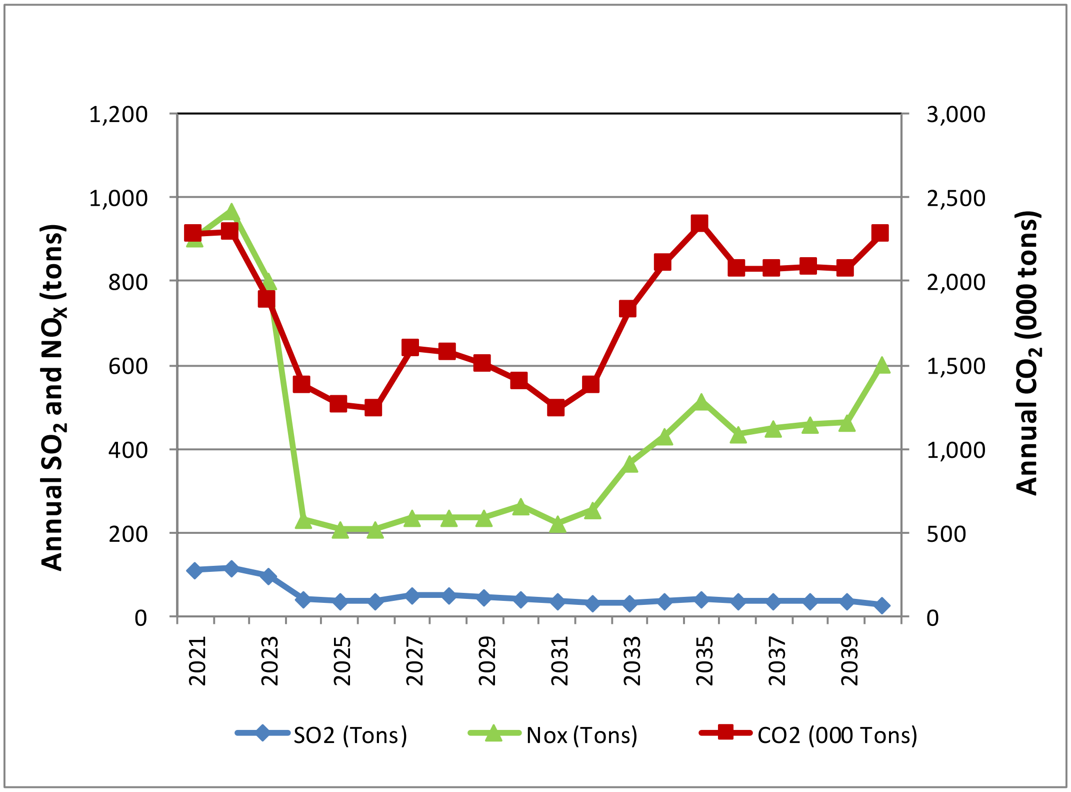


Table 52: Annual Emissions WDDBS

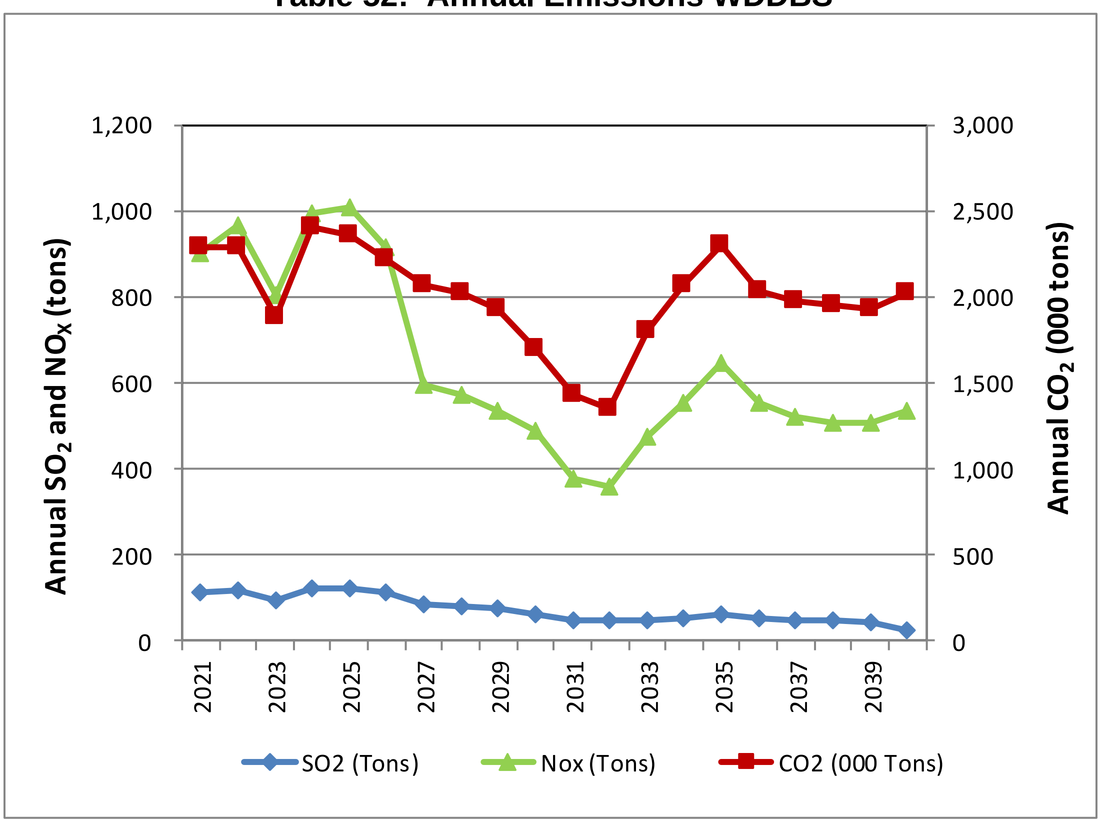


Table 53: Annual Emissions WDDBT

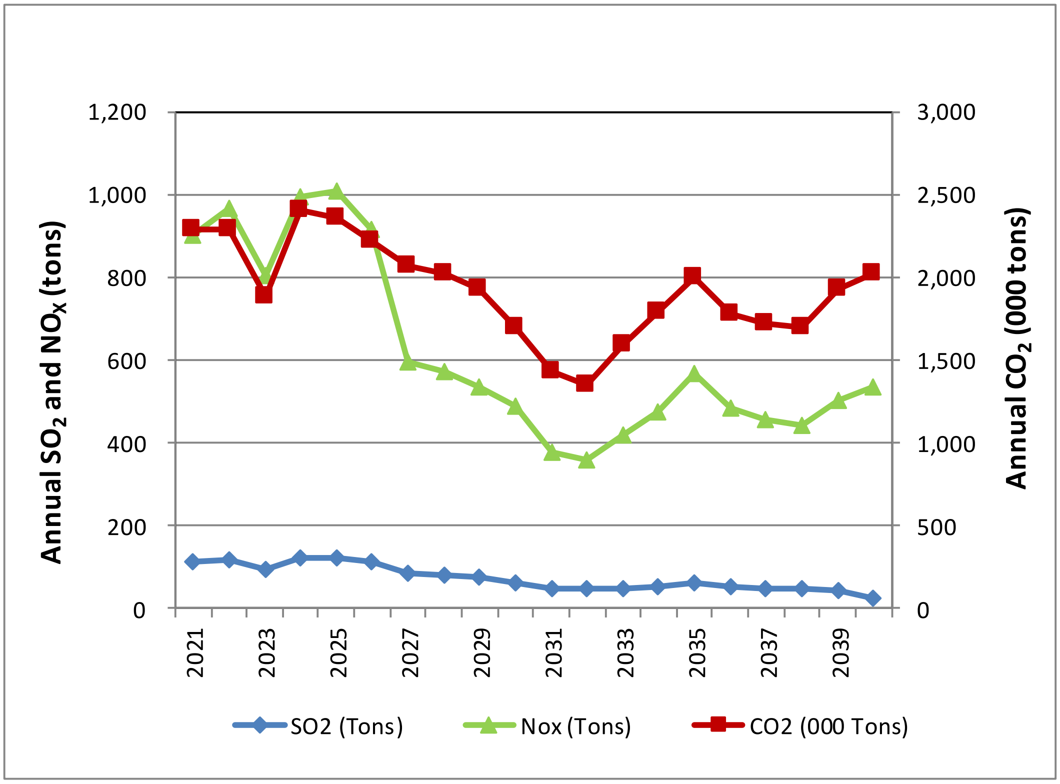


Table 54: Annual Emissions WDDBU

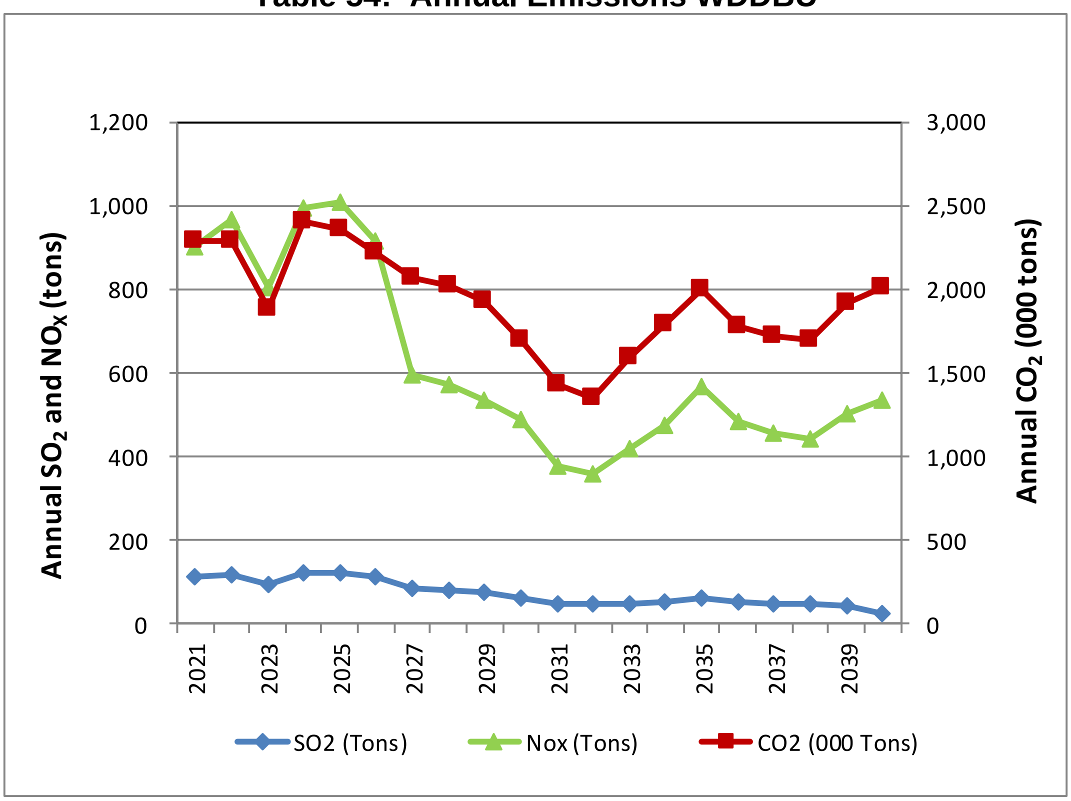
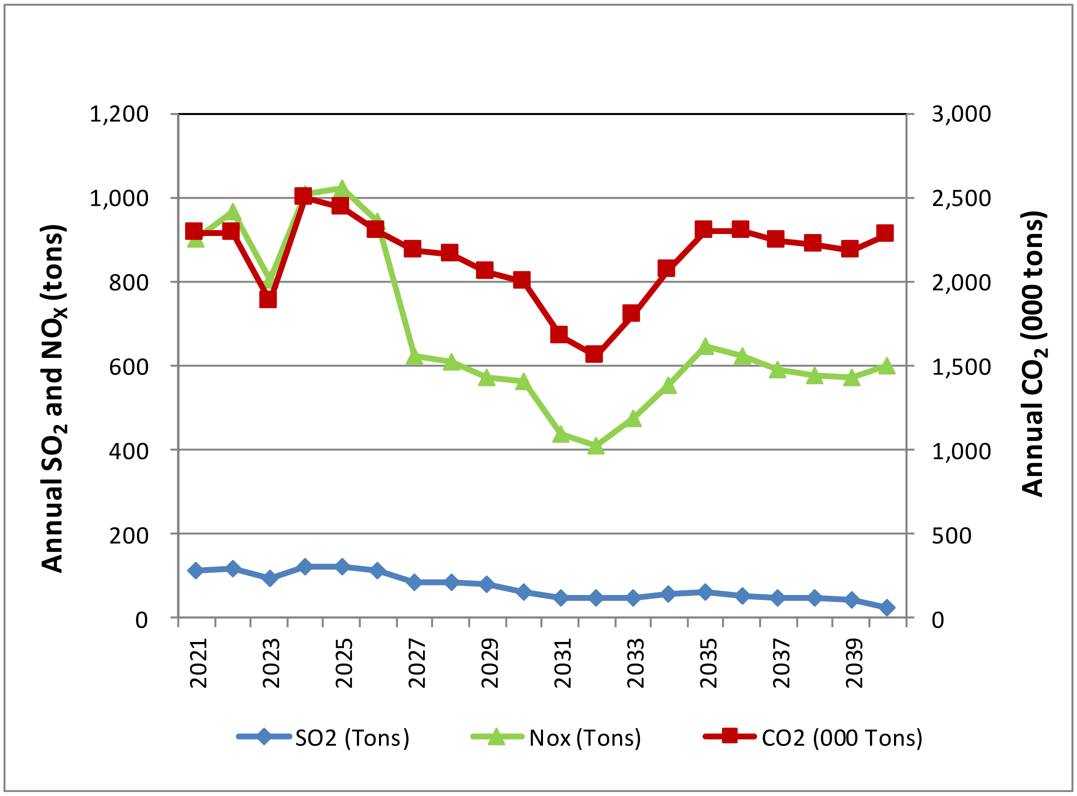


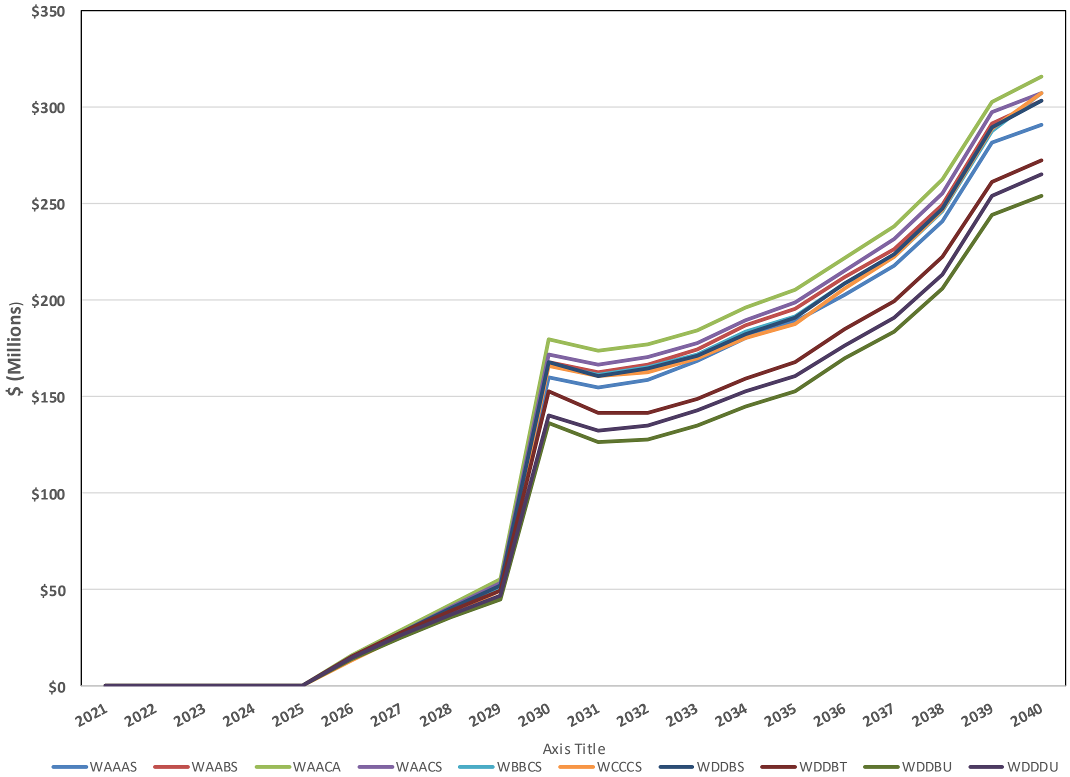
Table 55: Annual Emissions WDDDU



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 Missouri West forecast of capacity balance for the next 20 years for each of the Alternative Resource Plans discussed elsewhere in this document.

Table 56: Capacity Forecast - Alternative Resource Plan WAAAS

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	699
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,302**	**1,302**	**1,302**	**1,302**	**1,768**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions																				
Solar Additions				60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Total Intermittent Capacity with Additions	4	4	4	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,692**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,828**	**1,828**	**1,828**	**1,828**	**1,993**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	-	66	43	26	16	-	-	-	32	75	100	100	-	-	-	-	-
Total Capacity Purchases (P)	554	556	506	178	244	221	204	194	178	178	178	173	184	209	209	96	82	60	27	-
Sales:																				
PPA Sale	(85)	(97)	(100)	(4)	(5)	(5)	(5)	(5)	(6)	(21)	(20)	(5)	-	-	-	-	(100)	(74)	(27)	-
Total Capacity Sales (S)	(85)	(97)	(100)	(4)	(5)	(5)	(5)	(5)	(6)	(21)	(20)	(5)	-	-	-	-	(100)	(74)	(27)	-
