# VOLUME 6:

# INTEGRATED RESOURCE ANALYSIS

# KCP&L GREATER MISSOURI OPERATIONS COMPANY (GMO)

# INTEGRATED RESOURCE PLAN

# 4 CSR 240-22.060

# CASE NO. EO-2012-0324

# APRIL, 2012

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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 of the Alternative Resource Plans developed for the IRP are based upon the impact of future renewable generation requirements for Kansas City Power & Light Greater Missouri Operating Company (GMO). 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. The specific RES requirements are provided in Section 3.1 (A) 1.

Other issues that drove plan selection for this filing are the impact of DSM programs, potential coal unit retirements, choice of alternative generation, natural gas conversion, imposition of environmental rules, and the risk of a Federal Energy Efficiency Standard. Other risks were also analyzed but were determined to not be critical to the selection of alternative resource plans. Details of these additional risks and how they were examined is given in Section 5: page 145 of this volume.

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 determination of 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. Other performance measures were determined for each alternative resource plan. All performance measures are detailed in 0 of this volume.

## 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 ratebase. The ratebase increases as capital expenditures grow and plant is put into service, but is reduced by depreciation and amortization of assets. This measure includes the total cost of operation of the company 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.

For DSM , the revenue requirement assumed all DSM expenditures were to be capitalized into ratebase and amortized over six years. For this IRP, no further incentive payment is assumed. When NPVRR is estimated without rate of return or financial performance incentives, all expenditures for DSM are expensed in the year incurred, with no increase to ratebase from those outlays.

***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.

CO2 credits are assumed to be a market risk. In the integrated analysis, endpoints contain different assumptions of CO2 credit prices or no CO2 market at all. Therefore the analysis of plans without PEC is calculated both with and without a CO2 market.

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

The cost of DSM programs is 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 costs of the programs and applying the discount rate consistent with rule 4 CSR 240-22.060 (2) (B).

***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-on-year percent changes to the rate calculation as described earlier in this section. The Maximum value is determined from the highest year-on-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 three financial metrics; pretax times interest earned, total debt to total capital and capital expenditures to free cash flow.

***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 7.260% 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 capacities of supply-side resources, demand-side resources, biomass retrofit and differing the timing of resource additions. "MEEIA DSM" consists of a suite of twelve Energy Efficiency and two Demand Response programs that GMO considers the capacity and energy estimated from these programs comprise realistically achievable levels. MEEIA DSM is the level of DSM that proposed in Case EO-2012-0009 on December 22, 2011.

In total, twenty-one alternative resource plans were developed for the integrated resource analysis. The following tables, Table 1 and Table 2, provide an overview of the Alternative Resource Plans evaluated.

## Table 1: Overview of GMO Alternative Resource Plans

| Resource | Plan AAAG1 | Plan AAAG3 | Plan ABCG1 | Plan ACCG1 |
|---|---|---|---|---|
| DSM | MEEIA DSM | MEEIA DSM | MEEIA DSM | MEEIA DSM |
| Solar | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 |
| Solar | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 |
| Solar | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 |
| Wind | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 |
| Wind | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 |
| Wind | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 |
| Coal | | | | |
| Coal | | | | |
| Nuclear | | | | |
| Nuclear | | | | |
| Coal Retire | | | 99 MW in 2017 (LR 4/6) | 99 MW in 2017 (S 1-2) |
| Combustion Turbine | 154 MW in 2014 | | 154 MW in 2014 | 154 MW in 2014 |
| Combustion Turbine | 154 MW in 2026 | | 154 MW in 2021 | 154 MW in 2021 |
| Combustion Turbine | 154 MW in 2031 | | 154 MW in 2028 | 154 MW in 2028 |
| Combustion Turbine | | | | |
| Combined Cycle | | 300 MW in 2015 | | |
| Combined Cycle | | 300 MW in 2031 | | |
| Resource | Plan ACCG3 | Plan ACCG4 | Plan ACCG5 | Plan ACCG6 |
| DSM | MEEIA DSM | MEEIA DSM | MEEIA DSM | MEEIA DSM |
| Solar | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 |
| Solar | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 |
| Solar | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 |
| Wind | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 | 300 MW in 2019 |
| Wind | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 | 200 MW in 2021 |
| Wind | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 | 200 MW in 2024 |
| Coal | | 200 MW in 2021 | | |
| Coal | | 200 MW in 2029 | | |
| Nuclear | | | 200 MW in 2021 | |
| Nuclear | | | 200 MW in 2029 | |
| Coal Retire | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) |
| Combustion Turbine | | 154 M W 2014 | 154 M W 2014 | 154 M W 2014 |
| Combustion Turbine | | | | 154 M W 2022 |
| Combustion Turbine | | | | 154 M W 2029 |
| Combustion Turbine | | | | |
| Combined Cycle | 300 MW in 2015 | | | |
| Combined Cycle | 300 MW in 2028 | | | |
| Resource | Plan ACCG7 | Plan ACCG8 | Plan ACCG9 | Plan ADCG1 |
| DSM | MEEIA DSM | MEEIA DSM | MEEIA DSM | MEEIA DSM |
| Solar | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 |
| Solar | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 |
| Solar | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 |
| Wind | 150MW in 2019 | 150MW in 2019 | 150MW in 2019 | 150 MW in 2019 |
| Wind | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 |
| Wind | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 |
| Coal | | | | |
| Coal | | | | |
| Nuclear | | | | |
| Nuclear | | | | |
| Coal Retire | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) | 463 MW in 2017 (S 1-2-3) |
| Combustion Turbine | | | | 154 MW in 2014 |
| Combustion Turbine | | | | 462 MW in 2017 |
| Combustion Turbine | | | | 154 MW in 2026 |
| Combustion Turbine | | | | 154 MW in 2031 |
| Combustion Turbine | | | | |
| Combined Cycle | 310 MW in 2013 | 300 MW in 2024 | 300 MW in 2021 | |
| Combined Cycle | 300 MW in 2028 | 300 MW in 2029 | 150MW in 2028 | |
| Combined Cycle | | | | |

## Table 2: Overview of GMO Alternative Resource Plans (continued)

| Resource | Plan AECG1 | Plan AFCG1 | Plan AICG9 | Plan BCCG1 |
|---|---|---|---|---|
| DSM | MEEIA DSM | MEEIA DSM | MEEIA DSM | MEEIA EE Only |
| Solar | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 |
| Solar | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 |
| Solar | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 |
| Wind | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 |
| Wind | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 |
| Wind | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 |
| Coal | | | Co-Fire Biomass S-4/6 | |
| Coal | | | | |
| Nuclear | | | | |
| Nuclear | | | | |
| Coal Retire | 198 MW in 2017 (LR 4/6, S 1-2) | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) |
| Combustion Turbine | 154 MW in 2014 | 154 MW in 2014 | | 154 MW in 2014 |
| Combustion Turbine | 154 MW in 2017 | 154 MW in 2021 | | 154 MW in 2017 |
| Combustion Turbine | 154 MW in 2024 | 154 MW in 2028 | | 154 MW in 2026 |
| Combustion Turbine | 154 MW in 2030 | | | 154 MW in 2030 |
| Combustion Turbine | | | | |
| Combined Cycle | | | 300 MW in 2024 | |
| Combined Cycle | | | 300 MW in 2029 | |

| Resource | CCCG1 | Plan DCCG1 | Plan ECCG1 | Plan FCCG1 |
|---|---|---|---|---|
| DSM | MEEIA DR Only | Aggressive DSM | Very Aggressive DSM | Stipulation DSM |
| Solar | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 | 10 MW in 2018 |
| Solar | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 | 6 MW in 2021 |
| Solar | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 | 3 MW in 2023 |
| Wind | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 |
| Wind | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 |
| Wind | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 |
| Coal | | | | |
| Coal | | | | |
| Nuclear | | | | |
| Nuclear | | | | |
| Coal Retire | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) | 99 MW in 2017 (S 1-2) |
| Combustion Turbine | 231 MW in 2014 | 154 MW in 2030 | | |
| Combustion Turbine | 154 MW in 2018 | | | |
| Combustion Turbine | 154 MW in 2023 | | | |
| Combustion Turbine | 154 MW in 2027 | | | |
| Combustion Turbine | 154 MW in 2030 | | | |
| Combined Cycle | | | | |
| Combined Cycle | | | | |

| Resource | Plan XCCG1 |
|---|---|
| DSM | No DSM |
| Solar | 10 MW in 2018 |
| Solar | 6 MW in 2021 |
| Solar | 3 MW in 2023 |
| Wind | 150 MW in 2019 |
| Wind | 100 MW in 2021 |
| Wind | 100 MW in 2024 |
| Coal | |
| Coal | |
| Nuclear | |
| Nuclear | |
| Coal Retire | 99 MW in 2017 (S 1-2) |
| Combustion Turbine | 231 MW in 2014 |
| Combustion Turbine | 154 MW in 2017 |
| Combustion Turbine | 154 MW in 2022 |
| Combustion Turbine | 154 MW in 2026 |
| Combustion Turbine | 154 MW in 2029 |
| Combined Cycle | |
| Combined Cycle | |

Note: "Stipulation DSM" listed in Plan FCCG1 refers to Case EE-2009-0237 Non-Unanimous Stipulation and Agreement – "For its next Chapter 22 compliance filing, GMO agrees to model and fully analyze at least one alternative

DSM portfolio that annually achieves incremental electric energy and demand savings equivalent to 1% by 2015 and 2% by 2020 reductions in annual sales and peak requirements, respectively".

## 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 renewable energy mandates (Missouri Renewable standard) and demand-side mandates.

A recap of the RPS model supporting renewable non-solar additions is provided in Table 3 below.

**Table 3: GMO Non-Solar Renewable Requirements**

| Year | Retail Energy | RES Requirement | GMO Requirement | GMO Renewable Generation | Future Renewable Additions Needed |
|---|---|---|---|---|---|
| | MWh | | MWh | MWh | MW |
| 2008 | 9,057,067 | 0.0% | | 42,686 | |
| 2009 | 7,868,208 | 0.0% | | 192395 | |
| 2010 | 8,339,054 | 0.0% | | 199,274 | |
| 2011 | 8,194,746 | 2.0% | 160,617 | 194,764 | |
| 2012 | 8,746,728 | 2.0% | 171,436 | 123,408 | |
| 2013 | 8,884,374 | 2.0% | 174,134 | 469,875 | |
| 2014 | 9,042,045 | 4.9% | 443,060 | 471,126 | |
| 2015 | 9,176,102 | 4.9% | 449,629 | 471,176 | |
| 2016 | 9,341,952 | 4.9% | 457,756 | 470,199 | |
| 2017 | 9,459,868 | 4.9% | 463,534 | 423,147 | |
| 2018 | 9,618,271 | 9.8% | 942,591 | 423,147 | |
| 2019 | 9,787,291 | 9.8% | 959,155 | 423,147 | **150** |
| 2020 | 9,980,522 | 9.8% | 978,091 | 423,147 | |
| 2021 | 10,124,084 | 14.7% | 1,488,240 | 423,147 | **100** |
| 2022 | 10,296,272 | 14.7% | 1,513,552 | 423,147 | |
| 2023 | 10,470,983 | 14.7% | 1,539,234 | 450,509 | |
| 2024 | 10,684,988 | 14.7% | 1,570,693 | 450,509 | **100** |
| 2025 | 10,851,288 | 14.7% | 1,595,139 | 450,509 | |
| 2026 | 11,056,573 | 14.7% | 1,625,316 | 450,509 | |
| 2027 | 11,280,001 | 14.7% | 1,658,160 | 450,509 | |
| 2028 | 11,541,819 | 14.7% | 1,696,647 | 450,509 | |
| 2029 | 11,748,304 | 14.7% | 1,727,001 | 450,509 | |
| 2030 | 11,995,657 | 14.7% | 1,763,362 | 450,509 | |
| 2031 | 12,239,538 | 14.7% | 1,799,212 | 450,509 | |

***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 ACCG6 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;***

Alternative Resource Plan DCCG1 was developed to meet this rule.

***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;***

Alternative Resource Plan XCCG1 was developed to meet this rule.

***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;***

Alternative Resource Plans DCCG1, ECCG1, and FCCG1 were developed to meet this rule.

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

Plan ACCG6 was developed to evaluate Contemporary Issue 1b.

Plan DCCG1 was developed to evaluate Contemporary Issue 1h.

Plan ECCG1 was developed to evaluate Contemporary Issue 1c.

***7. Any other plan specified by commission order; and***

There are no other plans specified by commission order.

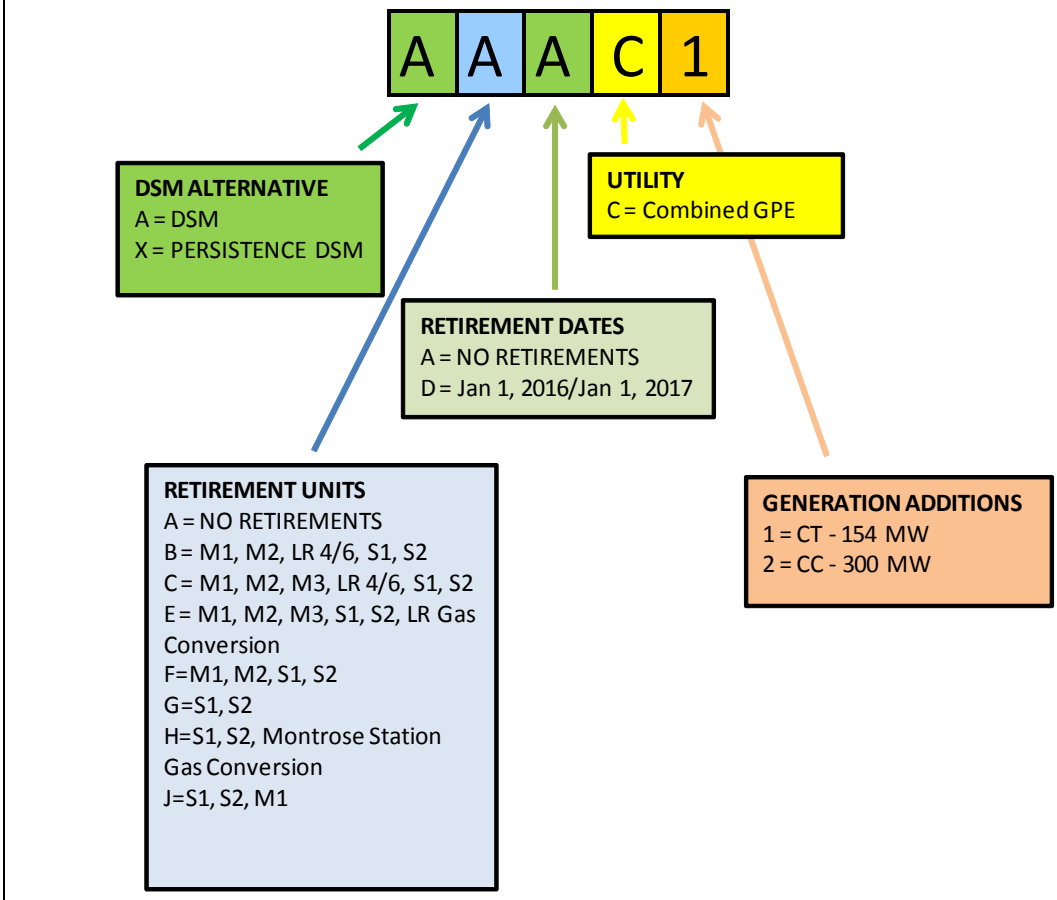
***8. Any additional alternative resource plans that the utility deems should be analyzed.***

GMO also considers prudent resource planning to develop and analyze alternative resource plans that are based upon GMO and KCP&L combining resources. Evaluating alternative resource plans on a combined-company basis can provide a platform to determine if combined-company planning "serves the public interest" as mandated in 4 CSR 240-22.010 Policy Objectives.

Alternative resource plans were developed using a combination of various supply-side sources, demand-side resources and resource addition timing. The plan-naming convention utilized for the alternative resource plans developed is shown in Table 4 below:

**Table 4: Alternative Resource Plan Naming Convention**

**NAMING CONVENTION FOR ALTERNATIVE RESOURCE PLANS ON A COMBINED-COMPANY BASIS**




Definitions:

| | | |
|---|---|---|
| DSM - Demand-Side Management | M1 - Montrose Unit 1 | CT - Combustion Turbine |
| EE - Energy Efficiency | M2 - Montrose Unit 2 | CC - Combined Cycle |
| DR - Demand Response | M3 - Montrose Unit 3 | RPS - Renewable Portfolio Standard |
| S1 - Sibley Unit 1 | S2 - Sibley Unit 2 | LR 4/6 - Lake Road 4/6 |

Various combined-company Alternative Resource Plans were derived and an overview of each is provided in Table 5 and Table 6 below:

## Table 5: Overview of Combined-Company Resource Plans

| Resource | Plan AAAC1 | Plan AAAC2 | Plan ABDC1 | Plan ABDC2 |
|---|---|---|---|---|
| DSM | DSM A | DSM A | DSM A | DSM A |
| Solar | 21 MW in 2018 | 21 MW in 2018 | 21 MW in 2018 | 21 MW in 2018 |
| Solar | 12 MW in 2021 | 12 MW in 2021 | 12 MW in 2021 | 12 MW in 2021 |
| Solar | 6 MW in 2023 | 6 MW in 2023 | 6 MW in 2023 | 6 MW in 2023 |
| Wind | 100 MW in 2016 | 100 MW in 2016 | 100 MW in 2016 | 100 MW in 2016 |
| Wind | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 |
| Wind | 200 MW in 2020 | 200 MW in 2020 | 200 MW in 2020 | 200 MW in 2020 |
| Wind | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 |
| Wind | 100 MW in 2023 | 100 MW in 2023 | 100 MW in 2023 | 100 MW in 2023 |
| Wind | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 |
| Coal Retire | | | 334 MW in 2016 | 334 MW in 2016 |
| Coal Retire | | | 198 MW in 2017 | 198 MW in 2017 |
| Combustion Turbine | 308 MW in 2026 | | 308 MW in 2017 | |
| Combustion Turbine | 308 MW in 2031 | | 308 MW in 2021 | |
| Combustion Turbine | | | 308 MW in 2028 | |
| Combustion Turbine | | | | |
| Combustion Turbine | | | | |
| Combined Cycle | | 300 MW in 2026 | | 300 MW in 2017 |
| Combined Cycle | | 300 MW in 2031 | | 300 MW in 2021 |
| Combined Cycle | | | | 300 MW in 2027 |
| Combined Cycle | | | | |
| Combined Cycle | | | | |

| Resource | Plan ACDC1 | Plan ACDC2 | Plan AEDC2 | Plan AFDC1 |
|---|---|---|---|---|
| DSM | DSM A | DSM A | DSM A | DSM A |
| Solar | 21 MW in 2018 | 21 MW in 2018 | 21 MW in 2018 | 21 MW in 2018 |
| Solar | 12 MW in 2021 | 12 MW in 2021 | 12 MW in 2021 | 12 MW in 2021 |
| Solar | 6 MW in 2023 | 6 MW in 2023 | 6 MW in 2023 | 6 MW in 2023 |
| Wind | 100 MW in 2016 | 100 MW in 2016 | 100 MW in 2016 | 100 MW in 2016 |
| Wind | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 |
| Wind | 200 MW in 2020 | 200 MW in 2020 | 200 MW in 2020 | 200 MW in 2020 |
| Wind | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 |
| Wind | 100 MW in 2023 | 100 MW in 2023 | 100 MW in 2023 | 100 MW in 2023 |
| Wind | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 |
| Coal Retire | 510MW in 2016 | 510MW in 2016 | 510MW in 2016 | 334 MW in 2016 |
| Coal Retire | 198 MW in 2017 | 198 MW in 2017 | 99 MW in 2017 | 99 MW in 2017 |
| Combustion Turbine | 308 MW in 2016 | | | 231 MW in 2017 |
| Combustion Turbine | 308 MW in 2017 | | | 154 MW in 2021 |
| Combustion Turbine | 308 MW in 2024 | | | 154 MW in 2025 |
| Combustion Turbine | 308 MW in 2028 | | | 154 MW in 2028 |
| Combustion Turbine | | | | 154 MW in 2030 |
| Combined Cycle | | 613 MW in 2016 | 300 MW in 2016 | |
| Combined Cycle | | 300 MW in 2024 | 300 MW in 2018 | |
| Combined Cycle | | 300 MW in 2029 | 300 MW in 2026 | |
| Combined Cycle | | | 300 MW in 2031 | |
| Combined Cycle | | | | |