Net Transactions (NT)	**469**	**459**	**406**	**174**	**239**	**216**	**199**	**189**	**172**	**157**	**158**	**168**	**184**	**209**	**209**	**96**	**(18)**	**(14)**	**(0)**	**0**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,038**	**1,866**	**1,834**	**1,811**	**1,793**	**1,783**	**1,767**	**1,752**	**1,752**	**1,763**	**1,779**	**1,804**	**1,804**	**1,924**	**1,810**	**1,814**	**1,828**	**1,993**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	98	123	138	154	169	180	191	200	208	214	218	220	221	222	225	225	226	226
Energy Efficiency	-	-	23	46	62	75	87	97	107	117	125	132	137	140	142	146	152	157	160	163
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			100	99	99	99	100	100	101	103	105	107	108	109	109	110	111	111	111	112
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,705**	**1,666**	**1,637**	**1,617**	**1,601**	**1,592**	**1,578**	**1,564**	**1,565**	**1,574**	**1,580**	**1,589**	**1,599**	**1,608**	**1,611**	**1,620**	**1,632**	**1,645**
Capacity Reserves (CR)	**225**	**224**	**333**	**200**	**196**	**194**	**192**	**191**	**189**	**188**	**188**	**189**	**198**	**215**	**205**	**316**	**199**	**194**	**196**	**348**
D. Capacity Needs																				
% Reserve Margin	12%	12%	20%	12%	12%	12%	12%	12%	12%	12%	12%	12%	13%	14%	13%	20%	12%	12%	12%	21%
% Capacity Margin	11%	11%	16%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	12%	11%	16%	11%	11%	11%	17%
Required Capacity (RC)	**2,101**	**2,091**	**1,910**	**1,866**	**1,834**	**1,811**	**1,793**	**1,783**	**1,767**	**1,752**	**1,752**	**1,763**	**1,770**	**1,780**	**1,791**	**1,801**	**1,804**	**1,814**	**1,828**	**1,842**
Capacity Balance	**-**	**-**	**128**	**-**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**9**	**24**	**13**	**123**	**5**	**(0)**	**(0)**	**151**

Table 57: Capacity Forecast - Alternative Resource Plan WAABS

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	466	466	466	699
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,302**	**1,302**	**1,302**	**1,302**	**1,535**	**1,535**	**1,535**	**1,768**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions																				
Solar Additions				60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Total Intermittent Capacity with Additions	4	4	4	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,692**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,828**	**1,828**	**1,828**	**1,828**	**2,061**	**2,061**	**2,061**	**1,993**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	160	232	215	201	192	178	168	173	225	50	50	75	100	-	-	-	75
Total Capacity Purchases (P)	554	556	506	338	410	393	379	370	356	346	351	366	159	159	184	196	82	60	27	75
Sales:																				
PPA Sale	(85)	(97)	(92)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	-	-	-	-	(94)	(46)	-
Total Capacity Sales (S)	(85)	(97)	(92)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	-	-	-	-	(94)	(46)	-
Net Transactions (NT)	**469**	**459**	**414**	**333**	**405**	**388**	**374**	**365**	**351**	**341**	**346**	**361**	**159**	**159**	**184**	**196**	**82**	**(34)**	**(19)**	**75**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**1,941**	**1,956**	**1,987**	**1,987**	**2,012**	**2,024**	**2,143**	**2,027**	**2,042**	**2,068**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	86	97	107	116	125	131	136	141	144	148	149	150	151	151	152	152	153	153
Energy Efficiency	-	-	12	24	35	45	53	61	68	74	79	84	88	90	91	93	96	99	101	103
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	4	8	13	21	28	36	41	45	48	50	51	51	51	52	52	52	52
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,826**	**1,808**	**1,785**	**1,770**	**1,758**	**1,750**	**1,738**	**1,728**	**1,733**	**1,747**	**1,757**	**1,767**	**1,779**	**1,791**	**1,799**	**1,810**	**1,823**	**1,837**
Capacity Reserves (CR)	**225**	**224**	**219**	**217**	**214**	**212**	**211**	**210**	**208**	**207**	**208**	**210**	**230**	**220**	**233**	**233**	**344**	**217**	**219**	**231**
D. Capacity Needs																				
% Reserve Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	13%	12%	13%	13%	19%	12%	12%	13%
% Capacity Margin	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	12%	11%	12%	12%	16%	11%	11%	11%
Required Capacity (RC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**1,941**	**1,956**	**1,967**	**1,979**	**1,992**	**2,006**	**2,015**	**2,027**	**2,042**	**2,058**
Capacity Balance	**-**	**-**	**-**	**-**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**19**	**8**	**20**	**18**	**128**	**(0)**	**(0)**	**10**

Table 58: Capacity Forecast - Alternative Resource Plan WAACA

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	466	466	466	466	466	466	699	932
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**1,768**	**2,001**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions																				
Solar Additions								5	5	5	5	5	5	5	5	5	5	5	5	5
Total Intermittent Capacity with Additions	4	4	4	4	4	4	4	9	9	9	9	9	9	9	9	9	9	9	9	9
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,632**	**1,535**	**1,535**	**1,535**	**1,540**	**1,540**	**1,540**	**1,540**	**1,540**	**2,006**	**2,006**	**2,006**	**2,006**	**2,006**	**2,006**	**2,239**	**2,171**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	240	325	319	312	313	308	305	316	374	-	-	-	25	50	75	-	25
Total Capacity Purchases (P)	554	556	506	418	503	497	490	491	486	483	494	515	109	109	109	121	132	135	27	25
Sales:																				
PPA Sale	(85)	(97)	(84)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	(35)	(19)	-	-	-	-	-
Total Capacity Sales (S)	(85)	(97)	(84)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	(35)	(19)	-	-	-	-	-
Net Transactions (NT)	**469**	**459**	**422**	**413**	**498**	**492**	**485**	**486**	**481**	**478**	**489**	**510**	**109**	**74**	**90**	**121**	**132**	**135**	**27**	**25**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,054**	**2,045**	**2,032**	**2,027**	**2,019**	**2,025**	**2,021**	**2,018**	**2,029**	**2,050**	**2,115**	**2,080**	**2,096**	**2,127**	**2,138**	**2,141**	**2,266**	**2,196**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	84	92	97	102	107	109	112	115	117	120	121	121	121	121	122	122	122	122
Energy Efficiency	-	-	6	13	18	23	27	31	34	37	39	41	41	42	41	41	41	41	42	42
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	3	6	10	16	21	27	31	34	36	37	38	38	39	39	39	39	39
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,834**	**1,826**	**1,815**	**1,810**	**1,808**	**1,809**	**1,804**	**1,802**	**1,812**	**1,831**	**1,844**	**1,857**	**1,871**	**1,886**	**1,897**	**1,910**	**1,926**	**1,942**
Capacity Reserves (CR)	**225**	**224**	**220**	**219**	**218**	**217**	**212**	**217**	**216**	**216**	**217**	**220**	**271**	**223**	**224**	**241**	**241**	**230**	**340**	**254**
D. Capacity Needs																				
% Reserve Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	15%	12%	12%	13%	13%	12%	18%	13%
% Capacity Margin	11%	11%	11%	11%	11%	11%	10%	11%	11%	11%	11%	11%	13%	11%	11%	11%	11%	11%	15%	12%
Required Capacity (RC)	**2,101**	**2,091**	**2,054**	**2,045**	**2,033**	**2,027**	**2,024**	**2,026**	**2,021**	**2,018**	**2,029**	**2,050**	**2,065**	**2,080**	**2,096**	**2,112**	**2,124**	**2,140**	**2,157**	**2,175**
Capacity Balance	**-**	**-**	**-**	**-**	**(0)**	**(0)**	**(5)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**49**	**(0)**	**(0)**	**15**	**13**	**1**	**109**	**21**

Table 59: Capacity Forecast - Alternative Resource Plan WAACS

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	466	466	466	466	466	466	466	932
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**2,001**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions																				
Solar Additions				60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Total Intermittent Capacity with Additions	4	4	4	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,692**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**2,061**	**2,061**	**2,061**	**2,061**	**2,061**	**2,061**	**2,061**	**2,226**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	180	265	259	257	258	253	250	261	319	-	-	-	-	-	25	75	-
Total Capacity Purchases (P)	554	556	506	358	443	437	435	436	431	428	439	460	109	109	109	96	82	85	102	-
Sales:																				
PPA Sale	(85)	(97)	(84)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	(90)	(74)	(45)	(19)	-	-	-
Total Capacity Sales (S)	(85)	(97)	(84)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	(90)	(74)	(45)	(19)	-	-	-
Net Transactions (NT)	**469**	**459**	**422**	**353**	**438**	**432**	**430**	**431**	**426**	**423**	**434**	**455**	**109**	**19**	**35**	**51**	**63**	**85**	**102**	**0**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,054**	**2,045**	**2,032**	**2,027**	**2,024**	**2,025**	**2,021**	**2,018**	**2,029**	**2,050**	**2,170**	**2,080**	**2,096**	**2,112**	**2,124**	**2,146**	**2,163**	**2,226**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	63	74	82	88	94	98	101	103	105	107	107	107	108	108	108	108	108	109
Energy Efficiency	-	-	11	24	34	43	50	57	62	67	70	72	73	72	69	66	65	64	64	64
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	2	5	8	12	17	21	24	27	28	29	30	30	30	30	30	31	31
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,850**	**1,834**	**1,815**	**1,806**	**1,801**	**1,799**	**1,794**	**1,791**	**1,801**	**1,820**	**1,834**	**1,849**	**1,865**	**1,882**	**1,895**	**1,910**	**1,926**	**1,943**
Capacity Reserves (CR)	**225**	**224**	**204**	**212**	**217**	**221**	**224**	**227**	**227**	**227**	**229**	**230**	**336**	**231**	**230**	**230**	**229**	**236**	**237**	**283**
D. Capacity Needs																				
% Reserve Margin	12%	12%	11%	12%	12%	12%	12%	13%	13%	13%	13%	13%	18%	12%	12%	12%	12%	12%	12%	15%
% Capacity Margin	11%	11%	10%	10%	11%	11%	11%	11%	11%	11%	11%	11%	15%	11%	11%	11%	11%	11%	11%	13%
Required Capacity (RC)	**2,101**	**2,091**	**2,072**	**2,054**	**2,033**	**2,023**	**2,017**	**2,015**	**2,009**	**2,005**	**2,017**	**2,038**	**2,054**	**2,071**	**2,089**	**2,108**	**2,123**	**2,139**	**2,157**	**2,176**
Capacity Balance	**-**	**-**	**(18)**	**(9)**	**(1)**	**5**	**8**	**11**	**12**	**12**	**12**	**12**	**115**	**9**	**6**	**4**	**1**	**7**	**6**	**50**

Table 60: Capacity Forecast - Alternative Resource Plan WBBCS

	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																				
Iatan 1	126	126	126																	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**336**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	466	466	466	466	699	699	699	932
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,535**	**1,535**	**1,535**	**1,535**	**1,768**	**1,768**	**1,768**	**2,001**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions																				
Solar Additions				60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Total Intermittent Capacity with Additions	4	4	4	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,566**	**1,469**	**1,469**	**1,469**	**1,469**	**1,469**	**1,469**	**1,469**	**1,469**	**1,935**	**1,935**	**1,935**	**1,935**	**2,168**	**2,168**	**2,168**	**2,226**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	306	391	385	383	384	379	376	387	460	25	50	75	100	-	-	-	-
Total Capacity Purchases (P)	554	556	506	484	569	563	561	562	557	554	565	601	134	159	184	196	82	60	27	-
Sales:																				
PPA Sale	(85)	(97)	(84)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	-	-	-	-	-	(88)	(38)	-
Total Capacity Sales (S)	(85)	(97)	(84)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	-	-	-	-	-	(88)	(38)	-
Net Transactions (NT)	**469**	**459**	**422**	**479**	**564**	**558**	**556**	**557**	**552**	**549**	**560**	**601**	**134**	**159**	**184**	**196**	**82**	**(28)**	**(11)**	**0**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,054**	**2,045**	**2,032**	**2,027**	**2,024**	**2,025**	**2,021**	**2,018**	**2,029**	**2,070**	**2,069**	**2,094**	**2,119**	**2,131**	**2,250**	**2,139**	**2,157**	**2,226**
C. System Peaks & Reserves	2,105	2,092	2,054	2,044	2,031	2,026	2,022	2,022	2,016	2,014	2,024	2,044	2,109	2,073	2,088	2,121	2,132	2,135	2,260	2,292
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	84	92	97	102	107	109	112	115	117	120	121	121	121	121	122	122	122	122
Energy Efficiency	-	-	6	13	18	23	27	31	34	37	39	41	41	42	41	41	41	41	42	42
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	3	6	10	16	21	27	31	34	36	37	38	38	39	39	39	39	39
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,834**	**1,826**	**1,815**	**1,810**	**1,808**	**1,809**	**1,804**	**1,802**	**1,812**	**1,831**	**1,844**	**1,857**	**1,871**	**1,886**	**1,897**	**1,910**	**1,926**	**1,942**
Capacity Reserves (CR)	**225**	**224**	**220**	**219**	**218**	**217**	**217**	**217**	**216**	**216**	**217**	**239**	**225**	**237**	**248**	**245**	**353**	**229**	**231**	**284**
D. Capacity Needs																				
% Reserve Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	13%	12%	13%	13%	13%	19%	12%	12%	15%
% Capacity Margin	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	12%	11%	11%	12%	11%	16%	11%	11%	13%
Required Capacity (RC)	**2,101**	**2,091**	**2,054**	**2,045**	**2,033**	**2,027**	**2,024**	**2,026**	**2,021**	**2,018**	**2,029**	**2,050**	**2,065**	**2,080**	**2,096**	**2,112**	**2,124**	**2,140**	**2,157**	**2,175**
	2105	2092	2054	2060	2047	2041	2037	2037	2031	2029	2039	2059	2069	2094	2094	2106	2117	2253	2148	2252
Capacity Balance	**-**	**-**	**-**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**20**	**3**	**14**	**23**	**19**	**125**	**(0)**	**(0)**	**51**