**Table 6: Overview of Combined-Company Resource Plans (continued)**

| Resource | Plan AFDC2 | Plan AGDC1 | Plan AGDC2 | Plan AHDC1 |
|---|---|---|---|---|
| DSM | DSM A | DSM A | DSM A | DSM A |
| Solar | 21 MW in 2018 | 21 MW in 2018 | 21 MW in 2018 | 21 MW in 2018 |
| Solar | 12 MW in 2021 | 12 MW in 2021 | 12 MW in 2021 | 12 MW in 2021 |
| Solar | 6 MW in 2023 | 6 MW in 2023 | 6 MW in 2023 | 6 MW in 2023 |
| Wind | 100 MW in 2016 | 100 MW in 2016 | 100 MW in 2016 | 100 MW in 2016 |
| Wind | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 | 150 MW in 2019 |
| Wind | 200 MW in 2020 | 200 MW in 2020 | 200 MW in 2020 | 200 MW in 2020 |
| Wind | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 | 100 MW in 2021 |
| Wind | 100 MW in 2023 | 100 MW in 2023 | 100 MW in 2023 | 100 MW in 2023 |
| Wind | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 | 100 MW in 2024 |
| Coal Retire | 334 MW in 2016 | 99 MW in 2017 | 99 MW in 2017 | 99 MW in 2017 |
| Coal Retire | 99 MW in 2017 | | | |
| Combustion Turbine | | 308 MW in 2024 | | 308 MW in 2024 |
| Combustion Turbine | | 308 MW in 2029 | | 308 MW in 2029 |
| Combustion Turbine | | | | |
| Combustion Turbine | | | | |
| Combustion Turbine | | | | |
| Combined Cycle | 300 MW in 2017 | | 300 MW in 2024 | |
| Combined Cycle | 300 MW in 2024 | | 300 MW in 2029 | |
| Combined Cycle | 300 MW in 2029 | | | |
| Combined Cycle | | | | |
| Combined Cycle | | | | |
| Resource | Plan AJDC2 | Plan XJDC2 | | |
| DSM | DSM A | DSM A | | |
| Solar | 21 MW in 2018 | 21 MW in 2018 | | |
| Solar | 12 MW in 2021 | 12 MW in 2021 | | |
| Solar | 6 MW in 2023 | 6 MW in 2023 | | |
| Wind | 100 MW in 2016 | 100 MW in 2016 | | |
| Wind | 150 MW in 2019 | 150 MW in 2019 | | |
| Wind | 200 MW in 2020 | 200 MW in 2020 | | |
| Wind | 100 MW in 2021 | 100 MW in 2021 | | |
| Wind | 100 MW in 2023 | 100 MW in 2023 | | |
| Wind | 100 MW in 2024 | 100 MW in 2024 | | |
| Coal Retire | 170 MW in 2016 | 170 MW in 2016 | | |
| Coal Retire | 99 MW in 2017 | 99 MW in 2017 | | |
| Combustion Turbine | | | | |
| Combustion Turbine | | | | |
| Combustion Turbine | | | | |
| Combustion Turbine | | | | |
| Combustion Turbine | | | | |
| Combined Cycle | 300 MW in 2021 | 300 MW in 2017 | | |
| Combined Cycle | 300 MW in 2028 | 300 MW in 2020 | | |
| Combined Cycle | | 300 MW in 2024 | | |
| Combined Cycle | | 300 MW in 2027 | | |
| Combined Cycle | | 300 MW in 2030 | | |

The 20-year NPVRR for each of combined company plans was determined for each of the 27 scenarios established for this IRP. The lowest cost combined company plans on an expected value basis are AJDC2 and AGDC2. Based on these results, two additional GMO specific resource plans were developed (ACCG8 and ACCG9). These GMO specific plans are based on allocating the resource additions in the combined company plans between GMO and KCP&L

All plans assuming combined company planning were each subjected to similar analysis as the integrated analysis for each of the stand-alone company plans.

The resulting expected value NPVRR for each of the combined company plans is detailed in the table below.

**Table 7: Combined Company Plan Results**

| Total Revenue Requirement | | | |
|---|---|---|---|
| Rank | Plan | NPVRR ($mm) | Delta |
| 1 | AJDC2 | 33,064.5 | - |
| 2 | AGDC2 | 33,068.4 | 3.9 |
| 3 | AGDC1 | 33,120.4 | 55.9 |
| 4 | AAAC2 | 33,137.1 | 72.5 |
| 5 | AAAC1 | 33,162.8 | 98.3 |
| 6 | AFDC2 | 33,259.4 | 194.9 |
| 7 | AFDC1 | 33,262.6 | 198.1 |
| 8 | ABDC2 | 33,297.0 | 232.5 |
| 8 | ABDC1 | 33,358.7 | 294.2 |
| 10 | AHDC2 | 33,449.9 | 385.4 |
| 11 | AEDC2 | 33,452.7 | 388.2 |
| 12 | ACDC2 | 33,551.3 | 486.7 |
| 13 | ACDC1 | 33,596.9 | 532.4 |
| 14 | XJDC2 | 33,961.9 | 897.4 |

***(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;***

Several unit retirement options were evaluated in the Alternative Resource Plans including Lake Road 4/6, Sibley 1, Sibley 2, and Sibley 3.

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

Retrofits and other equipment potentially expected to be required to comply with currently proposed and anticipated environmental regulations and assumed compliance dates are shown in Table 8 through Table 10 below for GMO's coal units:

**Table 8: Environmental Equipment - Sibley 1 and 2**

| Environmental Regulation | Start Date | Assumed Equipment |
|---|---|---|
| Mercury and Air Toxics Standards Rule | 2015 | Activated Carbon Injection |
| $SO_2$ National Ambient Air Quality Standards | 2017 | Dry Sorbent Injection/Baghouse |
| PM National Ambient Air Quality Standards | 2020 | Selective Catalyst Reduction |
| PM National Ambient Air Quality Standards | 2020 | Scrubber |
| Clean Water Act Section 316(b) | 2018 | Fish-Friendly Screens |
| Clean Water Act Section 316(a) - River Units | 2018 | Cooling Towers |
| Effluent Guidelines | 2017 | Cease Wet Sluicing |
| Coal Combustion Residuals Rule | 2018 | Close Ash Ponds |

**Table 9: Environmental Equipment - Sibley 3**

| Environmental Regulation | Start Date | Assumed Requirement |
|---|---|---|
| Mercury and Air Toxics Standards Rule | 2015 | Activated Carbon Injection |
| $SO_2$ National Ambient Air Quality Standards | 2017 | Scrubber/Baghouse |
| Clean Water Act Section 316(b) | 2018 | Fish-Friendly Screens |
| Clean Water Act Section 316(a) - River Units | 2019 | Cooling Towers |
| Effluent Guidelines | 2017 | Cease Wet Sluicing |
| Coal Combustion Residuals Rule | 2018 | Close Ash Ponds |

**Table 10: Environmental Equipment - Lake Road 4/6**

| Environmental Regulation | Start Date | Assumed Equipment |
|---|---|---|
| Mercury and Air Toxics Standards Rule | 2015 | Activated Carbon Injection |
| $SO_2$ National Ambient Air Quality Standards | 2017 | Scrubber |
| PM National Ambient Air Quality Standards | 2020 | Selective Catalyst Reduction |
| Clean Water Act Section 316(b) | 2018 | Fish-Friendly Screens |
| Clean Water Act Section 316(a) - River Units | 2018 | Cooling Towers |
| Effluent Guidelines | 2017 | Cease Wet Sluicing |
| Coal Combustion Residuals Rule | 2018 | No Onsite Ash Ponds |

It should be noted that Sibley Unit 3 had a Selective Catalytic Reduction (SCR) system installed in 2008.

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

Alternative Resource Plan XCCG1 was developed to evaluate this rule.

***(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.***

Twenty-one Alternative Resource Plans were developed using a combination of various capacities of supply-side resources, demand-side resources, biomass retrofit and resource addition timing. It should be noted that wind and solar additions are based on installed capacity. These individual plans are shown in Table 11 through Table 31.

**Table 11: Alternative Resource Plan AAAG1**

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | | 2,177 |
| 2018 | - | 10 | | 155 | | 2,177 |
| 2019 | - | | 150 | 172 | | 2,177 |
| 2020 | - | | | 189 | | 2,177 |
| 2021 | - | 6 | 100 | 206 | | 2,177 |
| 2022 | - | | | 222 | | 2,177 |
| 2023 | - | 3 | | 239 | | 2,177 |
| 2024 | - | | 100 | 255 | | 2,177 |
| 2025 | - | | | 274 | | 2,177 |
| 2026 | 154 | | | 291 | | 2,177 |
| 2027 | - | | | 309 | | 2,177 |
| 2028 | - | | | 326 | | 2,177 |
| 2029 | - | | | 344 | | 2,177 |
| 2030 | - | | | 363 | | 2,177 |
| 2031 | 154 | | | 381 | | 2,177 |

Plan AAAG1 modeled no retirements.

## Table 12: Alternative Resource Plan AAAG3

| Year | CC's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | - | | | 95 | | 2,143 |
| 2015 | 300 | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | | 2,177 |
| 2018 | - | 10 | | 155 | | 2,177 |
| 2019 | - | | 150 | 172 | | 2,177 |
| 2020 | - | | | 189 | | 2,177 |
| 2021 | - | 6 | 100 | 206 | | 2,177 |
| 2022 | - | | | 222 | | 2,177 |
| 2023 | - | 3 | | 239 | | 2,177 |
| 2024 | - | | 100 | 255 | | 2,177 |
| 2025 | - | | | 274 | | 2,177 |
| 2026 | - | | | 291 | | 2,177 |
| 2027 | - | | | 309 | | 2,177 |
| 2028 | - | | | 326 | | 2,177 |
| 2029 | - | | | 344 | | 2,177 |
| 2030 | - | | | 363 | | 2,177 |
| 2031 | 300 | | | 381 | | 2,177 |

Plan AAAG3 modeled no retirements.

## Table 13: Alternative Resource Plan ABCG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | 154 | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | 154 | | | 326 | | 2,078 |
| 2029 | - | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ABCG1 modeled Sibley 1 and Sibley 2 retirements.

## Table 14: Alternative Resource Plan ACCG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | 154 | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | 154 | | | 326 | | 2,078 |
| 2029 | - | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ACCG1 modeled Sibley 1 and Sibley 2 retirements.

## Table 15: Alternative Resource Plan ACCG3

| Year | CC's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | - | | | 95 | | 2,143 |
| 2015 | 300 | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | - | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | 300 | | | 326 | | 2,078 |
| 2029 | - | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ACCG3 modeled Sibley 1 and Sibley 2 retirements.

## Table 16: Alternative Resource Plan ACCG4

| Year | Coal (CT until Yr 2021) (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | 200 | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | - | | | 326 | | 2,078 |
| 2029 | 200 | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ACCG4 modeled Sibley 1 and Sibley 2 retirements.

## Table 17: Alternative Resource Plan ACCG5

| Year | Nuclear (CT until Yr 2021) (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | 200 | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | - | | | 326 | | 2,078 |
| 2029 | 200 | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ACCG5 modeled Sibley 1 and Sibley 2 retirements.

**Table 18: Alternative Resource Plan ACCG6**

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 300 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | - | 6 | 200 | 206 | | 2,078 |
| 2022 | 154 | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 200 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | - | | | 326 | | 2,078 |
| 2029 | 154 | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ACCG6 modeled Sibley 1 and Sibley 2 retirements. Plan ACCG6 complies with Section 1.b of the Order Establishing Special Contemporary Resource Planning Issues.

**Table 19: Alternative Resource Plan ACCG7**

| Year | Existing CC (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | 310 | | | 76 | | 2,218 |
| 2014 | - | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | - | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | 300 | | | 326 | | 2,078 |
| 2029 | - | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ACCG7 modeled Sibley 1 and Sibley 2 retirements.

## Table 20: Alternative Resource Plan ACCG8

| Date | CC's | Solar | Wind | MEEIA DSM | Retire | Existing Capacity |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | - | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | - | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | 300 | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | - | | | 326 | | 2,078 |
| 2029 | 300 | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ACCG8 modeled Sibley 1 and Sibley 2 retirements.

## Table 21: Alternative Resource Plan ACCG9

| Year | CC's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | - | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | 300 | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | 150 | | | 326 | | 2,078 |
| 2029 | - | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan ACCG9 modeled Sibley 1 and Sibley 2 retirements.

## Table 22: Alternative Resource Plan ADCG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | 462 | | | 149 | 463 | 1,714 |
| 2018 | - | 10 | | 155 | | 1,714 |
| 2019 | - | | 150 | 172 | | 1,714 |
| 2020 | - | | | 189 | | 1,714 |
| 2021 | - | 6 | 100 | 206 | | 1,714 |
| 2022 | - | | | 222 | | 1,714 |
| 2023 | - | 3 | | 239 | | 1,714 |
| 2024 | - | | 100 | 255 | | 1,714 |
| 2025 | - | | | 274 | | 1,714 |
| 2026 | 154 | | | 291 | | 1,714 |
| 2027 | - | | | 309 | | 1,714 |
| 2028 | - | | | 326 | | 1,714 |
| 2029 | - | | | 344 | | 1,714 |
| 2030 | - | | | 363 | | 1,714 |
| 2031 | 154 | | | 381 | | 1,714 |

Plan ADCG1 modeled Sibley 1, Sibley 2 and Sibley 3 retirements.

## Table 23: Alternative Resource Plan AECG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | 154 | | | 149 | 198 | 1,979 |
| 2018 | - | 10 | | 155 | | 1,979 |
| 2019 | - | | 150 | 172 | | 1,979 |
| 2020 | - | | | 189 | | 1,979 |
| 2021 | - | 6 | 100 | 206 | | 1,979 |
| 2022 | - | | | 222 | | 1,979 |
| 2023 | - | 3 | | 239 | | 1,979 |
| 2024 | 154 | | 100 | 255 | | 1,979 |
| 2025 | - | | | 274 | | 1,979 |
| 2026 | - | | | 291 | | 1,979 |
| 2027 | - | | | 309 | | 1,979 |
| 2028 | - | | | 326 | | 1,979 |
| 2029 | - | | | 344 | | 1,979 |
| 2030 | 154 | | | 363 | | 1,979 |
| 2031 | - | | | 381 | | 1,979 |

Plan AECG1 modeled Lake Road 4/6, Sibley 1 and Sibley 2 retirements.

## Table 24: Alternative Resource Plan AFCG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | 154 | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | 154 | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | 154 | | | 326 | | 2,078 |
| 2029 | - | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan AFCG1 modeled Sibley 1, Sibley 2 and Lake Road 4/6 Gas Conversion.

## Table 25: Alternative Resource Plan AICG9

| Year | CC's (MW) | Solar (MW) | Wind (MW) | DSM A (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 57 | | 2,210 |
| 2013 | - | | | 76 | | 2,218 |
| 2014 | - | | | 95 | | 2,143 |
| 2015 | - | | | 112 | | 2,143 |
| 2016 | - | | | 131 | | 2,143 |
| 2017 | - | | | 149 | 99 | 2,078 |
| 2018 | - | 10 | | 155 | | 2,078 |
| 2019 | - | | 150 | 172 | | 2,078 |
| 2020 | - | | | 189 | | 2,078 |
| 2021 | 300 | 6 | 100 | 206 | | 2,078 |
| 2022 | - | | | 222 | | 2,078 |
| 2023 | - | 3 | | 239 | | 2,078 |
| 2024 | - | | 100 | 255 | | 2,078 |
| 2025 | - | | | 274 | | 2,078 |
| 2026 | - | | | 291 | | 2,078 |
| 2027 | - | | | 309 | | 2,078 |
| 2028 | 150 | | | 326 | | 2,078 |
| 2029 | - | | | 344 | | 2,078 |
| 2030 | - | | | 363 | | 2,078 |
| 2031 | - | | | 381 | | 2,078 |

Plan AICG9 modeled Sibley 1 and Sibley 2 retirements and Sibley 3 Co-Fire with Biomass.

## Table 26: Alternative Resource Plan BCCG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA EE Only (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 28 | | 2,210 |
| 2013 | - | | | 41 | | 2,218 |
| 2014 | 154 | | | 55 | | 2,143 |
| 2015 | - | | | 68 | | 2,143 |
| 2016 | - | | | 82 | | 2,143 |
| 2017 | 154 | | | 95 | 99 | 2,078 |
| 2018 | - | 10 | | 110 | | 2,078 |
| 2019 | - | | 150 | 124 | | 2,078 |
| 2020 | - | | | 138 | | 2,078 |
| 2021 | - | 6 | 100 | 153 | | 2,078 |
| 2022 | - | | | 167 | | 2,078 |
| 2023 | - | 3 | | 182 | | 2,078 |
| 2024 | - | | 100 | 197 | | 2,078 |
| 2025 | - | | | 213 | | 2,078 |
| 2026 | 154 | | | 229 | | 2,078 |
| 2027 | - | | | 244 | | 2,078 |
| 2028 | - | | | 260 | | 2,078 |
| 2029 | - | | | 277 | | 2,078 |
| 2030 | 154 | | | 294 | | 2,078 |
| 2031 | - | | | 311 | | 2,078 |

Plan BCCG1 modeled Sibley 1 and Sibley 2 retirements.