Table 61: Capacity Forecast - Alternative Resource Plan WCCCS

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58																	
Jeffrey Energy Center 2	58	58	58																	
Jeffrey Energy Center 3	58	58	58																	
Total Base Capacity	**462**	**462**	**462**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**288**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	233	699	699	699	699	699	699	699	932
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,302**	**1,768**	**1,768**	**1,768**	**1,768**	**1,768**	**1,768**	**1,768**	**2,001**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions																				
Solar Additions				60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Total Intermittent Capacity with Additions	4	4	4	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,517**	**1,420**	**1,420**	**1,420**	**1,420**	**1,420**	**1,420**	**1,420**	**1,653**	**2,119**	**2,119**	**2,119**	**2,119**	**2,119**	**2,119**	**2,119**	**2,226**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	354	439	433	431	432	427	424	434	360	-	-	-	-	-	-	25	-
Total Capacity Purchases (P)	554	556	506	532	617	611	609	610	605	602	612	501	109	109	109	96	82	60	52	-
Sales:																				
PPA Sale	(85)	(97)	(84)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	-	-	(100)	(100)	(100)	(78)	(40)	-	-
Total Capacity Sales (S)	(85)	(97)	(84)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	-	-	(100)	(100)	(100)	(78)	(40)	-	-
Net Transactions (NT)	**469**	**459**	**422**	**527**	**612**	**606**	**604**	**605**	**600**	**597**	**612**	**501**	**109**	**9**	**9**	**(4)**	**4**	**20**	**52**	**0**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,054**	**2,044**	**2,032**	**2,026**	**2,023**	**2,025**	**2,020**	**2,017**	**2,032**	**2,154**	**2,228**	**2,128**	**2,128**	**2,115**	**2,123**	**2,139**	**2,171**	**2,226**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	84	92	97	102	107	109	112	115	117	120	121	121	121	121	122	122	122	122
Energy Efficiency	-	-	6	13	18	23	27	31	34	37	39	41	41	42	41	41	41	41	42	42
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	3	6	10	16	21	27	31	34	36	37	38	38	39	39	39	39	39
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,834**	**1,826**	**1,815**	**1,810**	**1,808**	**1,809**	**1,804**	**1,802**	**1,812**	**1,831**	**1,844**	**1,857**	**1,871**	**1,886**	**1,897**	**1,910**	**1,926**	**1,942**
Capacity Reserves (CR)	**225**	**224**	**220**	**218**	**217**	**216**	**216**	**216**	**216**	**215**	**220**	**323**	**384**	**271**	**257**	**229**	**227**	**228**	**245**	**284**
D. Capacity Needs																				
% Reserve Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	18%	21%	15%	14%	12%	12%	12%	13%	15%
% Capacity Margin	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	15%	17%	13%	12%	11%	11%	11%	11%	13%
Required Capacity (RC)	**2,101**	**2,091**	**2,054**	**2,045**	**2,033**	**2,027**	**2,024**	**2,026**	**2,021**	**2,018**	**2,029**	**2,050**	**2,065**	**2,080**	**2,096**	**2,112**	**2,124**	**2,140**	**2,157**	**2,175**
Capacity Balance	**-**	**-**	**-**	**(1)**	**(1)**	**(1)**	**(1)**	**(1)**	**(1)**	**(1)**	**3**	**104**	**163**	**48**	**32**	**3**	**(1)**	**(1)**	**14**	**51**

Table 62: Capacity Forecast - Alternative Resource Plan WDDBS

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	466	466	466	466	466	466	466	699
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**1,768**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions																				
Solar Additions				60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Total Intermittent Capacity with Additions	4	4	4	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,692**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**1,595**	**2,061**	**2,061**	**2,061**	**2,061**	**2,061**	**2,061**	**2,061**	**1,993**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	160	232	215	201	192	178	168	248	300	-	-	-	-	-	-	25	75
Total Capacity Purchases (P)	554	556	506	338	410	393	379	370	356	346	426	441	109	109	109	96	82	60	52	75
Sales:																				
PPA Sale	(85)	(97)	(92)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	-	-	(100)	(100)	(93)	(70)	(36)	-	-
Total Capacity Sales (S)	(85)	(97)	(92)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	-	-	-	(100)	(100)	(93)	(70)	(36)	-	-
Net Transactions (NT)	**469**	**459**	**414**	**333**	**405**	**388**	**374**	**365**	**351**	**341**	**426**	**441**	**109**	**9**	**9**	**3**	**12**	**24**	**52**	**75**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**2,021**	**2,036**	**2,170**	**2,070**	**2,070**	**2,064**	**2,073**	**2,085**	**2,113**	**2,068**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	86	97	107	116	125	131	136	141	144	148	149	150	151	151	152	152	153	153
Energy Efficiency	-	-	12	24	35	45	53	61	68	74	79	84	88	90	91	93	96	99	101	103
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	4	8	13	21	28	36	41	45	48	50	51	51	51	52	52	52	52
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,826**	**1,808**	**1,785**	**1,770**	**1,758**	**1,750**	**1,738**	**1,728**	**1,733**	**1,747**	**1,757**	**1,767**	**1,779**	**1,791**	**1,799**	**1,810**	**1,823**	**1,837**
Capacity Reserves (CR)	**225**	**224**	**219**	**217**	**214**	**212**	**211**	**210**	**208**	**207**	**288**	**289**	**413**	**303**	**291**	**273**	**274**	**275**	**290**	**231**
D. Capacity Needs																				
% Reserve Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	17%	17%	24%	17%	16%	15%	15%	15%	16%	13%
% Capacity Margin	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	14%	14%	19%	15%	14%	13%	13%	13%	14%	11%
Required Capacity (RC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**1,941**	**1,956**	**1,967**	**1,979**	**1,992**	**2,006**	**2,015**	**2,027**	**2,042**	**2,058**
Capacity Balance	**-**	**-**	**-**	**-**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**80**	**79**	**202**	**91**	**78**	**58**	**58**	**58**	**71**	**10**

Table 63: Capacity Forecast - Alternative Resource Plan WDDBT

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	233	233	466	699
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,535**	**1,768**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions																				
Solar Additions				60	60	60	60	100	140	148	156	164	164	164	164	164	164	164	164	164
Total Intermittent Capacity with Additions	4	4	4	64	64	64	64	104	144	152	160	168	168	168	168	168	168	168	168	168
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,692**	**1,595**	**1,595**	**1,595**	**1,635**	**1,675**	**1,683**	**1,691**	**1,699**	**1,932**	**1,932**	**1,932**	**1,932**	**1,932**	**1,932**	**2,165**	**2,097**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	160	232	215	201	192	178	168	173	225	-	-	25	50	75	100	-	-
Total Capacity Purchases (P)	554	556	506	338	410	393	379	370	356	346	351	366	109	109	134	146	157	160	27	-
Sales:																				
PPA Sale	(85)	(97)	(92)	(5)	(5)	(5)	(5)	(45)	(85)	(93)	(43)	(51)	-	(4)	-	-	-	-	-	-
Total Capacity Sales (S)	(85)	(97)	(92)	(5)	(5)	(5)	(5)	(45)	(85)	(93)	(43)	(51)	-	(4)	-	-	-	-	-	-
Net Transactions (NT)	**469**	**459**	**414**	**333**	**405**	**388**	**374**	**325**	**271**	**253**	**308**	**315**	**109**	**105**	**134**	**146**	**157**	**160**	**27**	**0**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**1,999**	**2,014**	**2,041**	**2,037**	**2,066**	**2,078**	**2,089**	**2,092**	**2,192**	**2,097**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	86	97	107	116	125	131	136	141	144	148	149	150	151	151	152	152	153	153
Energy Efficiency	-	-	12	24	35	45	53	61	68	74	79	84	88	90	91	93	96	99	101	103
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	4	8	13	21	28	36	41	45	48	50	51	51	51	52	52	52	52
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,826**	**1,808**	**1,785**	**1,770**	**1,758**	**1,750**	**1,738**	**1,728**	**1,733**	**1,747**	**1,757**	**1,767**	**1,779**	**1,791**	**1,799**	**1,810**	**1,823**	**1,837**
Capacity Reserves (CR)	**225**	**224**	**219**	**217**	**214**	**212**	**211**	**210**	**208**	**207**	**266**	**268**	**284**	**270**	**287**	**287**	**290**	**282**	**369**	**260**
D. Capacity Needs																				
% Reserve Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	15%	15%	16%	15%	16%	16%	16%	16%	20%	14%
% Capacity Margin	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	13%	13%	14%	13%	14%	14%	14%	13%	17%	12%
Required Capacity (RC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**1,941**	**1,956**	**1,967**	**1,979**	**1,992**	**2,006**	**2,015**	**2,027**	**2,042**	**2,058**
Capacity Balance	**-**	**-**	**-**	**-**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**58**	**58**	**73**	**58**	**74**	**72**	**74**	**65**	**150**	**39**

Table 64: Capacity Forecast - Alternative Resource Plan WDDBU

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	233	233	466	699
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,535**	**1,768**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions					8	16	16	16	16	16	16	16	16	16	16	16	40	40	40	40
Solar Additions				60	60	60	60	100	140	148	156	164	164	164	164	164	164	164	164	164
Total Intermittent Capacity with Additions	4	4	4	64	72	80	80	120	160	168	176	184	184	184	184	184	208	208	208	208
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,692**	**1,603**	**1,611**	**1,611**	**1,651**	**1,691**	**1,699**	**1,707**	**1,715**	**1,948**	**1,948**	**1,948**	**1,948**	**1,972**	**1,972**	**2,205**	**2,137**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	160	232	215	201	192	178	168	173	225	-	-	-	25	25	75	-	-
Total Capacity Purchases (P)	554	556	506	338	410	393	379	370	356	346	351	366	109	109	109	121	107	135	27	-
Sales:																				
PPA Sale	(85)	(97)	(92)	(5)	(13)	(21)	(21)	(61)	(100)	(100)	(59)	(67)	-	(20)	(7)	-	-	-	-	-
Total Capacity Sales (S)	(85)	(97)	(92)	(5)	(13)	(21)	(21)	(61)	(100)	(100)	(59)	(67)	-	(20)	(7)	-	-	-	-	-
Net Transactions (NT)	**469**	**459**	**414**	**333**	**397**	**372**	**358**	**309**	**256**	**246**	**292**	**299**	**109**	**89**	**102**	**121**	**107**	**135**	**27**	**0**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,947**	**1,945**	**1,999**	**2,014**	**2,057**	**2,037**	**2,050**	**2,069**	**2,079**	**2,107**	**2,232**	**2,137**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	86	97	107	116	125	131	136	141	144	148	149	150	151	151	152	152	153	153
Energy Efficiency	-	-	12	24	35	45	53	61	68	74	79	84	88	90	91	93	96	99	101	103
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	4	8	13	21	28	36	41	45	48	50	51	51	51	52	52	52	52
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,826**	**1,808**	**1,785**	**1,770**	**1,758**	**1,750**	**1,738**	**1,728**	**1,733**	**1,747**	**1,757**	**1,767**	**1,779**	**1,791**	**1,799**	**1,810**	**1,823**	**1,837**
Capacity Reserves (CR)	**225**	**224**	**219**	**217**	**214**	**212**	**211**	**210**	**209**	**217**	**266**	**268**	**300**	**270**	**271**	**278**	**280**	**297**	**409**	**300**
D. Capacity Needs																				
% Reserve Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	13%	15%	15%	17%	15%	15%	16%	16%	16%	22%	16%
% Capacity Margin	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	13%	13%	15%	13%	13%	13%	13%	14%	18%	14%
Required Capacity (RC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**1,941**	**1,956**	**1,967**	**1,979**	**1,992**	**2,006**	**2,015**	**2,027**	**2,042**	**2,058**
Capacity Balance	-	-	-	-	(0)	(0)	(0)	(0)	0	9	58	58	89	58	58	63	64	80	190	79

Table 65: Capacity Forecast - Alternative Resource Plan WDDDU

	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																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	233	233	233	233	233	233	233	233	233	466	466	466	466	466	699	699	932
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,399**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,535**	**1,535**	**1,535**	**1,535**	**1,535**	**1,768**	**1,768**	**2,001**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions					8	16	16	16	16	16	16	16	16	16	16	16	40	40	40	40
Solar Additions				60	60	60	60	100	140	148	156	164	164	164	164	164	164	164	164	164
Total Intermittent Capacity with Additions	4	4	4	64	72	80	80	120	160	168	176	184	184	184	184	184	208	208	208	208
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,925**	**1,836**	**1,844**	**1,844**	**1,884**	**1,924**	**1,932**	**1,940**	**1,948**	**2,181**	**2,181**	**2,181**	**2,181**	**2,205**	**2,438**	**2,438**	**2,370**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	25	160	232	215	201	192	178	168	173	225	25	25	50	75	75	-	-	-
Total Capacity Purchases (P)	554	556	531	338	410	393	379	370	356	346	351	366	134	134	159	171	157	60	27	-
Sales:																				
PPA Sale	(85)	(97)	-	-	(87)	(74)	(55)	(79)	(100)	(100)	(42)	(39)	-	-	-	-	-	-	(81)	-
Total Capacity Sales (S)	(85)	(97)	-	-	(87)	(74)	(55)	(79)	(100)	(100)	(42)	(39)	-	-	-	-	-	-	(81)	-
Net Transactions (NT)	**469**	**459**	**531**	**338**	**323**	**319**	**324**	**291**	**256**	**246**	**309**	**327**	**134**	**134**	**159**	**171**	**157**	**60**	**(54)**	**0**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,163**	**2,263**	**2,159**	**2,163**	**2,168**	**2,174**	**2,180**	**2,178**	**2,249**	**2,275**	**2,315**	**2,315**	**2,340**	**2,352**	**2,362**	**2,498**	**2,384**	**2,370**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	86	97	107	116	125	131	136	141	144	148	149	150	151	151	152	152	153	153
Energy Efficiency	-	-	12	24	35	45	53	61	68	74	79	84	88	90	91	93	96	99	101	103
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	4	8	13	21	28	36	41	45	48	50	51	51	51	52	52	52	52
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,826**	**1,808**	**1,785**	**1,770**	**1,758**	**1,750**	**1,738**	**1,728**	**1,733**	**1,747**	**1,757**	**1,767**	**1,779**	**1,791**	**1,799**	**1,810**	**1,823**	**1,837**
Capacity Reserves (CR)	**225**	**224**	**336**	**455**	**374**	**393**	**410**	**424**	**442**	**450**	**516**	**528**	**558**	**548**	**561**	**561**	**563**	**688**	**561**	**533**
D. Capacity Needs																				
% Reserve Margin	12%	12%	18%	25%	21%	22%	23%	24%	25%	26%	30%	30%	32%	31%	32%	31%	31%	38%	31%	29%
% Capacity Margin	11%	11%	16%	20%	17%	18%	19%	20%	20%	21%	23%	23%	24%	24%	24%	24%	24%	28%	24%	22%
Required Capacity (RC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**1,941**	**1,956**	**1,967**	**1,979**	**1,992**	**2,006**	**2,015**	**2,027**	**2,042**	**2,058**
Capacity Balance	**-**	**-**	**117**	**238**	**159**	**180**	**199**	**214**	**233**	**242**	**308**	**318**	**347**	**336**	**348**	**346**	**347**	**471**	**342**	**312**

(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 66: Economic Impact of Alternative Resource Plan WAAAS

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	800	800	0.09	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.09	0.09	1.19%	0.81%	4.34	49.51
2023	896	892	0.10	0.10	11.20%	11.19%	4.32	49.51
2024	870	867	0.10	0.10	-2.08%	-2.11%	4.47	49.51
2025	861	861	0.10	0.10	-0.68%	-0.28%	4.20	49.51
2026	877	877	0.10	0.10	1.99%	1.99%	4.17	49.51
2027	895	886	0.10	0.10	2.13%	1.13%	4.24	49.51
2028	911	903	0.10	0.10	1.64%	1.68%	4.23	49.51
2029	923	914	0.10	0.10	1.26%	1.28%	4.27	49.51
2030	1,034	1,026	0.12	0.12	11.94%	12.05%	4.32	49.51
2031	1,037	1,029	0.12	0.12	-0.02%	0.02%	4.37	49.51
2032	1,051	1,044	0.12	0.12	0.86%	0.91%	4.42	49.51
2033	1,066	1,057	0.12	0.12	0.81%	0.76%	4.31	49.51
2034	1,083	1,075	0.12	0.12	0.78%	0.80%	4.28	49.51
2035	1,115	1,106	0.12	0.12	1.99%	1.97%	4.30	49.51
2036	1,175	1,166	0.13	0.13	4.56%	4.61%	4.67	49.51
2037	1,198	1,188	0.13	0.13	1.24%	1.17%	4.34	49.51
2038	1,233	1,224	0.13	0.13	2.10%	2.17%	4.42	49.51
2039	1,315	1,306	0.14	0.14	5.65%	5.72%	4.36	49.51
2040	1,433	1,424	0.15	0.15	7.94%	8.02%	5.13	49.51

Table 67: Economic Impact of Alternative Resource Plan WAABS

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	800	800	0.09	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.09	0.09	1.19%	0.81%	4.34	49.51
2023	825	822	0.09	0.09	1.63%	1.59%	4.32	49.51
2024	833	830	0.09	0.09	1.13%	1.11%	4.47	49.51
2025	841	838	0.09	0.09	0.95%	0.99%	4.23	49.51
2026	862	859	0.10	0.09	2.40%	2.44%	4.21	49.51
2027	873	870	0.10	0.10	1.13%	1.15%	4.20	49.51
2028	889	886	0.10	0.10	1.34%	1.35%	4.18	49.51
2029	904	901	0.10	0.10	1.50%	1.47%	4.20	49.51
2030	1,023	1,020	0.11	0.11	12.84%	12.93%	4.23	49.51
2031	1,023	1,020	0.11	0.11	-0.55%	-0.55%	4.25	49.51
2032	1,040	1,038	0.11	0.11	0.99%	1.00%	4.25	49.51
2033	1,075	1,073	0.12	0.11	2.64%	2.65%	4.38	49.51
2034	1,088	1,086	0.12	0.12	0.32%	0.31%	4.02	49.51
2035	1,113	1,110	0.12	0.12	1.28%	1.29%	4.05	49.51
2036	1,151	1,149	0.12	0.12	2.47%	2.48%	4.03	49.51
2037	1,213	1,210	0.13	0.13	4.46%	4.47%	4.36	49.51
2038	1,246	1,243	0.13	0.13	1.81%	1.81%	4.05	49.51
2039	1,323	1,320	0.13	0.13	5.19%	5.18%	4.03	49.51
2040	1,411	1,409	0.14	0.14	5.58%	5.62%	4.45	49.51

Table 68: Economic Impact of Alternative Resource Plan WAACA

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	800	800	0.0886	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.0897	0.09	1.22%	0.85%	4.34	49.51
2023	818	815	0.0901	0.09	0.52%	0.47%	4.33	49.51
2024	821	818	0.0904	0.09	0.27%	0.25%	4.39	49.51
2025	832	830	0.0913	0.09	1.03%	1.24%	4.26	49.51
2026	857	855	0.0937	0.09	2.67%	2.70%	4.23	49.51
2027	872	870	0.0951	0.09	1.49%	1.50%	4.23	49.51
2028	890	889	0.0966	0.10	1.53%	1.53%	4.18	49.51
2029	908	906	0.0982	0.10	1.66%	1.63%	4.20	49.51
2030	1,038	1,037	0.1117	0.11	13.80%	13.87%	4.22	49.51
2031	1,039	1,037	0.1111	0.11	-0.61%	-0.61%	4.24	49.51
2032	1,058	1,056	0.1121	0.11	0.96%	0.97%	4.19	49.51
2033	1,116	1,115	0.1175	0.12	4.76%	4.78%	4.57	49.51
2034	1,125	1,123	0.1173	0.12	-0.17%	-0.19%	3.94	49.51
2035	1,149	1,147	0.1186	0.12	1.16%	1.18%	3.96	49.51
2036	1,187	1,186	0.1214	0.12	2.32%	2.33%	3.98	49.51
2037	1,221	1,219	0.1237	0.12	1.89%	1.89%	3.99	49.51
2038	1,262	1,260	0.1267	0.13	2.41%	2.40%	3.98	49.51
2039	1,374	1,372	0.1366	0.14	7.81%	7.80%	4.28	49.51
2040	1,458	1,456	0.1434	0.14	5.03%	5.06%	4.31	49.51