## Table 27: Alternative Resource Plan CCCG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | MEEIA DR Only (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 29 | | 2,210 |
| 2013 | - | | | 35 | | 2,218 |
| 2014 | 231 | | | 40 | | 2,143 |
| 2015 | - | | | 44 | | 2,143 |
| 2016 | - | | | 49 | | 2,143 |
| 2017 | - | | | 54 | 99 | 2,078 |
| 2018 | 154 | 10 | | 45 | | 2,078 |
| 2019 | - | | 150 | 48 | | 2,078 |
| 2020 | - | | | 51 | | 2,078 |
| 2021 | - | 6 | 100 | 53 | | 2,078 |
| 2022 | - | | | 55 | | 2,078 |
| 2023 | 154 | 3 | | 57 | | 2,078 |
| 2024 | - | | 100 | 58 | | 2,078 |
| 2025 | - | | | 61 | | 2,078 |
| 2026 | - | | | 62 | | 2,078 |
| 2027 | 154 | | | 65 | | 2,078 |
| 2028 | - | | | 66 | | 2,078 |
| 2029 | - | | | 67 | | 2,078 |
| 2030 | 154 | | | 69 | | 2,078 |
| 2031 | - | | | 70 | | 2,078 |

Plan CCCG1 modeled Sibley 1 and Sibley 2 retirements.

## Table 28: Alternative Resource Plan DCCG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | Aggressive DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 79 | | 2,210 |
| 2013 | - | | | 117 | | 2,218 |
| 2014 | - | | | 156 | | 2,143 |
| 2015 | - | | | 190 | | 2,143 |
| 2016 | - | | | 229 | | 2,143 |
| 2017 | - | | | 263 | 99 | 2,078 |
| 2018 | - | 10 | | 290 | | 2,078 |
| 2019 | - | | 150 | 322 | | 2,078 |
| 2020 | - | | | 358 | | 2,078 |
| 2021 | - | 6 | 100 | 392 | | 2,078 |
| 2022 | - | | | 424 | | 2,078 |
| 2023 | - | 3 | | 459 | | 2,078 |
| 2024 | - | | 100 | 490 | | 2,078 |
| 2025 | - | | | 527 | | 2,078 |
| 2026 | - | | | 563 | | 2,078 |
| 2027 | - | | | 598 | | 2,078 |
| 2028 | - | | | 631 | | 2,078 |
| 2029 | - | | | 669 | | 2,078 |
| 2030 | 154 | | | 706 | | 2,078 |
| 2031 | - | | | 742 | | 2,078 |

Plan DCCG1 modeled Sibley 1 and Sibley 2 retirements. Plan DCCG1 complies with Section 1.h of the Order Establishing Special Contemporary Resource Planning Issues.

## Table 29: Alternative Resource Plan ECCG1

| Year | CT's (MW) | Solar (MW) | Wind (MW) | Very Aggressive DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 120 | | 2,210 |
| 2013 | - | | | 196 | | 2,218 |
| 2014 | - | | | 277 | | 2,143 |
| 2015 | - | | | 346 | | 2,143 |
| 2016 | - | | | 423 | | 2,143 |
| 2017 | - | | | 492 | 99 | 2,078 |
| 2018 | - | 10 | | 555 | | 2,078 |
| 2019 | - | | 150 | 624 | | 2,078 |
| 2020 | - | | | 695 | | 2,078 |
| 2021 | - | 6 | 100 | 764 | | 2,078 |
| 2022 | - | | | 827 | | 2,078 |
| 2023 | - | 3 | | 897 | | 2,078 |
| 2024 | - | | 100 | 960 | | 2,078 |
| 2025 | - | | | 1,034 | | 2,078 |
| 2026 | - | | | 1,105 | | 2,078 |
| 2027 | - | | | 1,175 | | 2,078 |
| 2028 | - | | | 1,242 | | 2,078 |
| 2029 | - | | | 1,317 | | 2,078 |
| 2030 | - | | | 1,391 | | 2,078 |
| 2031 | - | | | 1,463 | | 2,078 |

Plan ECCG1 modeled Sibley 1 and Sibley 2 retirements. Plan ECCG1 complies with Section 1.c of the Order Establishing Special Contemporary Resource Planning Issues.

**Table 30: Alternative Resource Plan FCCG1**

| Year | CT's (MW) | Solar (MW) | Wind (MW) | S&A DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 56 | | 2,210 |
| 2013 | - | | | 91 | | 2,218 |
| 2014 | - | | | 143 | | 2,143 |
| 2015 | - | | | 190 | | 2,143 |
| 2016 | - | | | 267 | | 2,143 |
| 2017 | - | | | 355 | 99 | 2,078 |
| 2018 | - | 10 | | 448 | | 2,078 |
| 2019 | - | | 150 | 564 | | 2,078 |
| 2020 | - | | | 695 | | 2,078 |
| 2021 | - | 6 | 100 | 764 | | 2,078 |
| 2022 | - | | | 827 | | 2,078 |
| 2023 | - | 3 | | 897 | | 2,078 |
| 2024 | - | | 100 | 960 | | 2,078 |
| 2025 | - | | | 1,034 | | 2,078 |
| 2026 | - | | | 1,105 | | 2,078 |
| 2027 | - | | | 1,175 | | 2,078 |
| 2028 | - | | | 1,242 | | 2,078 |
| 2029 | - | | | 1,317 | | 2,078 |
| 2030 | - | | | 1,391 | | 2,078 |
| 2031 | - | | | 1,463 | | 2,078 |

Plan FCCG1 modeled Sibley 1 and Sibley 2 retirements. Plan FCCG1 complies with the Nonunanimous Stipulation and Agreement from Case No. EE-2009-0237.

**Table 31: Alternative Resource Plan XCCG1**

| Year | CT's (MW) | Solar (MW) | Wind (MW) | No DSM (MW) | Retire (MW) | Existing Capacity (MW) |
|---|---|---|---|---|---|---|
| 2012 | - | | | 34 | | 2,210 |
| 2013 | - | | | 34 | | 2,218 |
| 2014 | 231 | | | 34 | | 2,143 |
| 2015 | - | | | 34 | | 2,143 |
| 2016 | - | | | 34 | | 2,143 |
| 2017 | 154 | | | 34 | 99 | 2,078 |
| 2018 | - | 10 | | 20 | | 2,078 |
| 2019 | - | | 150 | 20 | | 2,078 |
| 2020 | - | | | 20 | | 2,078 |
| 2021 | - | 6 | 100 | 20 | | 2,078 |
| 2022 | 154 | | | 20 | | 2,078 |
| 2023 | - | 3 | | 20 | | 2,078 |
| 2024 | - | | 100 | 20 | | 2,078 |
| 2025 | - | | | 20 | | 2,078 |
| 2026 | 154 | | | 20 | | 2,078 |
| 2027 | - | | | 20 | | 2,078 |
| 2028 | - | | | 20 | | 2,078 |
| 2029 | 154 | | | 20 | | 2,078 |
| 2030 | - | | | 20 | | 2,078 |
| 2031 | - | | | 20 | | 2,078 |

Plan XCCG1 modeled Sibley 1 and Sibley 2 retirements.

## SECTION 4: ANALYSIS OF RESOURCE PLANS

***(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;***

A summary tabulation of expected value of all performance measures for each plan is provided in Table 32.

**Table 32: Expected Value of Performance Measures**

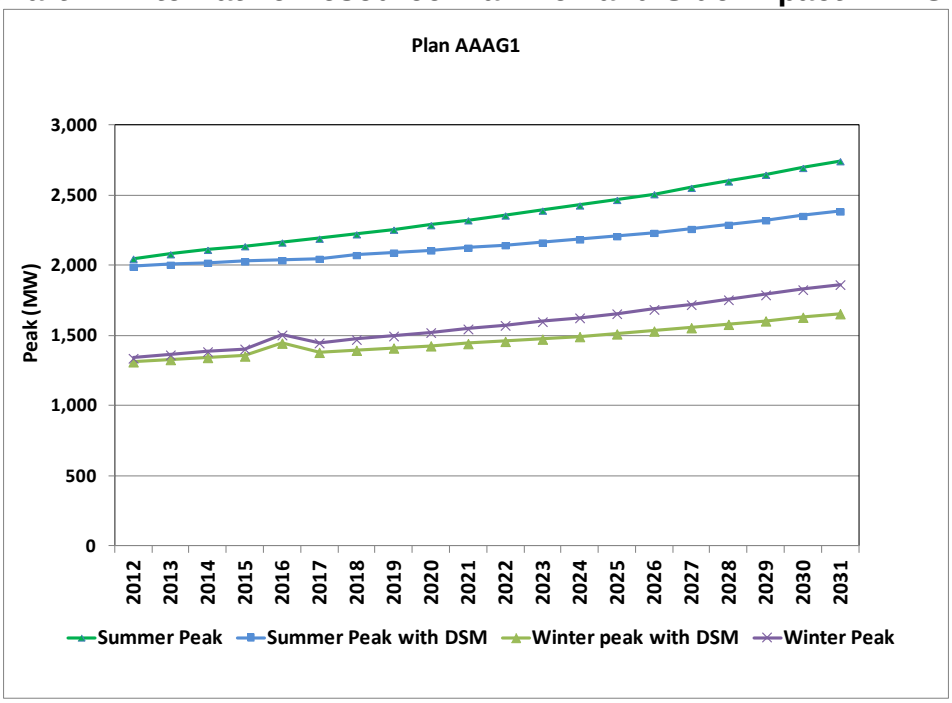
| Plan | NPVRR ($MM) | Probable Environmenal Costs ($MM) | DSM Costs ($MM) | Levelized Annual Rates ($/kw-hr) | Maximum Rate Increase | Times Interest Earned | Total Debt to Capital | Cap Ex to FFO |
|---|---|---|---|---|---|---|---|---|
| AAAG1 | 12,673 | 698 | 169 | 0.136 | 12.21% | 2.56 | 49.96 | 0.78 |
| AAAG3 | 12,790 | 696 | 169 | 0.137 | 11.38% | 2.56 | 49.96 | 0.76 |
| ABCG1 | 12,706 | 593 | 169 | 0.137 | 11.30% | 2.55 | 49.96 | 0.83 |
| ACCG1 | 12,627 | 552 | 169 | 0.136 | 12.09% | 2.54 | 49.96 | 0.84 |
| ACCG3 | 12,702 | 550 | 169 | 0.136 | 11.45% | 2.55 | 49.96 | 0.78 |
| ACCG4 | 12,678 | 546 | 169 | 0.136 | 12.12% | 2.59 | 49.96 | 0.76 |
| ACCG5 | 12,927 | 547 | 169 | 0.140 | 14.95% | 2.61 | 49.96 | 0.67 |
| ACCG6 | 12,703 | 549 | 169 | 0.136 | 17.39% | 2.58 | 49.96 | 0.98 |
| ACCG7 | 12,671 | 550 | 169 | 0.136 | 11.75% | 2.55 | 49.96 | 0.78 |
| ACCG8 | 12,434 | 550 | 169 | 0.134 | 12.55% | 2.53 | 49.96 | 0.71 |
| ACCG9 | 12,485 | 550 | 169 | 0.134 | 12.55% | 2.53 | 49.96 | 0.80 |
| ADCG1 | 12,979 | 116 | 169 | 0.140 | 17.28% | 2.52 | 49.96 | 0.88 |
| AECG1 | 12,695 | 443 | 169 | 0.136 | 12.57% | 2.54 | 49.96 | 0.82 |
| AFCG1 | 12,680 | 457 | 169 | 0.136 | 12.68% | 2.53 | 49.96 | 0.83 |
| AICG9 | 12,597 | 563 | 169 | 0.136 | 12.24% | 2.54 | 49.96 | 0.80 |
| BCCG1 | 12,716 | 552 | 133 | 0.137 | 12.49% | 2.56 | 49.96 | 0.80 |
| CCCG1 | 13,133 | 555 | 37 | 0.135 | 14.95% | 2.58 | 49.96 | 0.75 |
| DCCG1 | 12,229 | 549 | 517 | 0.137 | 12.77% | 2.51 | 49.96 | 0.97 |
| ECCG1 | 12,220 | 544 | 1,213 | 0.153 | 13.35% | 2.54 | 49.96 | 1.41 |
| FCCG1 | 12,467 | 553 | 919 | 0.142 | 13.73% | 2.53 | 49.96 | 1.32 |
| XCCG1 | 13,164 | 555 | - | 0.136 | 11.88% | 2.58 | 49.96 | 0.77 |

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

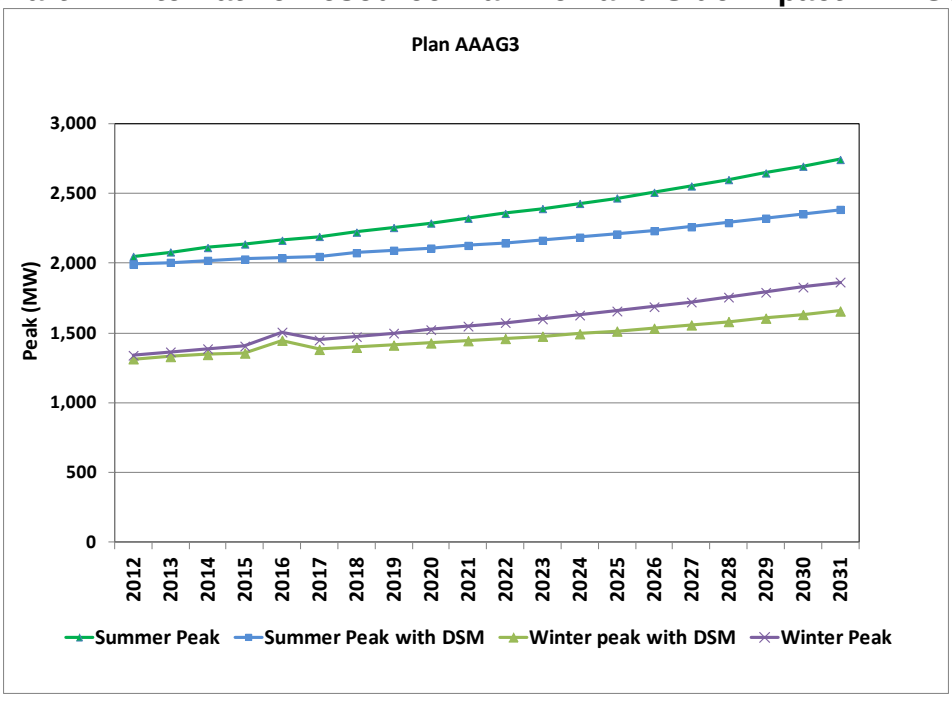
***1. The combined impact of all demand-side resources on the base-case forecast of summer and winter peak demands;***

The following charts, Chart 1 through Chart 21, illustrate the demand-side impact on the base-case forecast for summer and wind peak demands related to each Alternative Resource Plan.

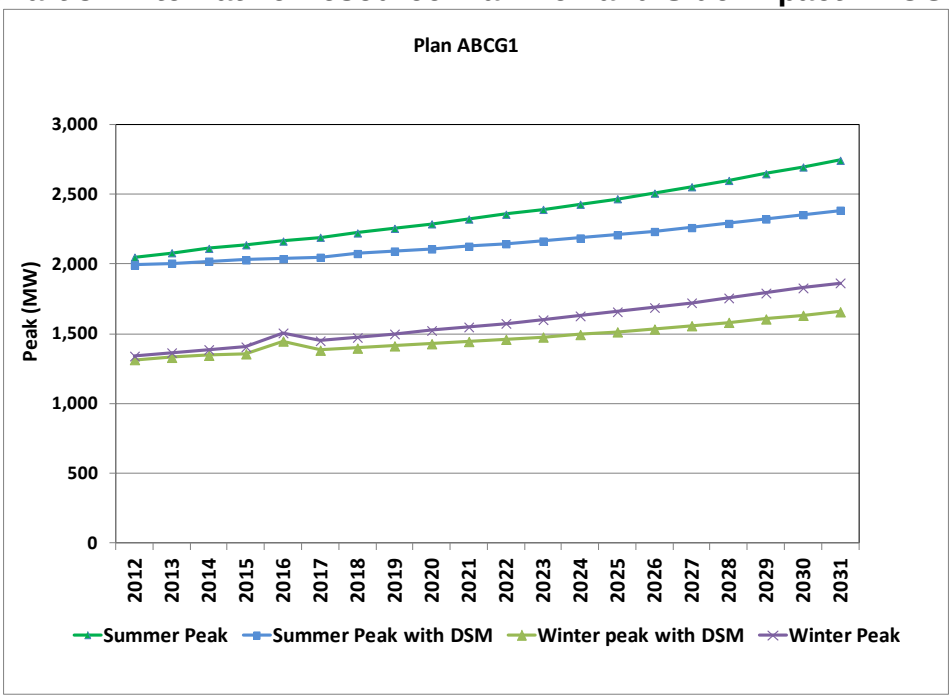
## Chart 1: Alternative Resource Plan Demand Side Impact AAAG1



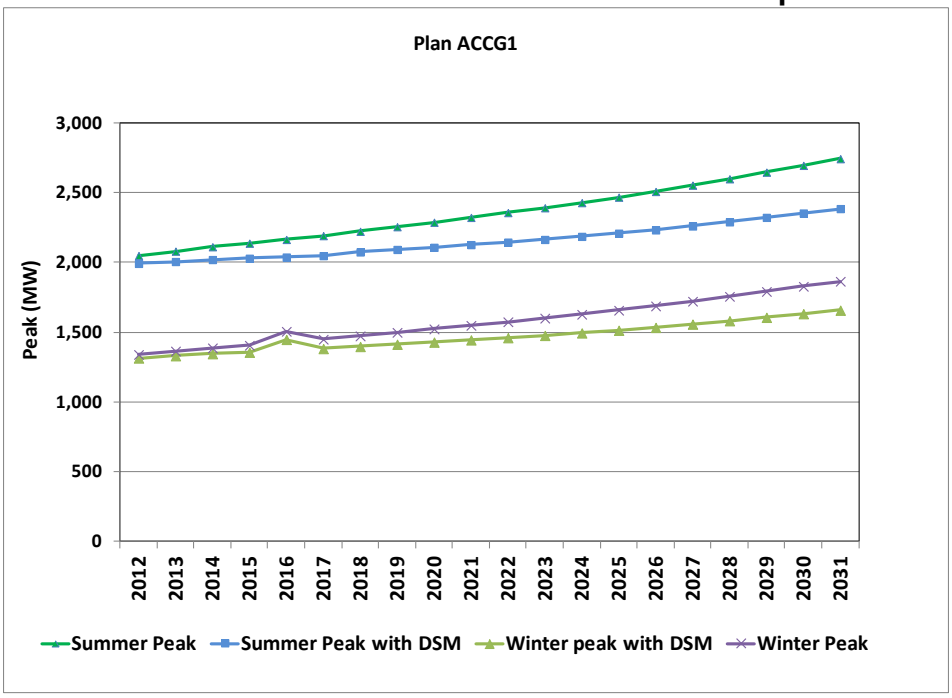

## Chart 2: Alternative Resource Plan Demand Side Impact AAAG3



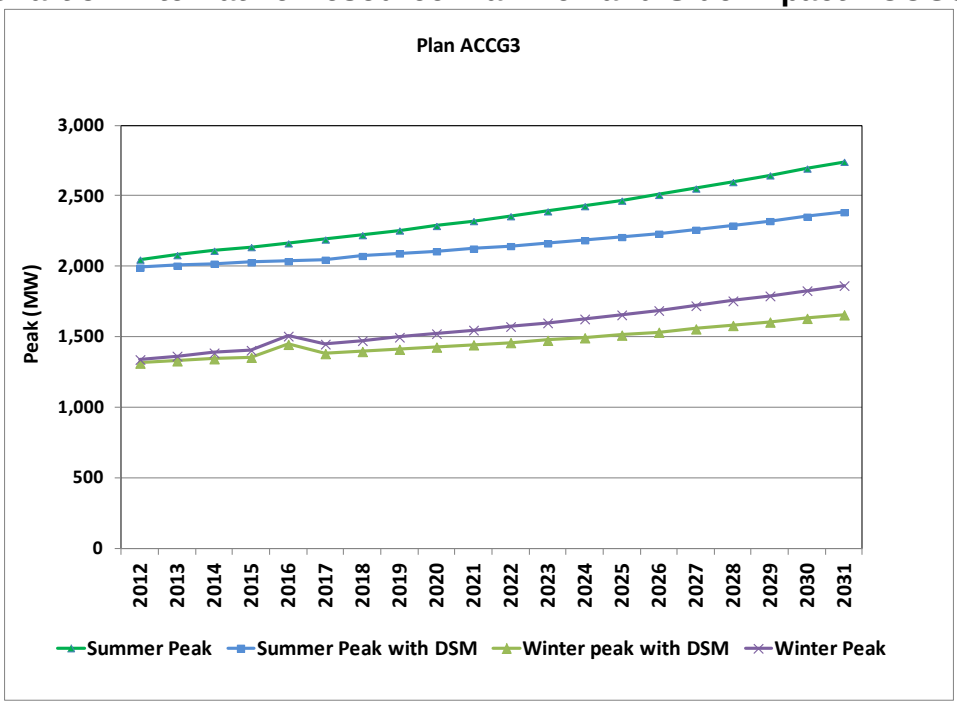
## Chart 3: Alternative Resource Plan Demand Side Impact ABCG1