Table 69: Economic Impact of Alternative Resource Plan WAACS

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	800	800	0.09	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.09	0.09	1.19%	0.81%	4.34	49.51
2023	817	813	0.09	0.09	0.33%	0.28%	4.32	49.51
2024	826	822	0.09	0.09	1.03%	1.02%	4.47	49.51
2025	834	832	0.09	0.09	0.72%	0.93%	4.22	49.51
2026	857	855	0.09	0.09	2.45%	2.48%	4.19	49.51
2027	870	868	0.09	0.09	1.19%	1.20%	4.18	49.51
2028	887	885	0.10	0.10	1.39%	1.40%	4.16	49.51
2029	904	902	0.10	0.10	1.56%	1.52%	4.18	49.51
2030	1,028	1,026	0.11	0.11	13.19%	13.26%	4.20	49.51
2031	1,028	1,027	0.11	0.11	-0.56%	-0.57%	4.22	49.51
2032	1,047	1,046	0.11	0.11	0.98%	0.98%	4.17	49.51
2033	1,109	1,108	0.12	0.12	5.13%	5.14%	4.54	49.51
2034	1,116	1,114	0.12	0.12	-0.38%	-0.39%	3.93	49.51
2035	1,136	1,134	0.12	0.12	0.84%	0.86%	3.95	49.51
2036	1,174	1,173	0.12	0.12	2.35%	2.37%	3.96	49.51
2037	1,207	1,206	0.12	0.12	1.88%	1.88%	3.98	49.51
2038	1,249	1,247	0.13	0.13	2.46%	2.46%	4.02	49.51
2039	1,332	1,329	0.13	0.13	5.59%	5.57%	3.94	49.51
2040	1,448	1,447	0.14	0.14	7.64%	7.68%	4.65	49.51

Table 70: Economic Impact of Alternative Resource Plan WBBCS

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	800	800	0.09	0.09	0.00%	0.00%	4.10	49.50
2022	813	810	0.09	0.09	1.12%	0.75%	4.30	49.50
2023	818	815	0.09	0.09	0.57%	0.53%	4.30	49.50
2024	829	825	0.09	0.09	1.20%	1.19%	4.50	49.50
2025	838	837	0.09	0.09	0.94%	1.14%	4.20	49.50
2026	862	860	0.09	0.09	2.52%	2.54%	4.20	49.50
2027	878	876	0.10	0.10	1.51%	1.52%	4.20	49.50
2028	894	892	0.10	0.10	1.26%	1.26%	4.20	49.50
2029	911	909	0.10	0.10	1.51%	1.47%	4.20	49.50
2030	1,033	1,031	0.11	0.11	12.89%	12.96%	4.20	49.50
2031	1,032	1,031	0.11	0.11	-0.65%	-0.66%	4.20	49.50
2032	1,052	1,051	0.11	0.11	1.07%	1.07%	4.20	49.50
2033	1,110	1,108	0.12	0.12	4.69%	4.70%	4.60	49.50
2034	1,117	1,115	0.12	0.12	-0.29%	-0.31%	3.90	49.50
2035	1,141	1,140	0.12	0.12	1.20%	1.22%	4.00	49.50
2036	1,180	1,178	0.12	0.12	2.32%	2.34%	3.90	49.50
2037	1,241	1,239	0.13	0.13	4.24%	4.24%	4.20	49.50
2038	1,274	1,272	0.13	0.13	1.66%	1.65%	4.00	49.50
2039	1,351	1,349	0.13	0.13	5.05%	5.03%	3.90	49.50
2040	1,435	1,433	0.14	0.14	5.09%	5.12%	4.30	49.50

Table 71: Economic Impact of Alternative Resource Plan WCCCS

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	800	800	0.09	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.09	0.09	1.15%	0.77%	4.33	49.51
2023	818	815	0.09	0.09	0.54%	0.50%	4.33	49.51
2024	829	826	0.09	0.09	1.28%	1.26%	4.46	49.51
2025	841	839	0.09	0.09	1.12%	1.32%	4.22	49.51
2026	864	862	0.09	0.09	2.49%	2.52%	4.22	49.51
2027	871	870	0.10	0.09	0.53%	0.53%	4.16	49.51
2028	887	885	0.10	0.10	1.24%	1.24%	4.17	49.51
2029	904	902	0.10	0.10	1.57%	1.54%	4.20	49.51
2030	1,027	1,025	0.11	0.11	13.02%	13.09%	4.23	49.51
2031	1,027	1,026	0.11	0.11	-0.56%	-0.57%	4.23	49.51
2032	1,070	1,068	0.11	0.11	3.29%	3.30%	4.42	49.51
2033	1,125	1,123	0.12	0.12	4.33%	4.34%	4.46	49.51
2034	1,128	1,126	0.12	0.12	-0.70%	-0.71%	3.91	49.51
2035	1,145	1,144	0.12	0.12	0.62%	0.64%	3.93	49.51
2036	1,181	1,180	0.12	0.12	2.09%	2.11%	3.94	49.51
2037	1,212	1,210	0.12	0.12	1.66%	1.66%	3.96	49.51
2038	1,250	1,249	0.13	0.13	2.19%	2.18%	3.99	49.51
2039	1,332	1,330	0.13	0.13	5.55%	5.53%	3.96	49.51
2040	1,419	1,418	0.14	0.14	5.41%	5.44%	4.35	49.51

Table 72: Economic Impact of Alternative Resource Plan WDDBS

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	800	800	0.09	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.09	0.09	1.19%	0.81%	4.34	49.51
2023	825	822	0.09	0.09	1.63%	1.59%	4.32	49.51
2024	833	830	0.09	0.09	1.13%	1.11%	4.47	49.51
2025	841	838	0.09	0.09	0.95%	0.99%	4.23	49.51
2026	862	859	0.10	0.09	2.40%	2.44%	4.22	49.51
2027	871	868	0.10	0.10	0.87%	0.89%	4.19	49.51
2028	886	883	0.10	0.10	1.32%	1.33%	4.18	49.51
2029	901	898	0.10	0.10	1.51%	1.48%	4.21	49.51
2030	1,021	1,018	0.11	0.11	12.90%	12.99%	4.24	49.51
2031	1,022	1,019	0.11	0.11	-0.42%	-0.42%	4.28	49.51
2032	1,039	1,036	0.11	0.11	0.95%	0.96%	4.20	49.51
2033	1,100	1,098	0.12	0.12	5.19%	5.21%	4.60	49.51
2034	1,106	1,103	0.12	0.12	-0.36%	-0.38%	3.97	49.51
2035	1,125	1,123	0.12	0.12	0.78%	0.79%	4.00	49.51
2036	1,161	1,159	0.12	0.12	2.19%	2.20%	4.02	49.51
2037	1,193	1,190	0.12	0.12	1.87%	1.88%	4.04	49.51
2038	1,233	1,230	0.13	0.13	2.37%	2.37%	4.09	49.51
2039	1,314	1,311	0.13	0.13	5.61%	5.60%	4.05	49.51
2040	1,402	1,399	0.14	0.14	5.61%	5.65%	4.50	49.51

Table 73: Economic Impact of Alternative Resource Plan WDDBT

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	800	800	0.09	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.09	0.09	1.19%	0.81%	4.34	49.51
2023	825	822	0.09	0.09	1.63%	1.59%	4.32	49.51
2024	833	830	0.09	0.09	1.13%	1.11%	4.47	49.51
2025	841	838	0.09	0.09	0.95%	0.99%	4.23	49.51
2026	862	859	0.10	0.09	2.40%	2.44%	4.22	49.51
2027	871	868	0.10	0.10	0.87%	0.89%	4.18	49.51
2028	887	884	0.10	0.10	1.45%	1.47%	4.25	49.51
2029	902	899	0.10	0.10	1.46%	1.43%	4.24	49.51
2030	1,013	1,011	0.11	0.11	11.97%	12.05%	4.24	49.51
2031	1,012	1,009	0.11	0.11	-0.66%	-0.66%	4.25	49.51
2032	1,026	1,024	0.11	0.11	0.72%	0.72%	4.20	49.51
2033	1,055	1,052	0.11	0.11	2.07%	2.08%	4.24	49.51
2034	1,064	1,061	0.11	0.11	-0.03%	-0.04%	3.94	49.51
2035	1,085	1,082	0.11	0.11	1.02%	1.03%	3.97	49.51
2036	1,122	1,120	0.12	0.12	2.40%	2.41%	3.99	49.51
2037	1,154	1,151	0.12	0.12	1.91%	1.92%	4.02	49.51
2038	1,191	1,188	0.12	0.12	2.34%	2.34%	4.02	49.51
2039	1,299	1,296	0.13	0.13	8.05%	8.04%	4.30	49.51
2040	1,379	1,377	0.14	0.14	5.08%	5.12%	4.33	49.51

Table 74: Economic Impact of Alternative Resource Plan WDDBU

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	800	800	0.09	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.09	0.09	1.19%	0.81%	4.34	49.51
2023	825	822	0.09	0.09	1.63%	1.59%	4.32	49.51
2024	833	830	0.09	0.09	1.13%	1.11%	4.45	49.51
2025	847	844	0.09	0.09	1.62%	1.66%	4.29	49.51
2026	870	867	0.10	0.10	2.64%	2.68%	4.26	49.51
2027	874	871	0.10	0.10	0.30%	0.32%	4.10	49.51
2028	887	884	0.10	0.10	1.07%	1.08%	4.17	49.51
2029	898	895	0.10	0.10	1.09%	1.06%	4.17	49.51
2030	996	993	0.11	0.11	10.51%	10.59%	4.18	49.51
2031	994	991	0.11	0.11	-0.68%	-0.68%	4.19	49.51
2032	1,008	1,005	0.11	0.11	0.63%	0.63%	4.15	49.51
2033	1,035	1,033	0.11	0.11	2.03%	2.04%	4.19	49.51
2034	1,042	1,039	0.11	0.11	-0.31%	-0.32%	3.92	49.51
2035	1,067	1,064	0.11	0.11	1.48%	1.50%	3.94	49.51
2036	1,111	1,108	0.12	0.12	3.10%	3.11%	3.96	49.51
2037	1,140	1,137	0.12	0.12	1.73%	1.73%	3.99	49.51
2038	1,176	1,173	0.12	0.12	2.26%	2.26%	3.99	49.51
2039	1,284	1,281	0.13	0.13	8.18%	8.17%	4.27	49.51
2040	1,363	1,360	0.14	0.14	5.03%	5.08%	4.31	49.51

Table 75: Economic Impact of Alternative Resource Plan WDDDU

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	800	800	0.09	0.09	0.00%	0.00%	4.06	49.51
2022	813	810	0.09	0.09	1.19%	0.81%	4.34	49.51
2023	806	803	0.09	0.09	-1.30%	-1.34%	4.29	49.51
2024	844	840	0.09	0.09	4.23%	4.23%	4.59	49.51
2025	854	853	0.09	0.09	0.60%	1.01%	4.20	49.51
2026	876	876	0.09	0.09	2.09%	2.09%	4.17	49.51
2027	880	880	0.09	0.09	-0.08%	-0.08%	4.02	49.51
2028	898	898	0.10	0.10	1.25%	1.26%	4.08	49.51
2029	912	912	0.10	0.10	1.06%	1.06%	4.08	49.51
2030	1,013	1,013	0.11	0.11	10.45%	10.45%	4.08	49.51
2031	1,017	1,017	0.11	0.11	-0.33%	-0.33%	4.09	49.51
2032	1,033	1,033	0.11	0.11	0.62%	0.62%	4.05	49.51
2033	1,062	1,062	0.11	0.11	1.99%	1.99%	4.08	49.51
2034	1,068	1,068	0.11	0.11	-0.35%	-0.35%	3.82	49.51
2035	1,094	1,094	0.11	0.11	1.55%	1.55%	3.81	49.51
2036	1,166	1,166	0.12	0.12	5.53%	5.53%	4.05	49.51
2037	1,186	1,186	0.12	0.12	0.81%	0.81%	3.81	49.51
2038	1,221	1,221	0.12	0.12	1.96%	1.96%	3.84	49.51
2039	1,298	1,298	0.13	0.13	5.29%	5.29%	3.80	49.51
2040	1,383	1,383	0.13	0.13	5.45%	5.45%	4.16	49.51

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 WAACA.

The results showed that ARP WAACA 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 76: 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 plans 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 Evergy Missouri West hourly load profile to account for this solar and battery storage adoption. The annual revenue requirements were then estimated for selected Evergy Missouri West 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 77 below:

Table 77: Behind the Meter Solar and Battery Storage Impacts on Average Rates

Year	WAABS		WDDBS		WDDBT		WDDBU	
	$/MWh	% Change	$/MWh	% Change	$/MWh	% Change	$/MWh	% Change
2021	0.7	0.8%	0.7	0.8%	0.7	0.8%	0.7	0.8%
2022	0.8	0.9%	0.8	0.9%	0.8	0.9%	0.8	0.9%
2023	0.9	1.0%	0.9	1.0%	0.9	1.0%	0.9	1.0%
2024	1.1	1.2%	1.1	1.2%	1.1	1.2%	1.1	1.2%
2025	1.2	1.3%	1.2	1.3%	1.2	1.3%	1.2	1.3%
2026	1.3	1.4%	1.3	1.4%	1.3	1.4%	1.3	1.4%
2027	1.4	1.5%	1.4	1.5%	1.4	1.5%	1.4	1.5%
2028	1.5	1.5%	1.5	1.5%	1.5	1.5%	1.5	1.6%
2029	1.6	1.6%	1.6	1.6%	1.6	1.6%	1.6	1.6%
2030	1.3	1.2%	1.3	1.2%	1.3	1.2%	1.3	1.2%
2031	1.3	1.2%	1.3	1.2%	1.3	1.2%	1.4	1.3%
2032	1.3	1.2%	1.3	1.2%	1.3	1.2%	1.3	1.2%
2033	1.3	1.1%	1.4	1.2%	1.2	1.1%	1.2	1.1%
2034	1.0	0.9%	1.1	0.9%	0.9	0.8%	0.9	0.8%
2035	0.7	0.6%	0.7	0.6%	0.6	0.5%	0.6	0.6%
2036	0.5	0.4%	0.5	0.4%	0.4	0.4%	0.4	0.3%
2037	0.2	0.2%	0.2	0.2%	0.1	0.1%	0.0	0.0%
2038	-0.2	-0.1%	-0.2	-0.2%	-0.3	-0.3%	-0.4	-0.3%
2039	-0.5	-0.4%	-0.6	-0.4%	-0.6	-0.5%	-0.7	-0.5%
2040	-1.1	-0.8%	-1.1	-0.8%	-1.1	-0.8%	-1.2	-0.9%

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 78 and Table 79 below summarizes the two scenarios tested:

Table 78: 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 79: 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

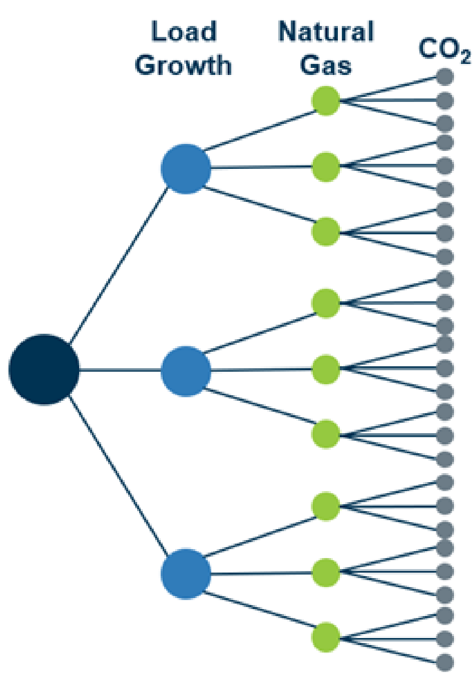
While plan ranking changed somewhat, it was not deemed significant enough to become a critical uncertain factor for this analysis.

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 80: Regression Study Results

Regression Statistics				
Multiple R	0.982692582			
R Square	0.96568471			
Adjusted R Square	0.9646329			
Standard Error	206.4107729			
Observations	270			
ANOVA				
	df	*SS*	*MS*	*F*
Regression	8	312934114.6	39116764.33	918.1173689
Residual	261	11120011.27	42605.40717	
Total	269	324054125.9		
	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	9933.436	41.663	238.425	0.000
HCO2	1593.662	48.651	32.757	0.000
LCO2	-741.488	48.651	-15.241	0.000
HGas	197.976	48.651	4.069	0.000
LGas	-367.580	48.651	-7.555	0.000
HLoad	618.484	30.770	20.100	0.000
LLoad	-302.810	30.770	-9.841	0.000
NG+CO2	131.089	59.586	2.200	0.029
NG-CO2	-61.216	59.586	-1.027	0.305

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 81: 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
WDDBU	9,830	753	28.27	0.1062	10.51%	4.16	49.51
WDDBT	9,890	821	28.27	0.1071	11.97%	4.19	49.51
WDDDU	9,964	786	8.13	0.1049	10.45%	4.07	49.51
WAABS	9,995	944	28.27	0.1087	12.84%	4.22	49.51
WDDBS	9,999	915	28.27	0.1079	12.90%	4.21	49.51
WAACS	10,030	961	20.35	0.1079	13.19%	4.18	49.51
WCCCS	10,064	873	20.35	0.1085	13.02%	4.18	49.51
WBBCS	10,082	931	20.35	0.1085	12.89%	4.18	49.50
WAACA	10,084	991	20.35	0.1087	13.80%	4.19	49.51
WAAAS	10,156	909	58.07	0.1132	11.94%	4.36	49.51

(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 82: 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
WDDBU	944	88.10	0.00	0.0125	2.83%	0.00	0.00
WDDBT	1,017	95.15	0.00	0.0136	3.00%	0.00	0.00
WDDDU	985	91.75	0.00	0.0126	2.82%	0.00	0.00
WAABS	1,127	109.32	0.00	0.0152	3.29%	0.00	0.00
WDDBS	1,122	106.69	0.00	0.0151	3.28%	0.00	0.00
WAACS	1,149	111.32	0.00	0.0152	3.30%	0.00	0.00
WCCCS	1,133	104.46	0.00	0.0150	3.27%	0.00	0.00
WBBCS	1,135	108.75	0.00	0.0150	3.29%	0.00	0.00
WAACA	1,184	114.31	0.00	0.0157	3.38%	0.00	0.00
WAAAS	1,084	105.31	0.00	0.0152	3.34%	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