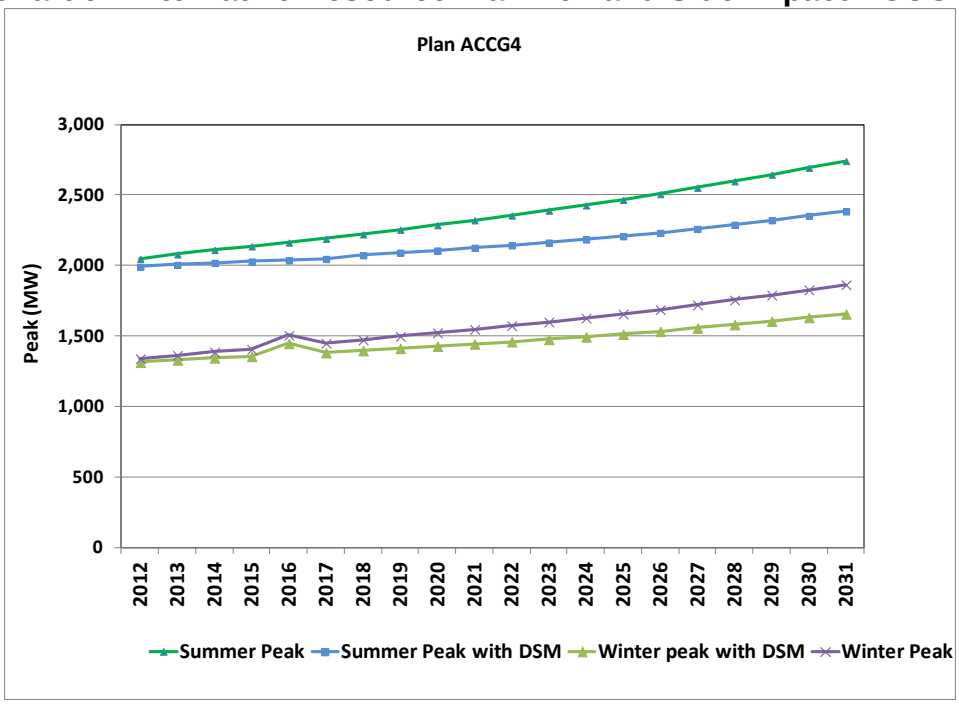

## Chart 4: Alternative Resource Plan Demand Side Impact ACCG1



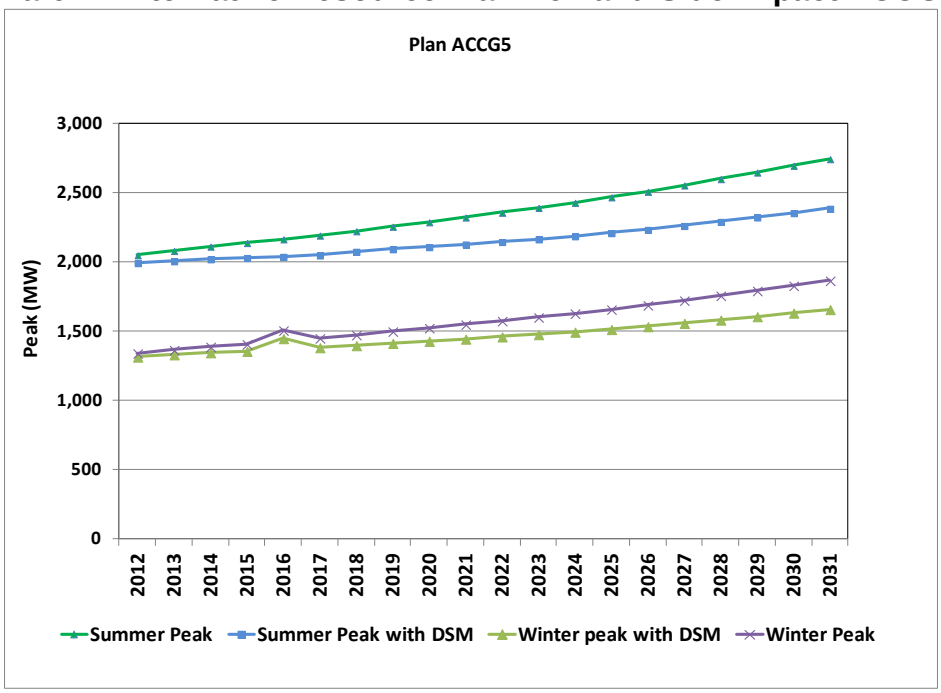
## Chart 5: Alternative Resource Plan Demand Side Impact ACCG3



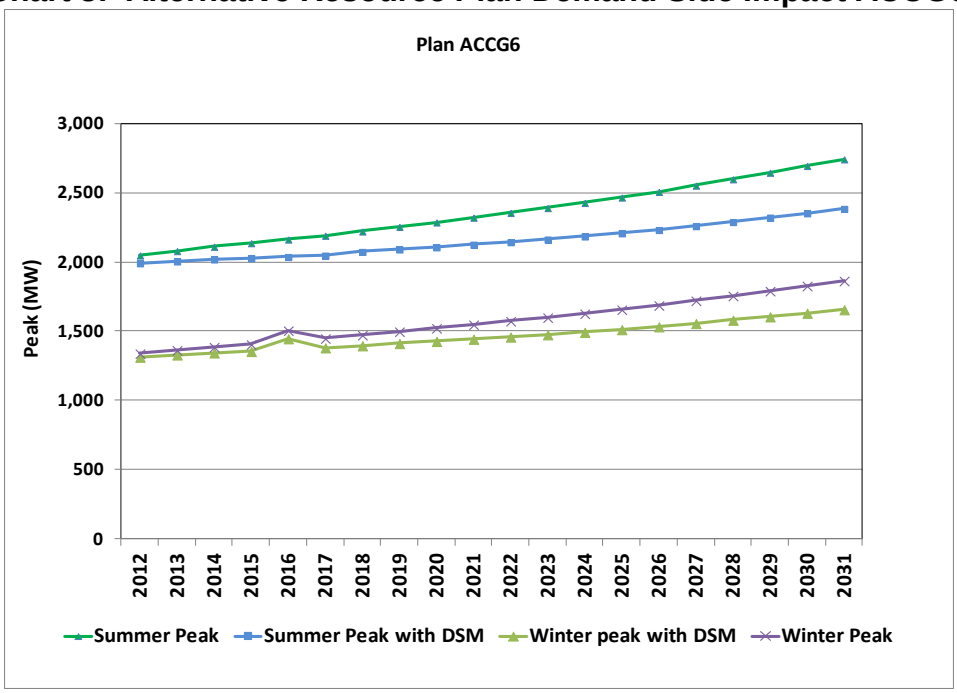

## Chart 6: Alternative Resource Plan Demand Side Impact ACCG4



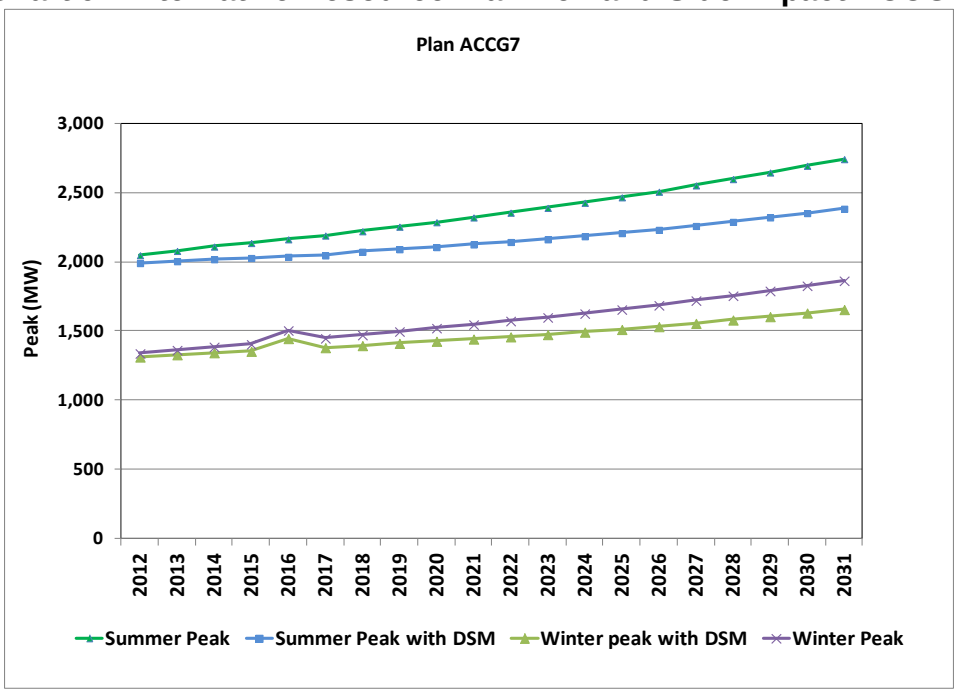
## Chart 7: Alternative Resource Plan Demand Side Impact ACCG5



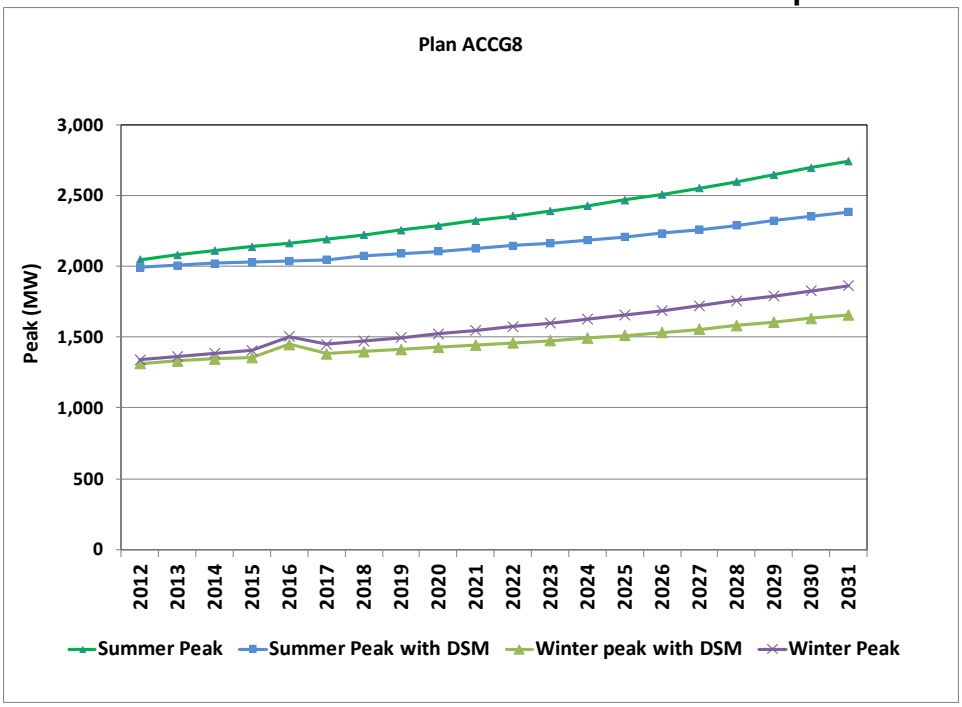

## Chart 8: Alternative Resource Plan Demand Side Impact ACCG6



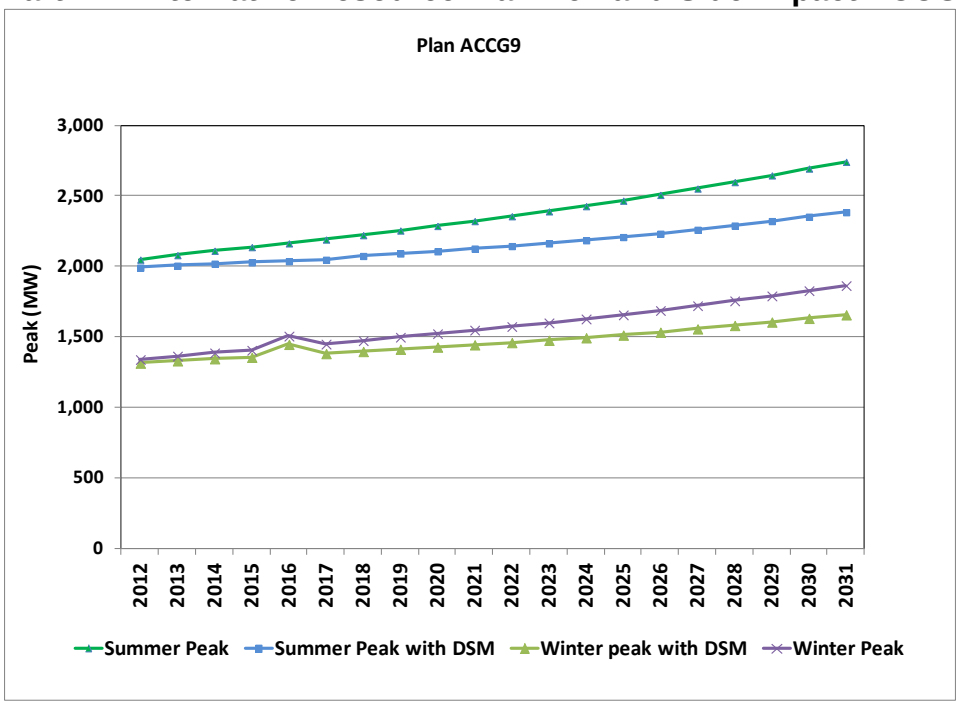
## Chart 9: Alternative Resource Plan Demand Side Impact ACCG7



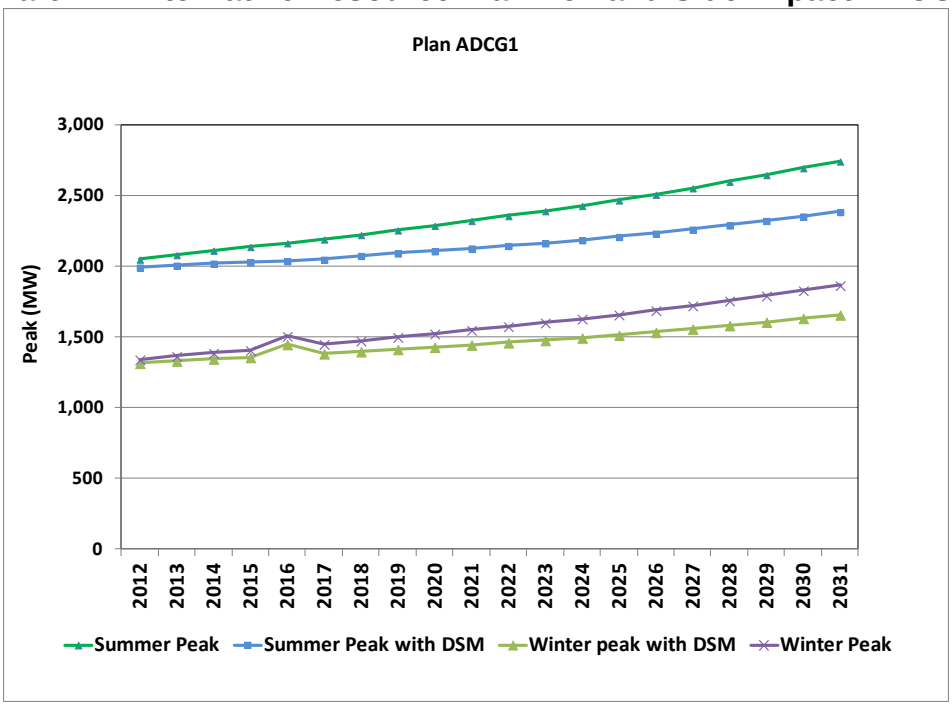

## Chart 10: Alternative Resource Plan Demand Side Impact ACCG8



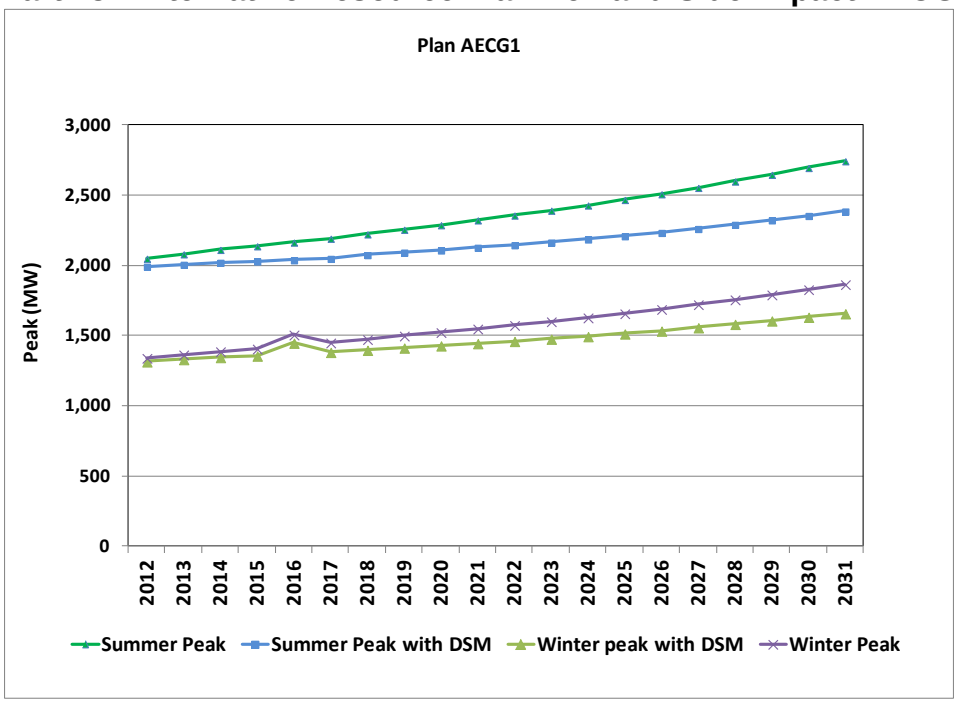
## Chart 11: Alternative Resource Plan Demand Side Impact ACCG9