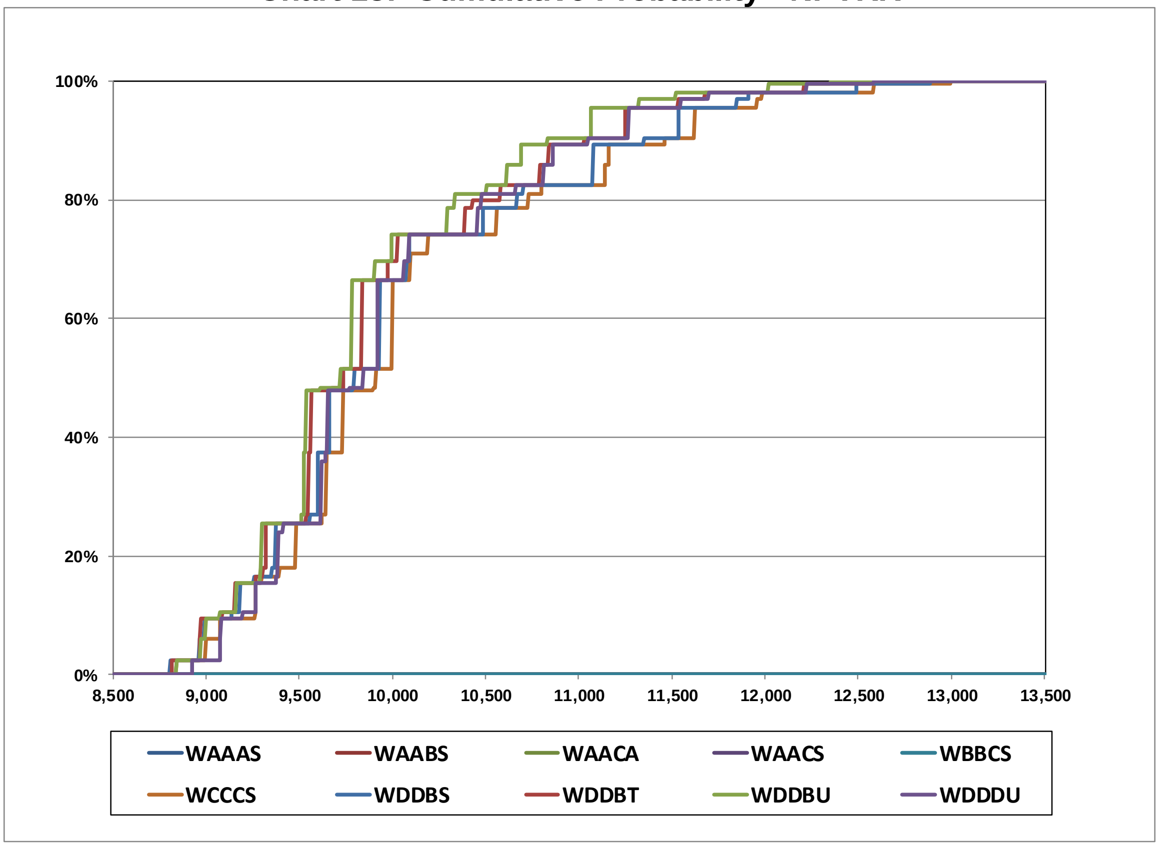


Chart 19: Cumulative Probability - PEC

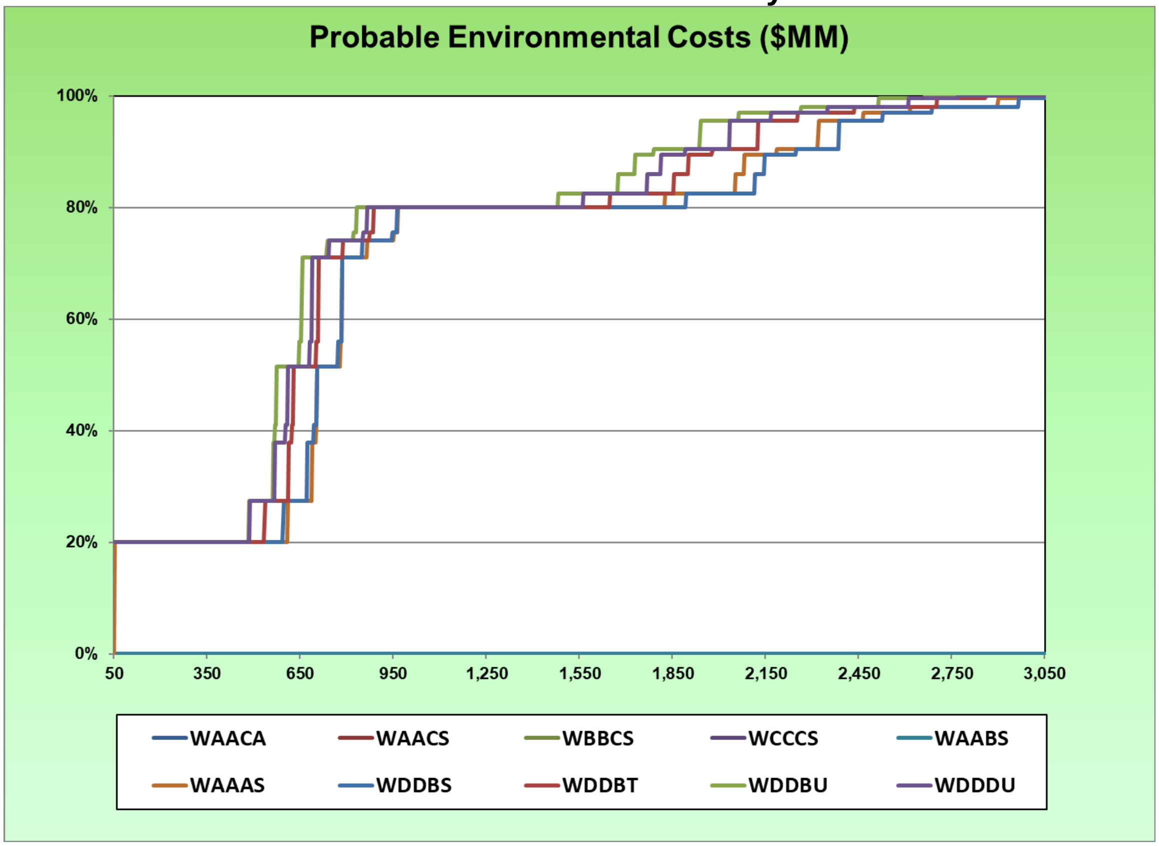


Chart 20: Cumulative Probability - Average Rates

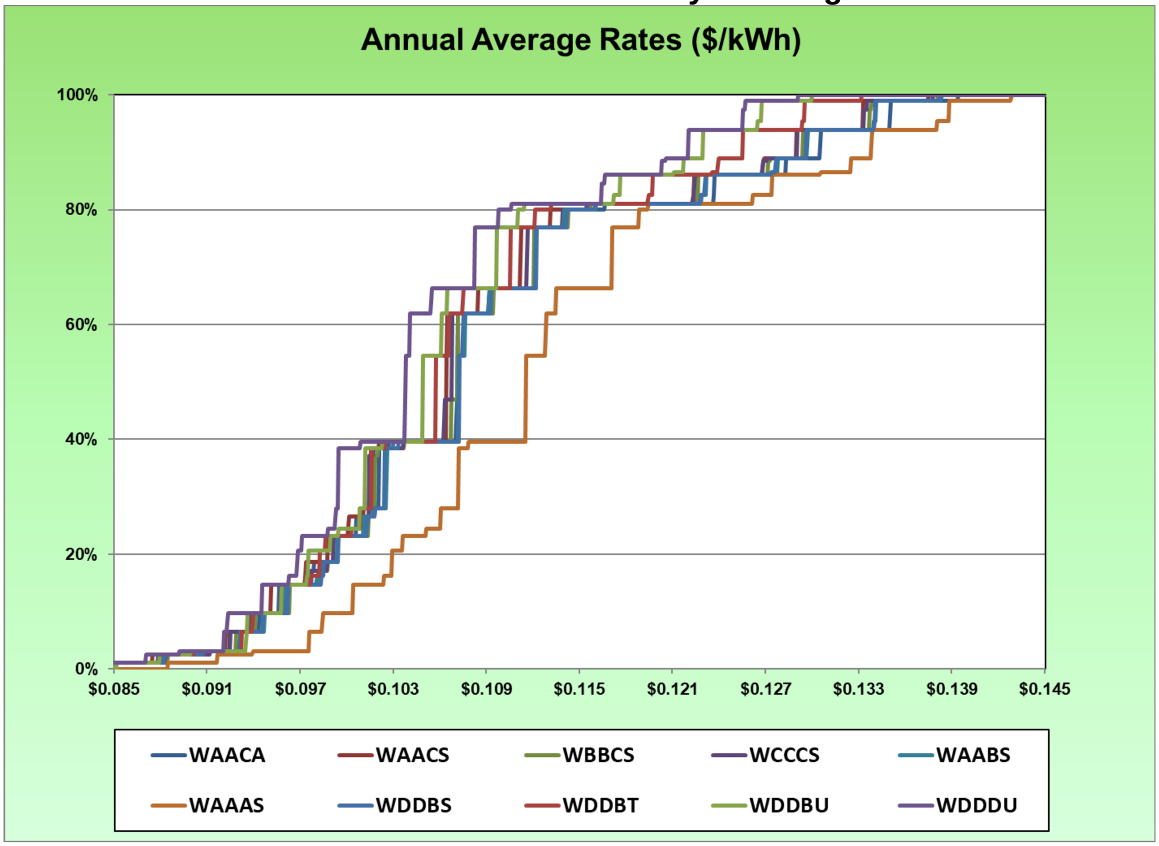
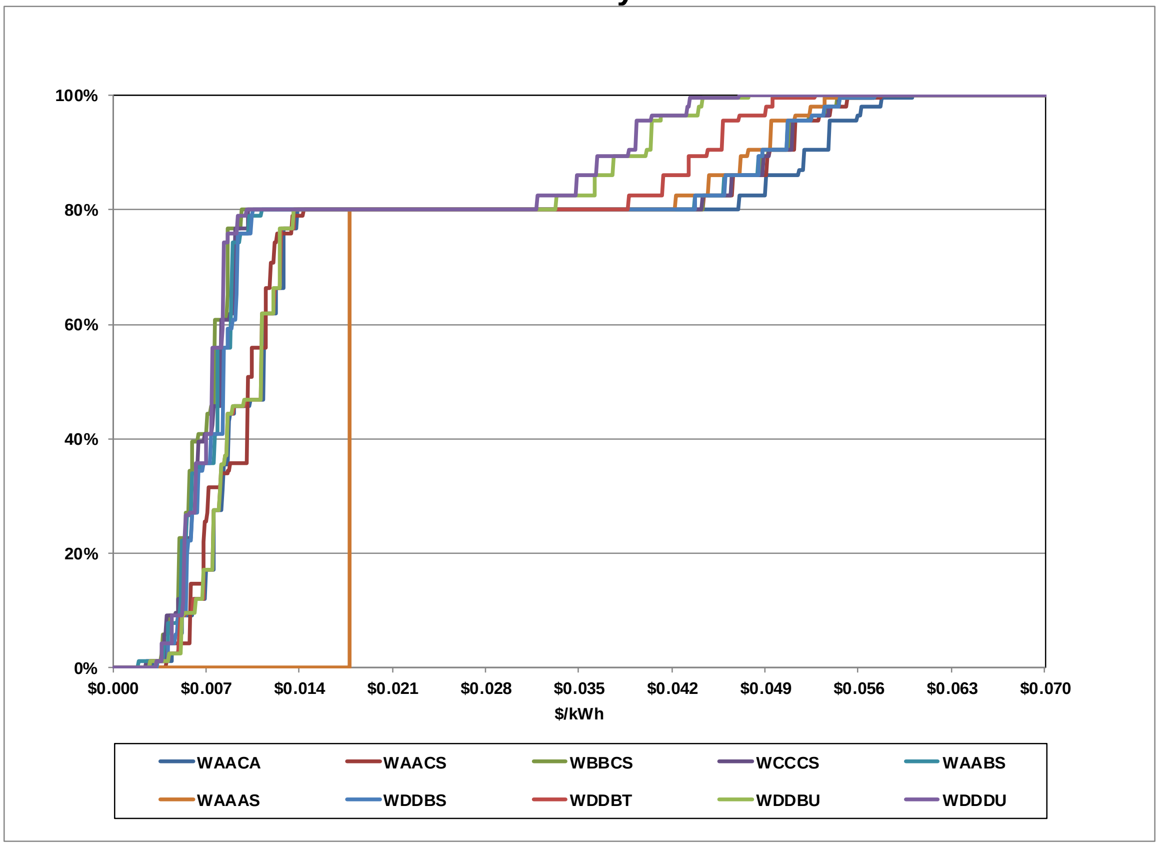


Chart 21: Cumulative Probability - Maximum Rate Increase



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 81 and Table 82 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.