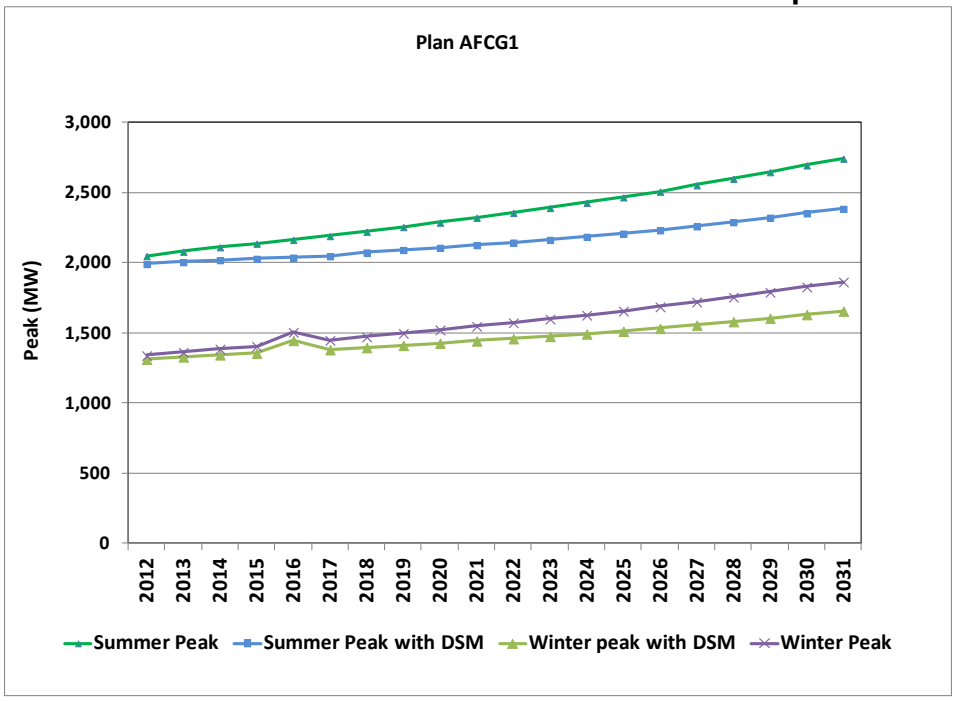

## Chart 12: Alternative Resource Plan Demand Side Impact ADCG1



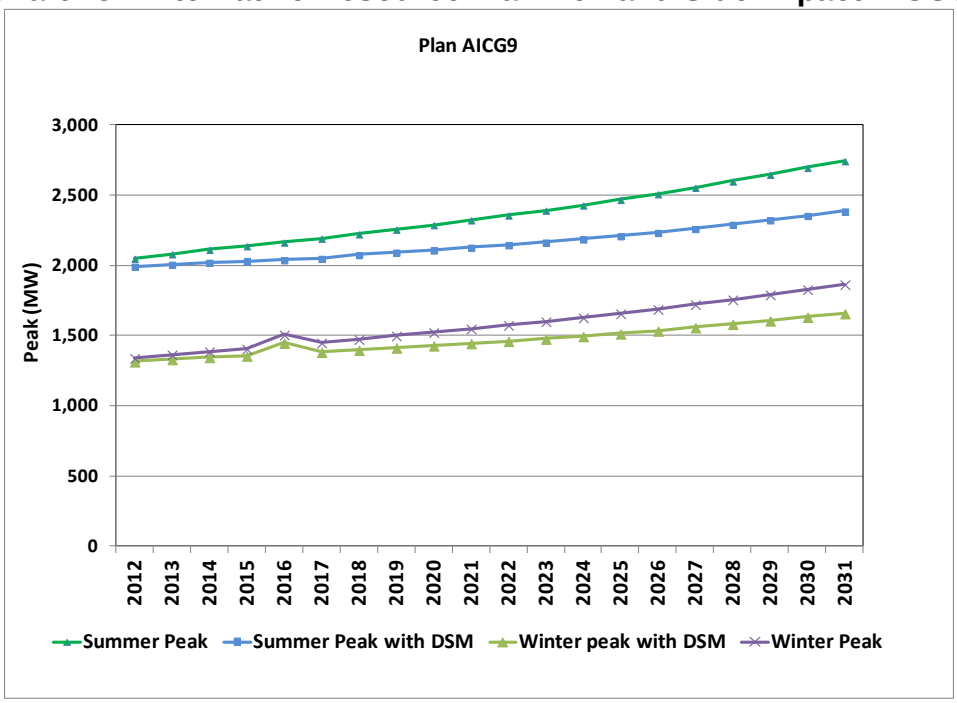
## Chart 13: Alternative Resource Plan Demand Side Impact AECG1



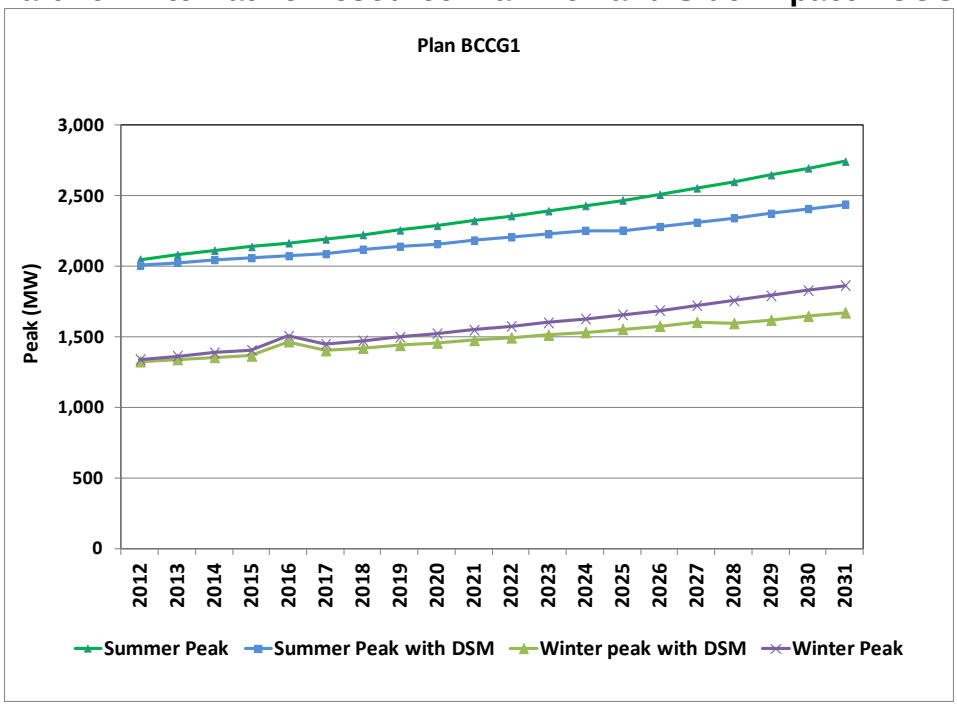

## Chart 14: Alternative Resource Plan Demand Side Impact AFCG1



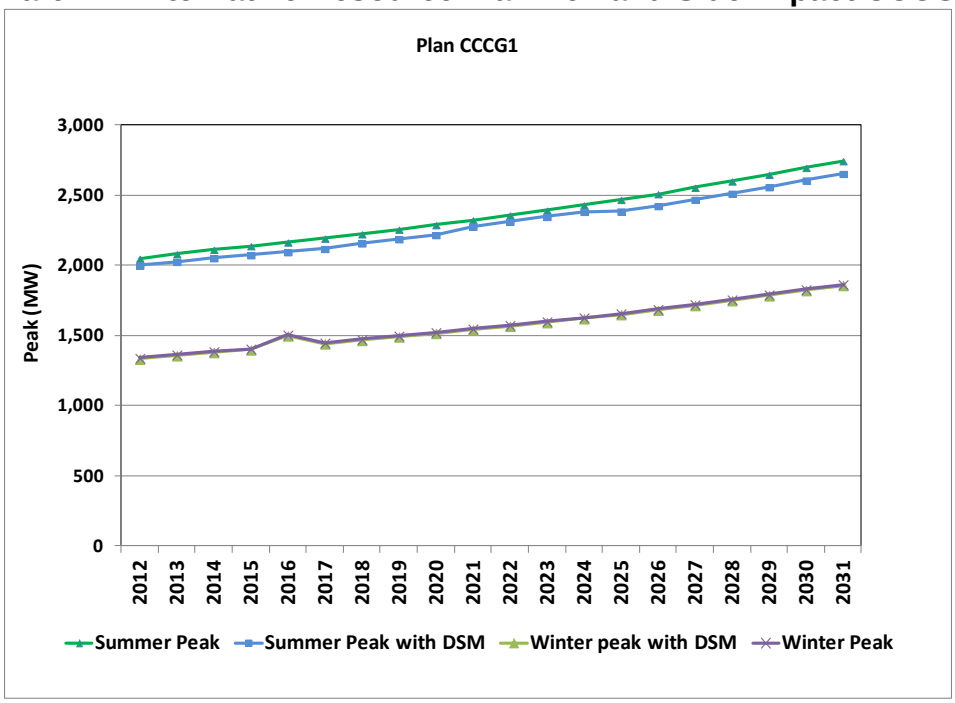
## Chart 15: Alternative Resource Plan Demand Side Impact AICG9



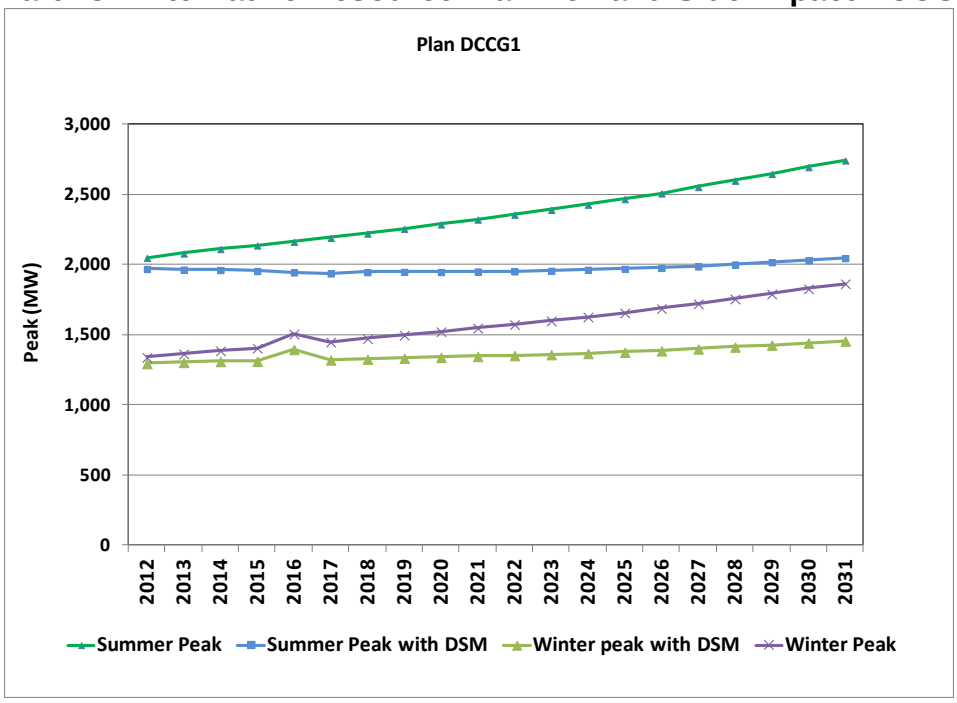

## Chart 16: Alternative Resource Plan Demand Side Impact BCCG1



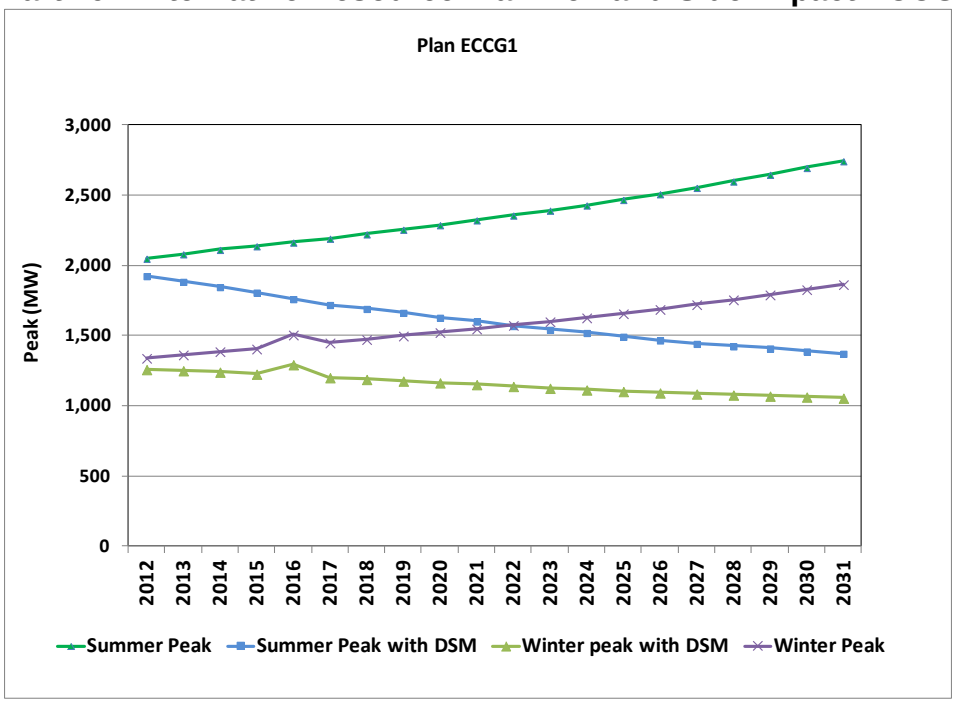
## Chart 17: Alternative Resource Plan Demand Side Impact CCCG1




## Chart 18: Alternative Resource Plan Demand Side Impact DCCG1



## Chart 19: Alternative Resource Plan Demand Side Impact ECCG1




## Chart 20: Alternative Resource Plan Demand Side Impact FCCG1

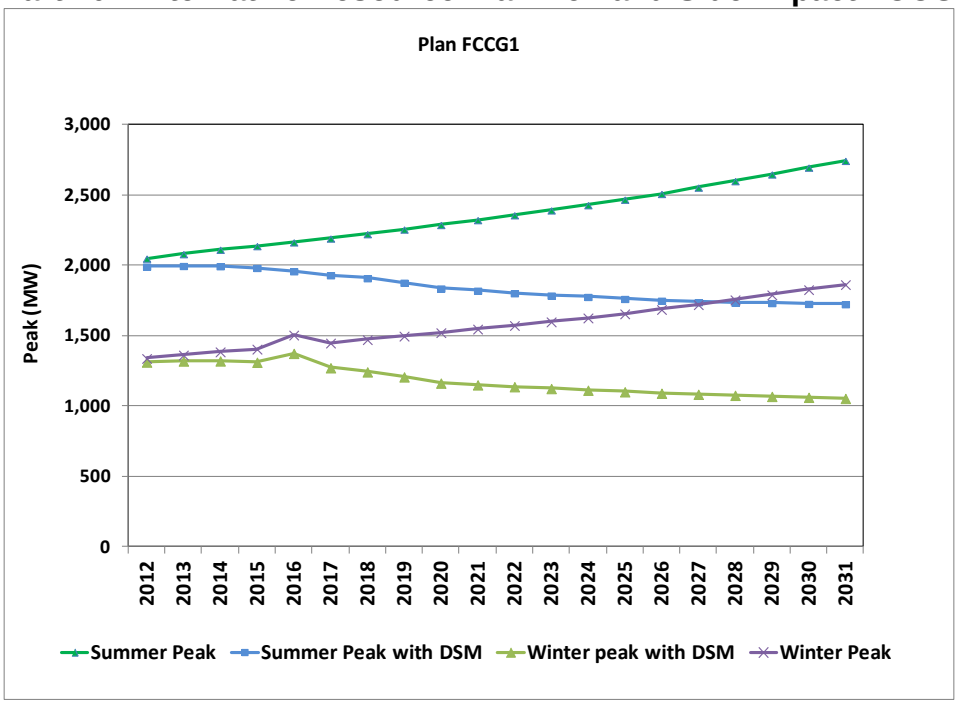
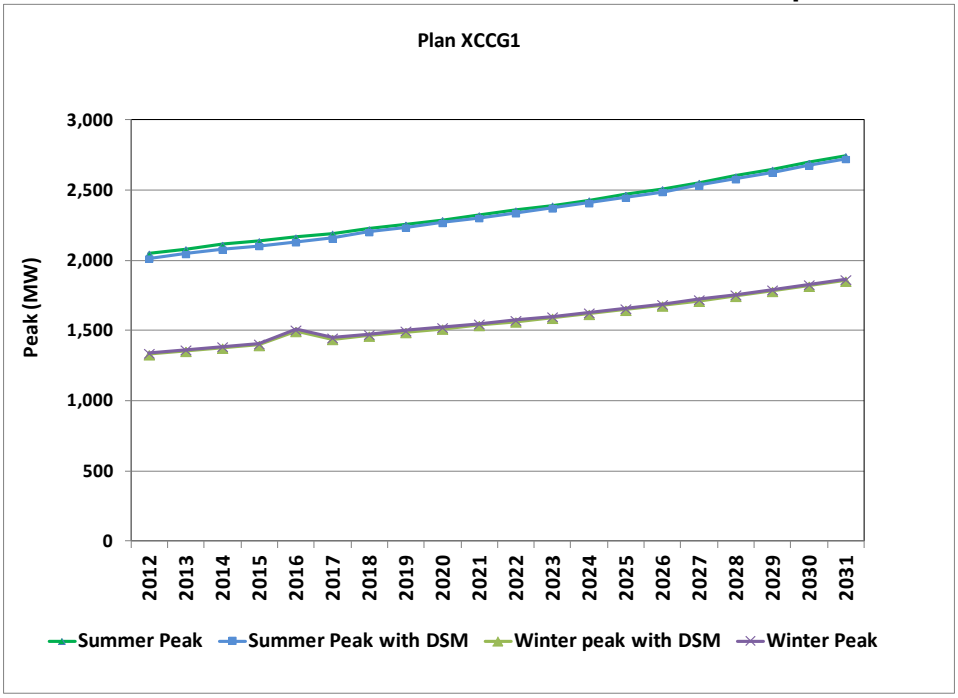


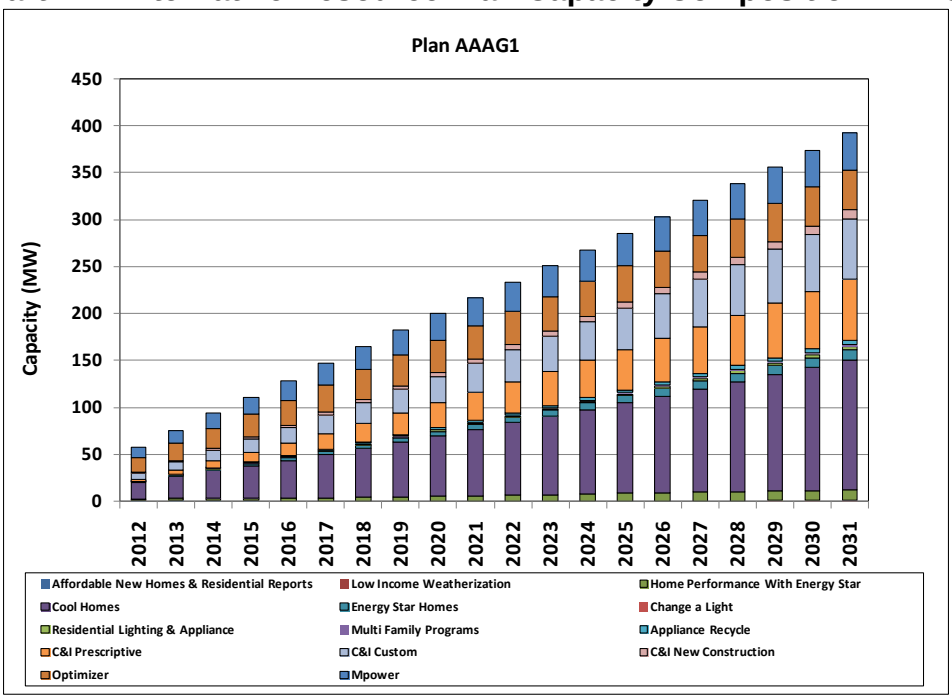
**Chart 21: Alternative Resource Plan Demand Side Impact XCCG1**



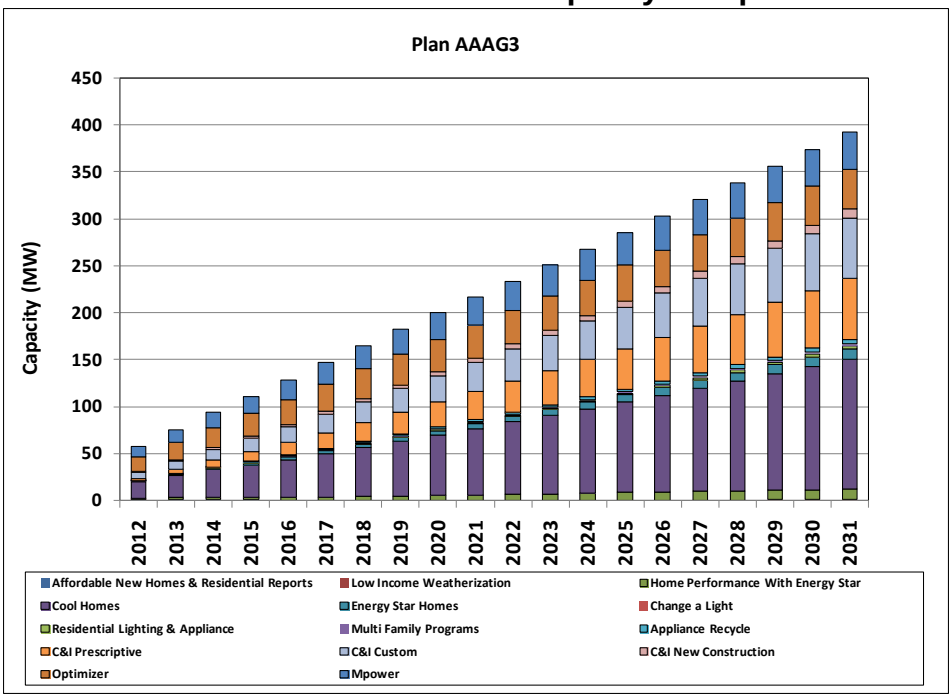

***2. The composition, by program and demand-side rate, of the capacity provided by demand-side resources;***

The following charts, Chart 22 through Chart 42, illustrate the combined capacity supplied by the programs related to each Alternative Resource Plan.

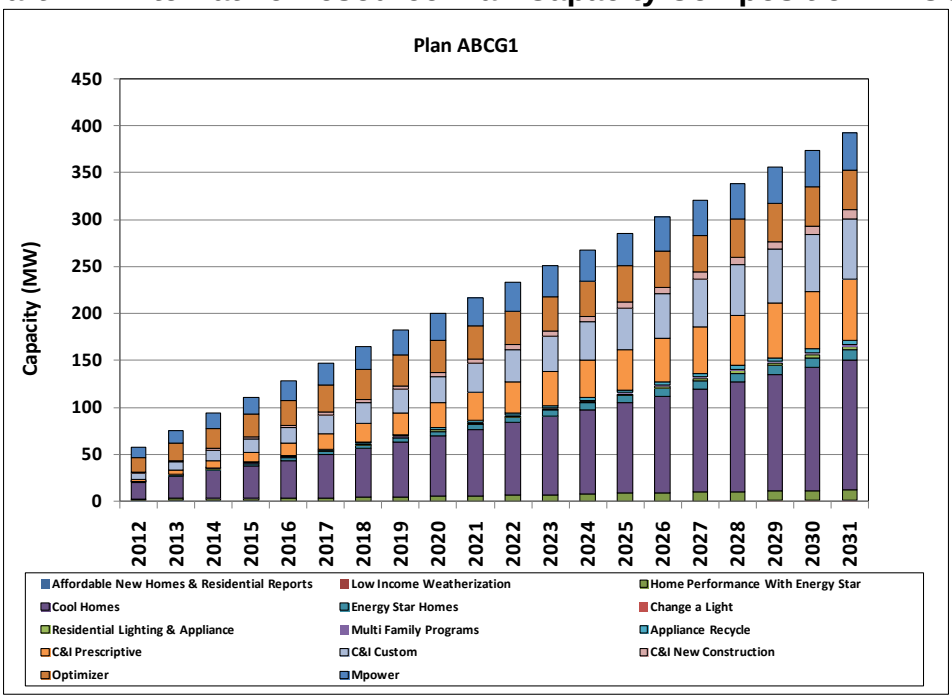
## Chart 22: Alternative Resource Plan Capacity Composition AAAG1



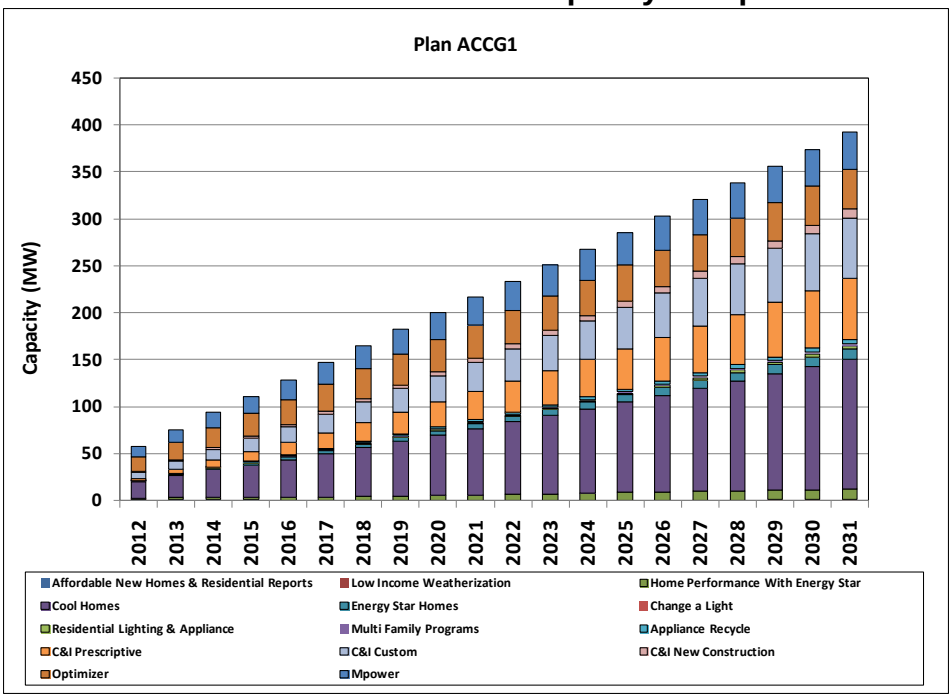

## Chart 23: Alternative Resource Plan Capacity Composition AAAG3



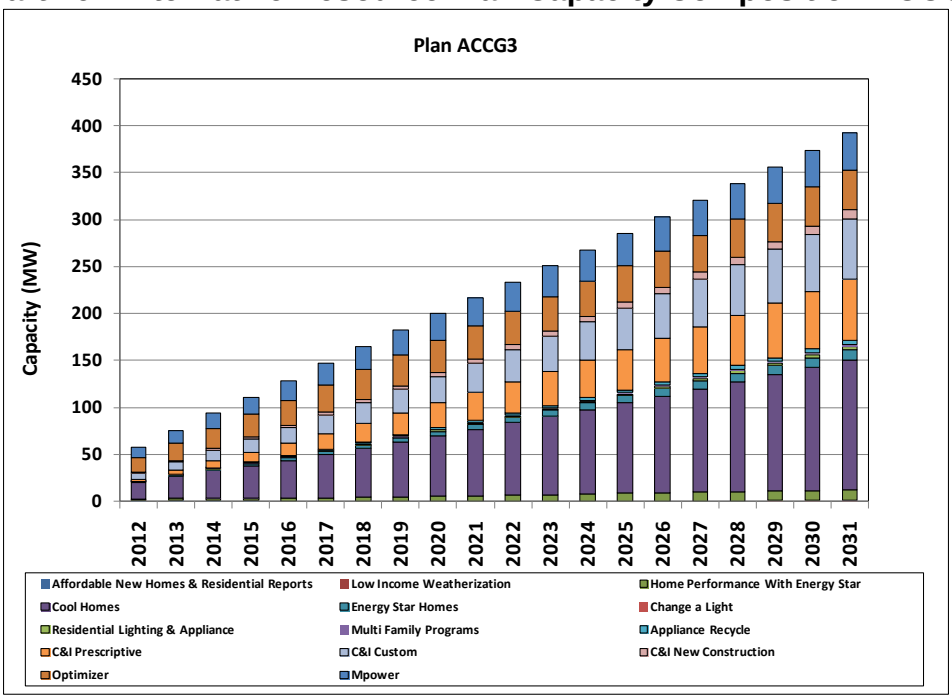
## Chart 24: Alternative Resource Plan Capacity Composition ABCG1



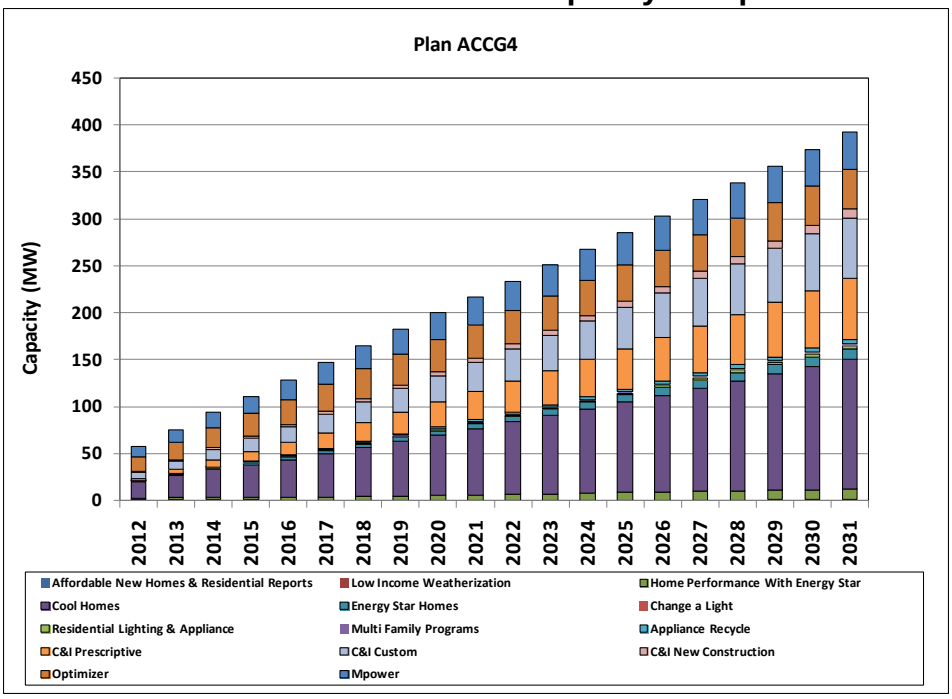

## Chart 25: Alternative Resource Plan Capacity Composition ACCG1



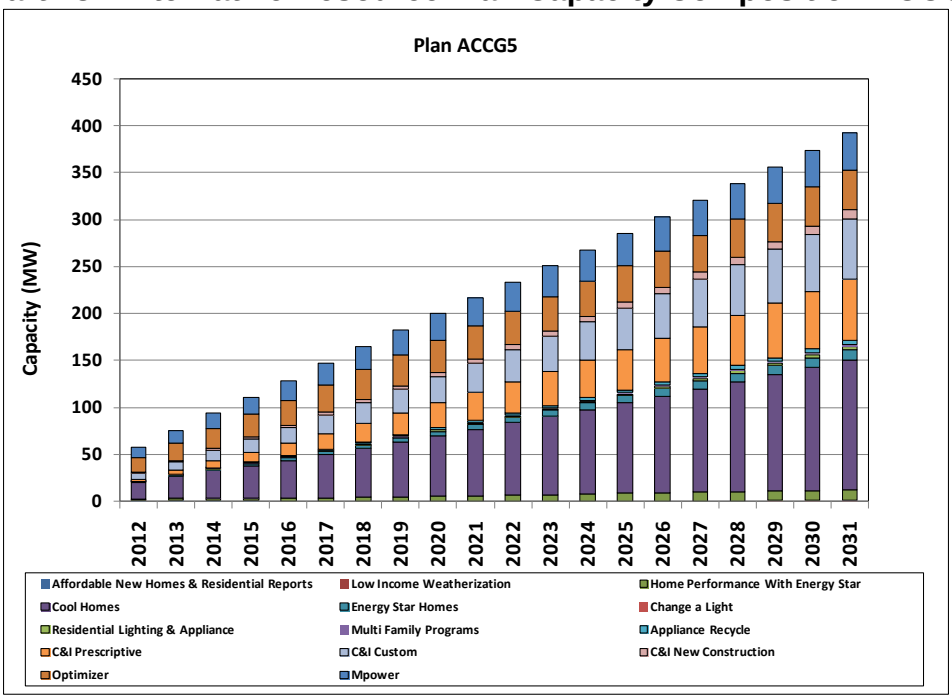
## Chart 26: Alternative Resource Plan Capacity Composition ACCG3



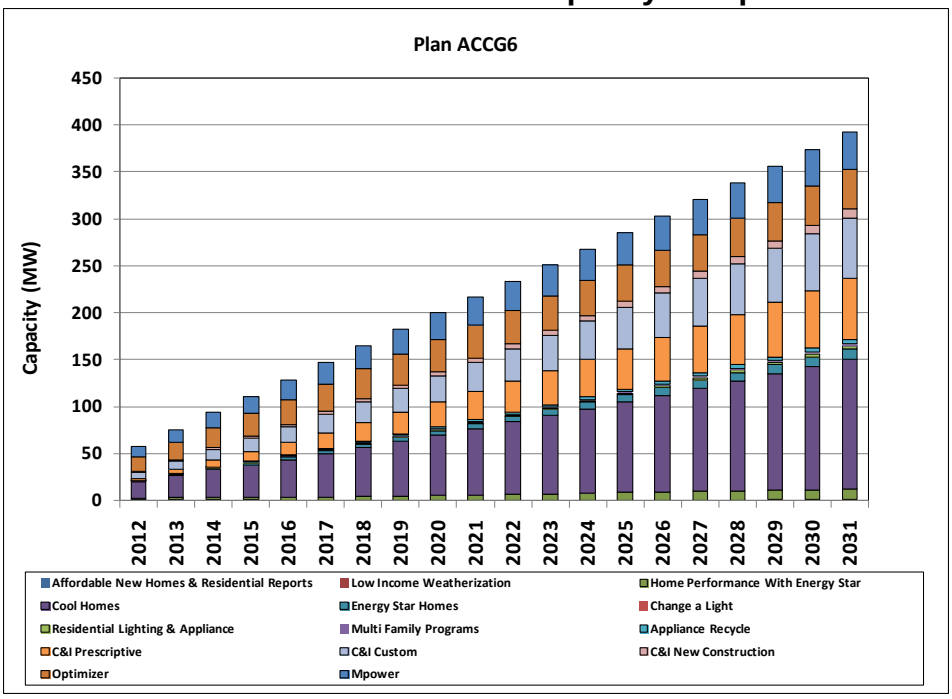

## Chart 27: Alternative Resource Plan Capacity Composition ACCG4



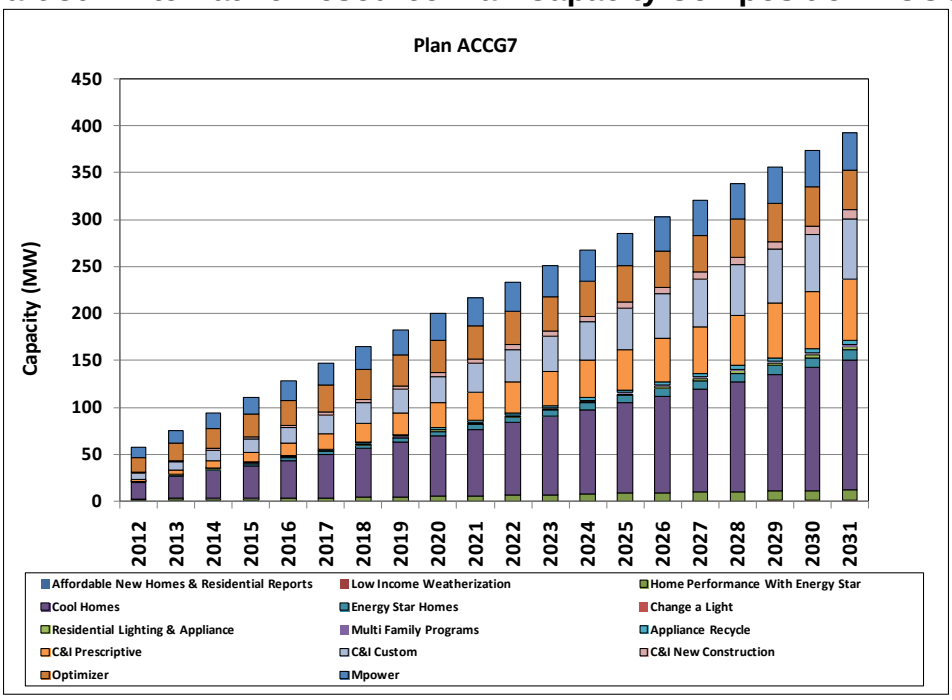
## Chart 28: Alternative Resource Plan Capacity Composition ACCG5



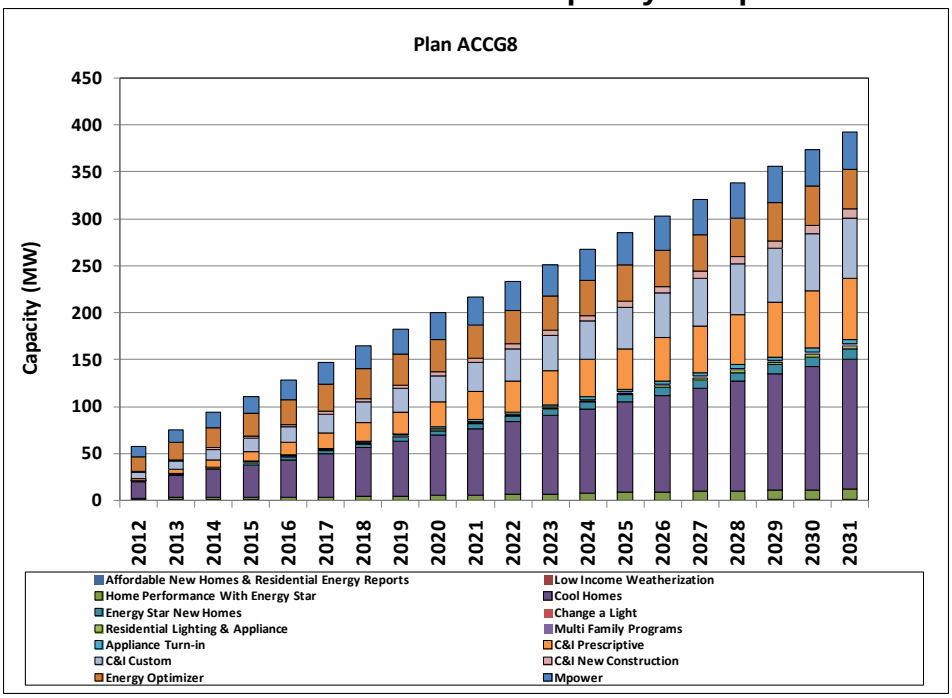

## Chart 29: Alternative Resource Plan Capacity Composition ACCG6



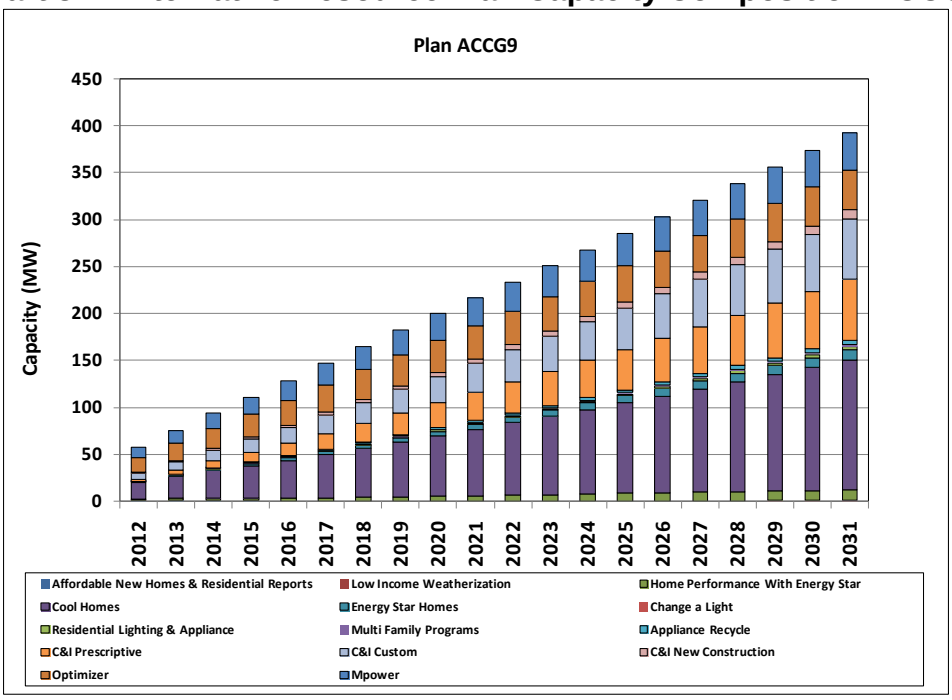
## Chart 30: Alternative Resource Plan Capacity Composition ACCG7



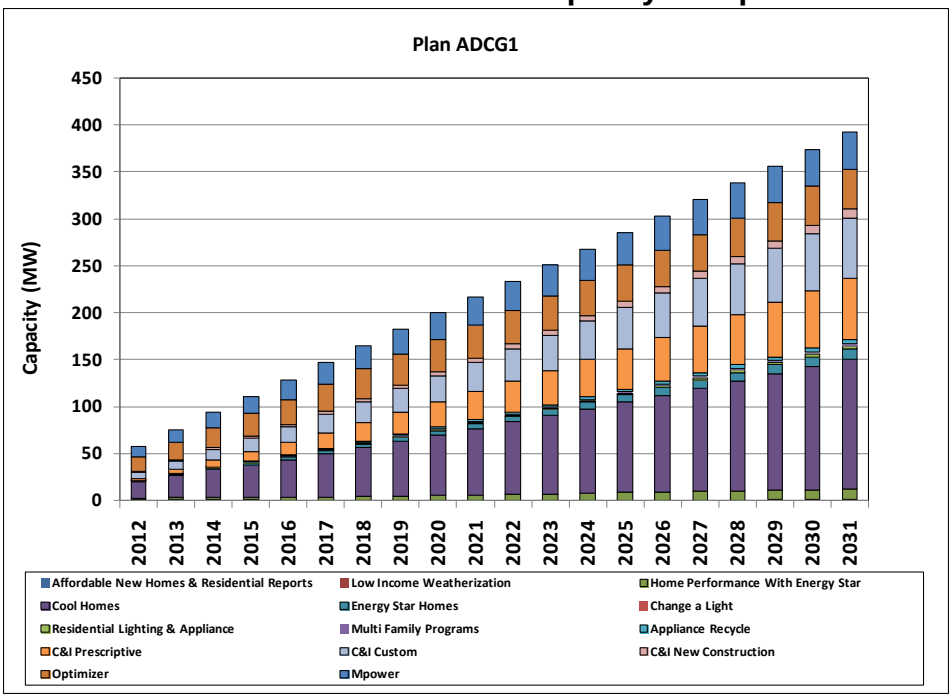

## Chart 31: Alternative Resource Plan Capacity Composition ACCG8



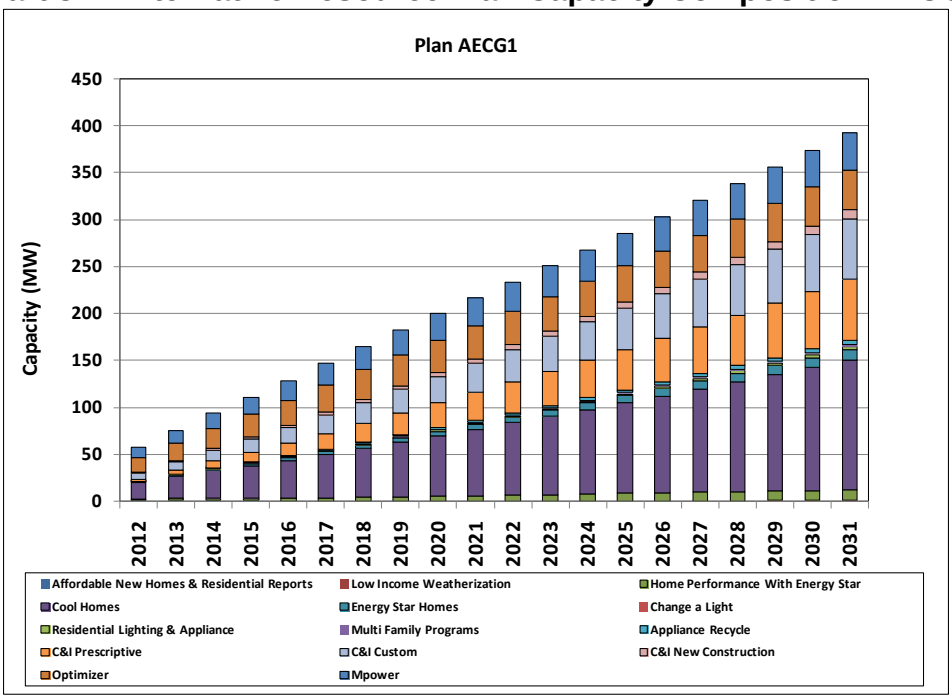
## Chart 32: Alternative Resource Plan Capacity Composition ACCG9



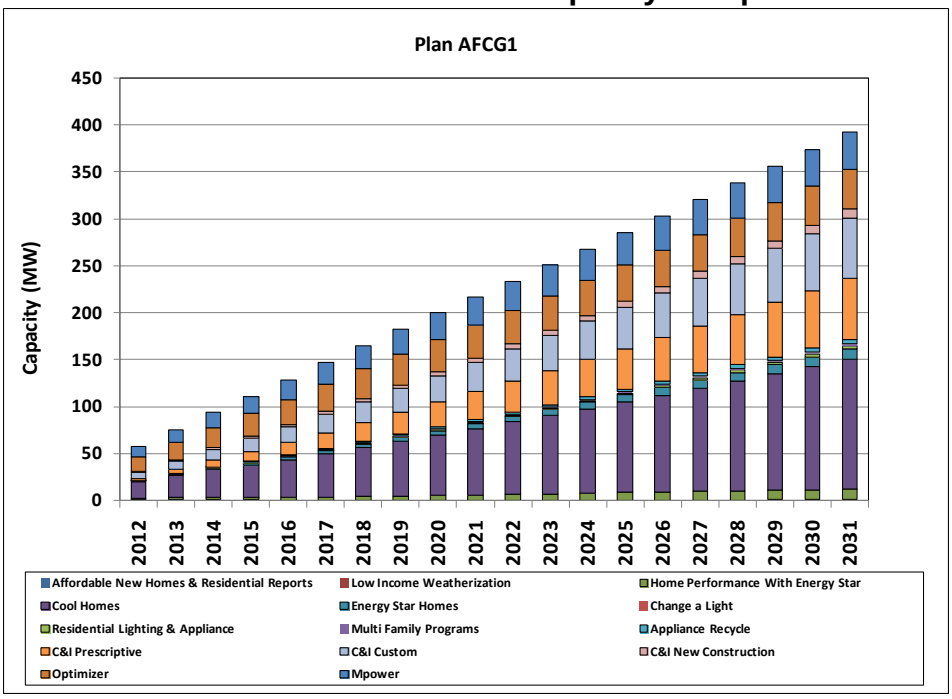

## Chart 33: Alternative Resource Plan Capacity Composition ADCG1



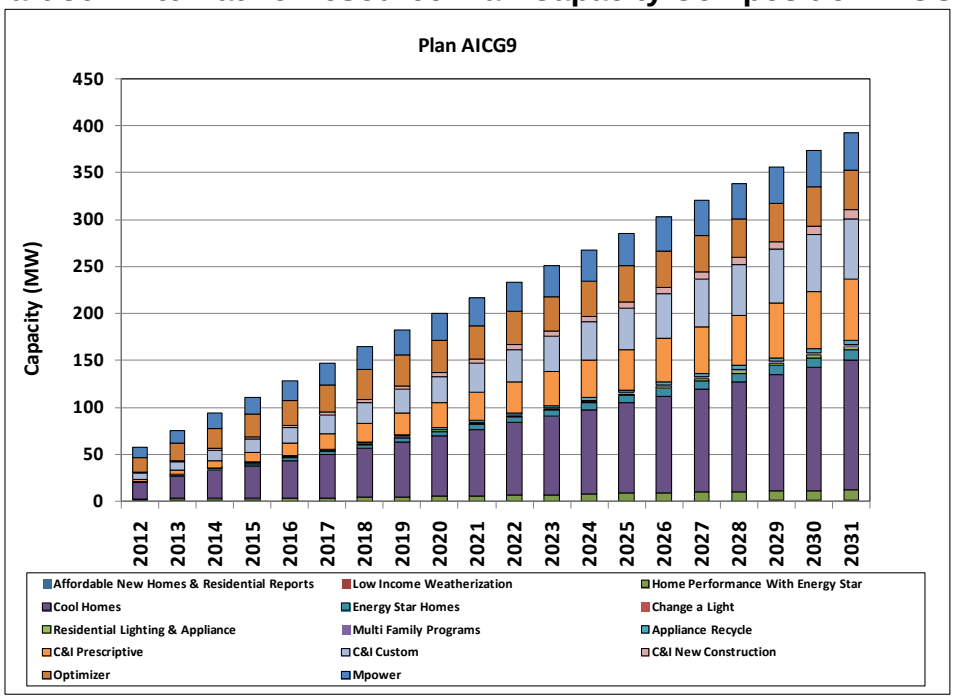
## Chart 34: Alternative Resource Plan Capacity Composition AECG1



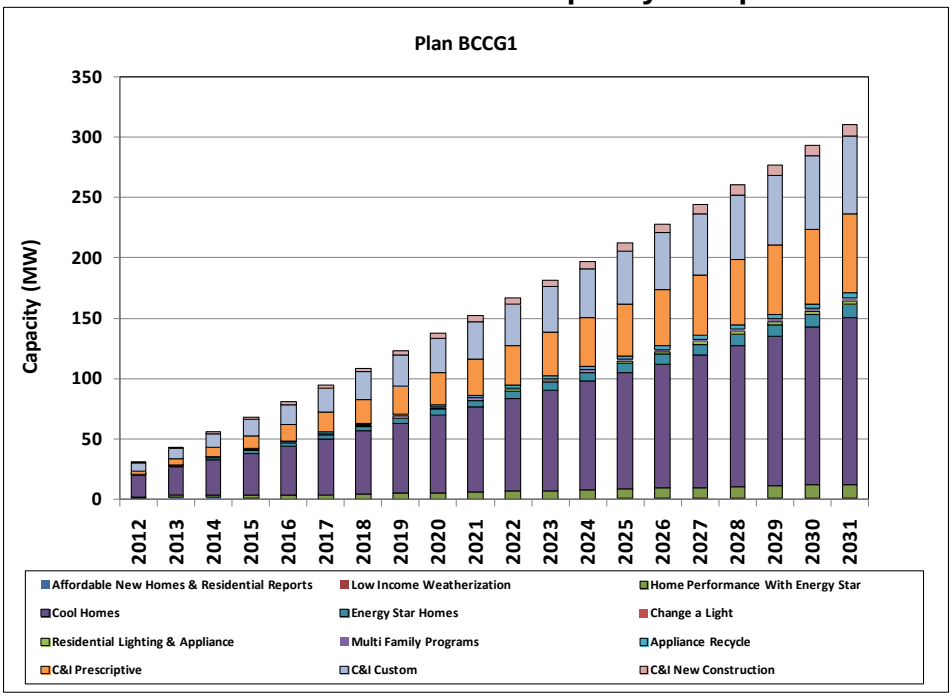

## Chart 35: Alternative Resource Plan Capacity Composition AFCG1



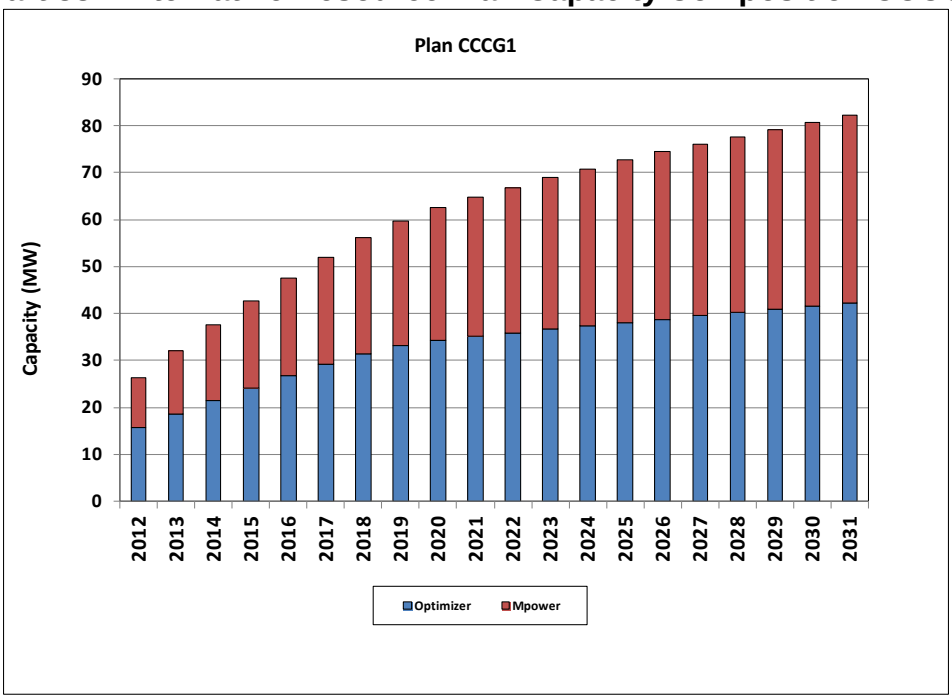
## Chart 36: Alternative Resource Plan Capacity Composition AICG9



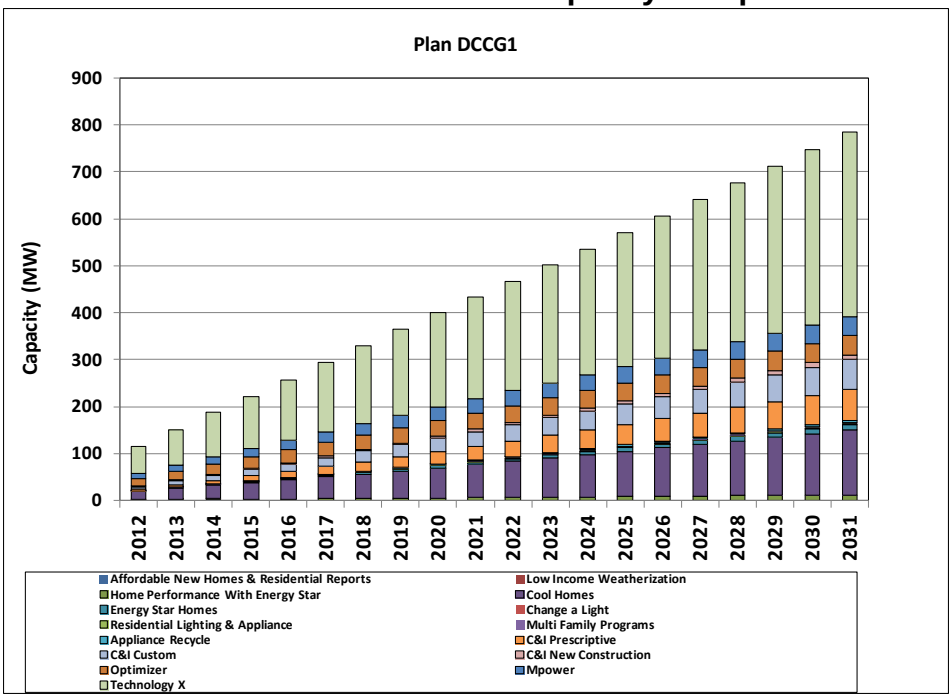

## Chart 37: Alternative Resource Plan Capacity Composition BCCG1



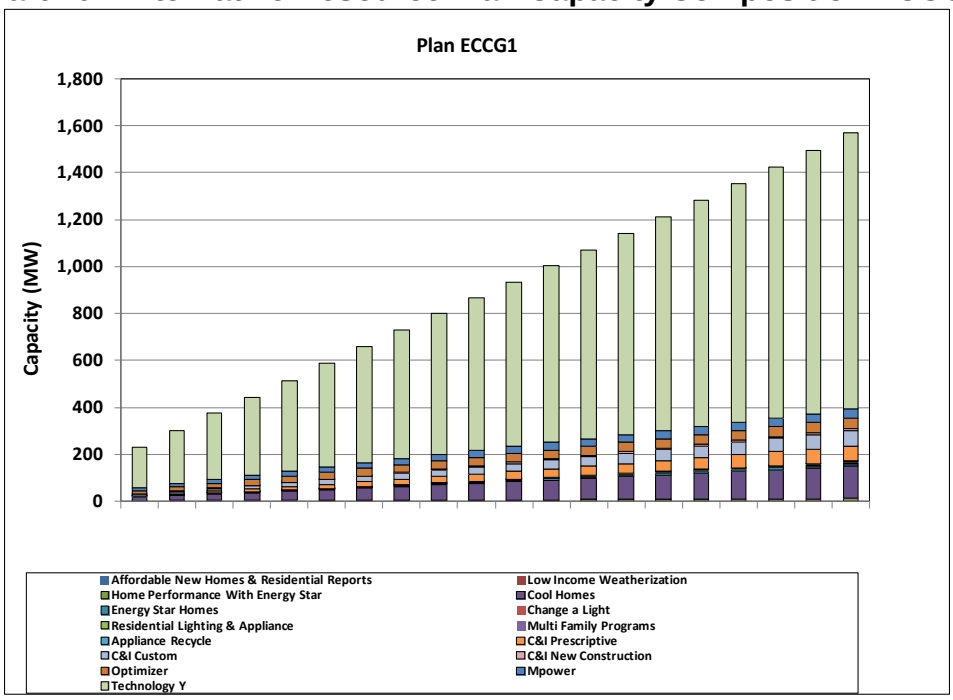
## Chart 38: Alternative Resource Plan Capacity Composition CCCG1




## Chart 39: Alternative Resource Plan Capacity Composition DCCG1



## Chart 40: Alternative Resource Plan Capacity Composition ECCG1




## Chart 41: Alternative Resource Plan Capacity Composition FCCG1

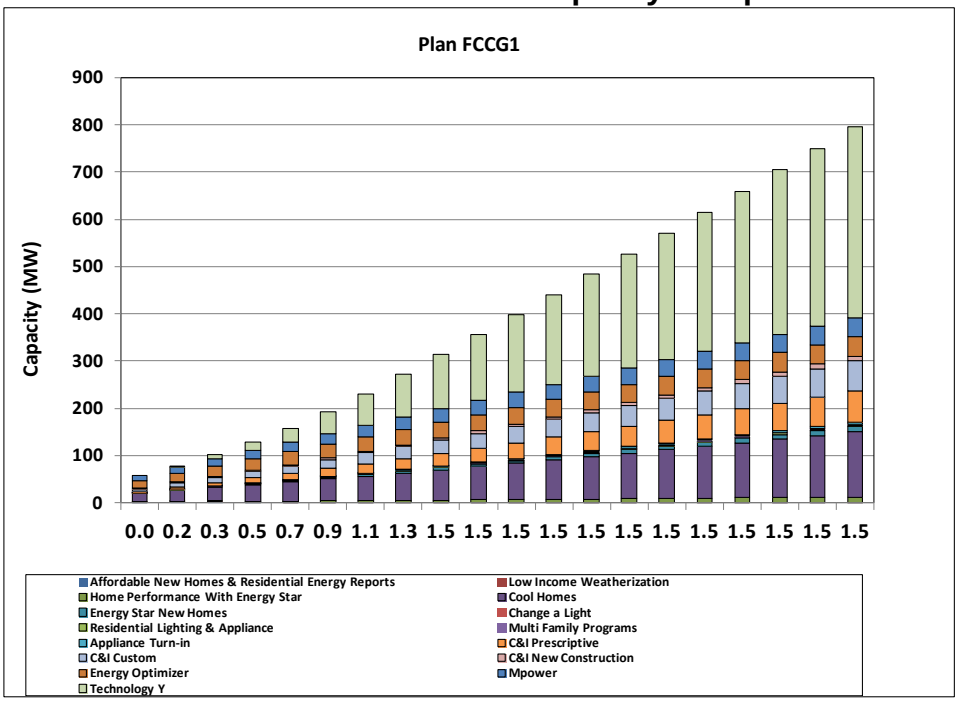
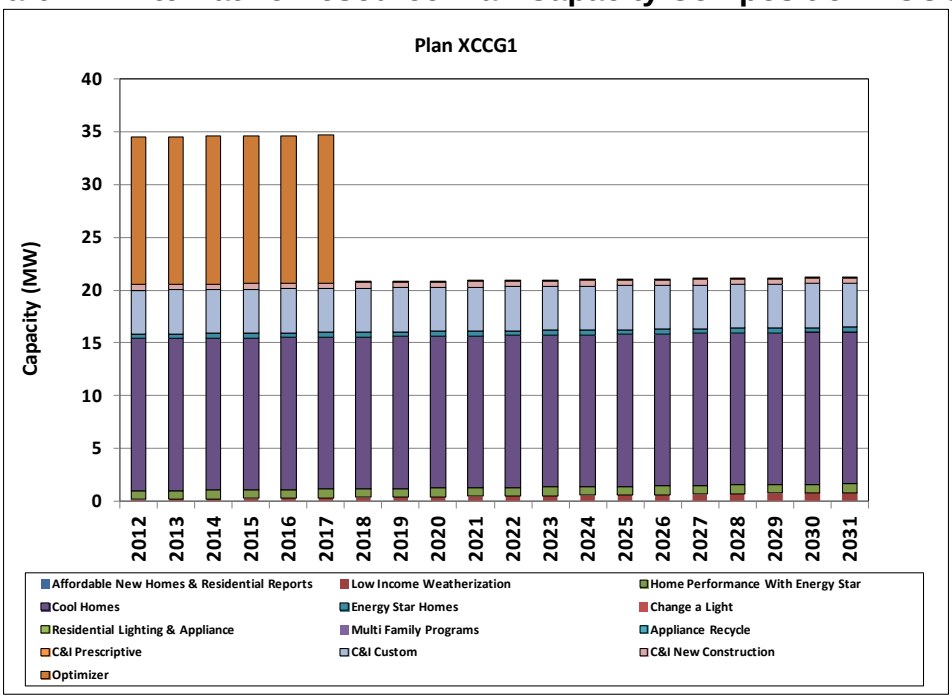


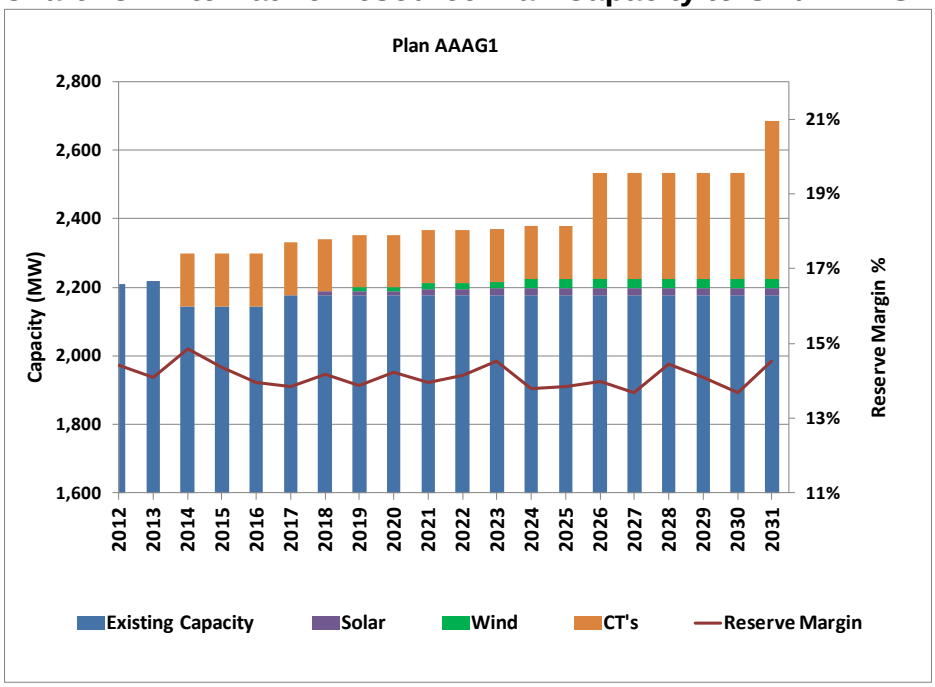
**Chart 42: Alternative Resource Plan Capacity Composition XCCG1**



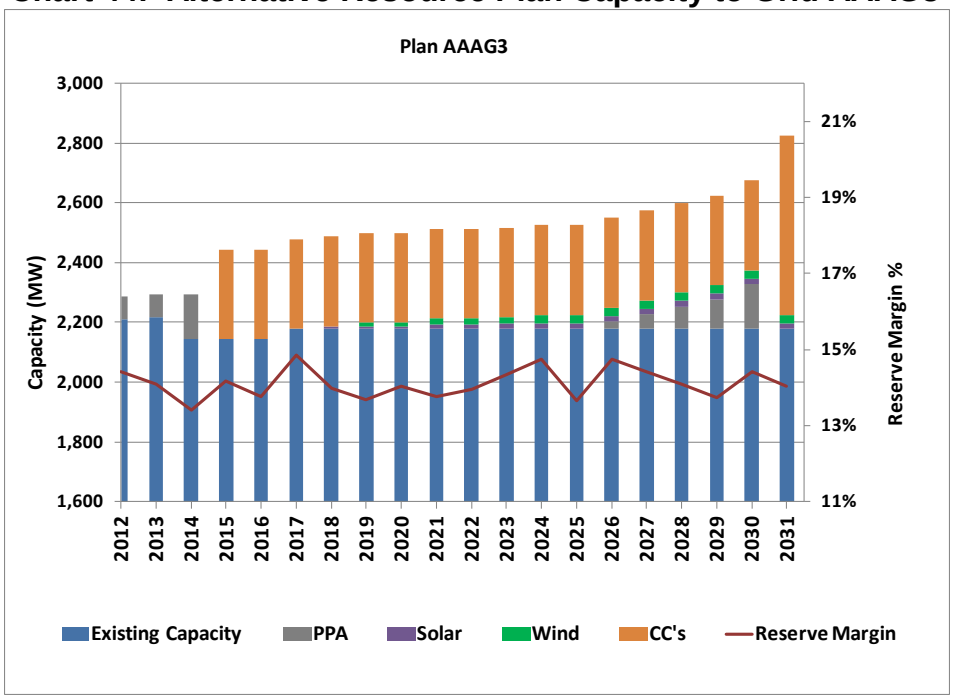

***3. The composition, by supply-side resource, of the capacity supplied to the transmission grid provided by supply-side resources. Existing supply-side resources may be shown as a single resource;***

The following charts, Chart 43 through Chart 63, illustrate the supply-side resource composition supplied under each of the Alternative Resource Plan

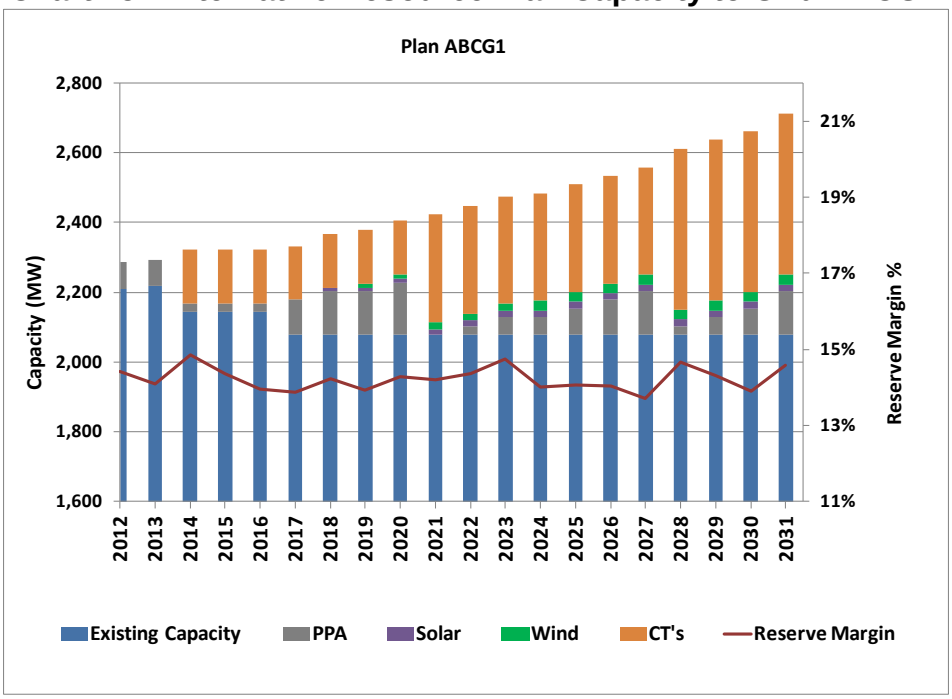
## Chart 43: Alternative Resource Plan Capacity to Grid AAAG1



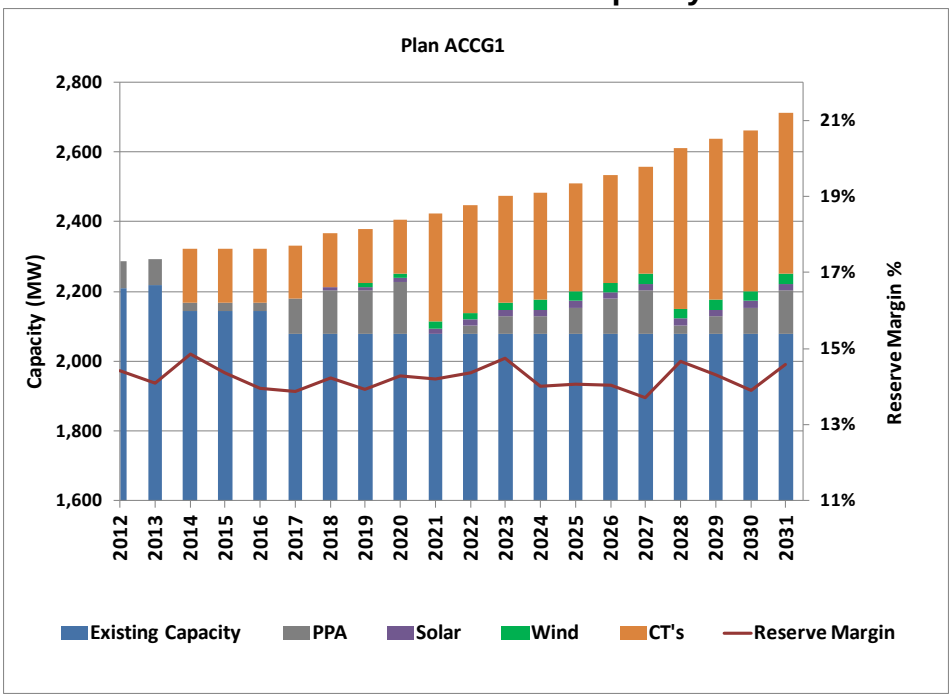

## Chart 44: Alternative Resource Plan Capacity to Grid AAAG3



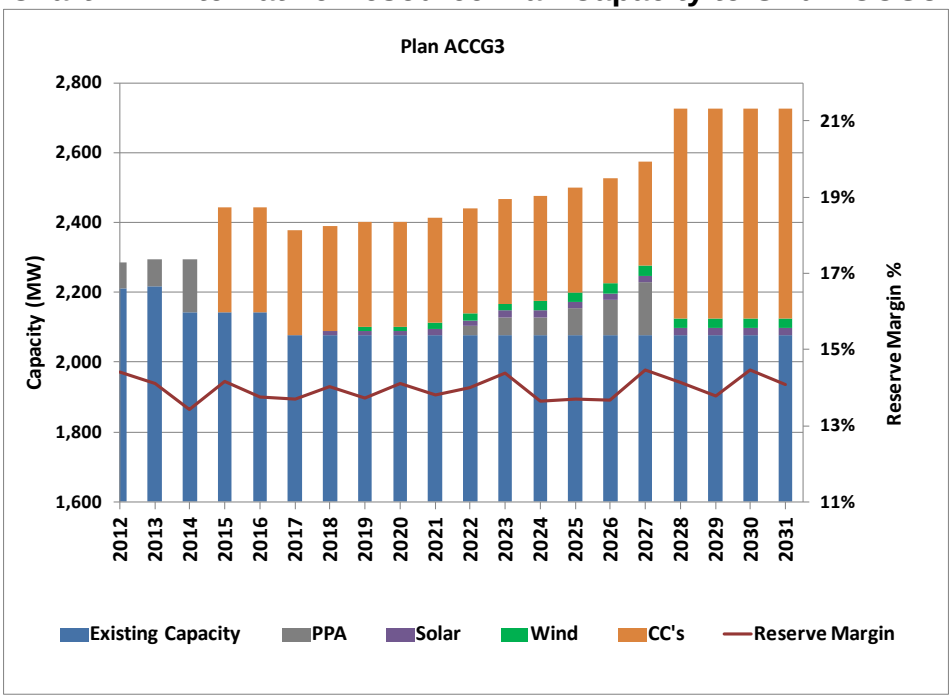
## Chart 45: Alternative Resource Plan Capacity to Grid ABCG1



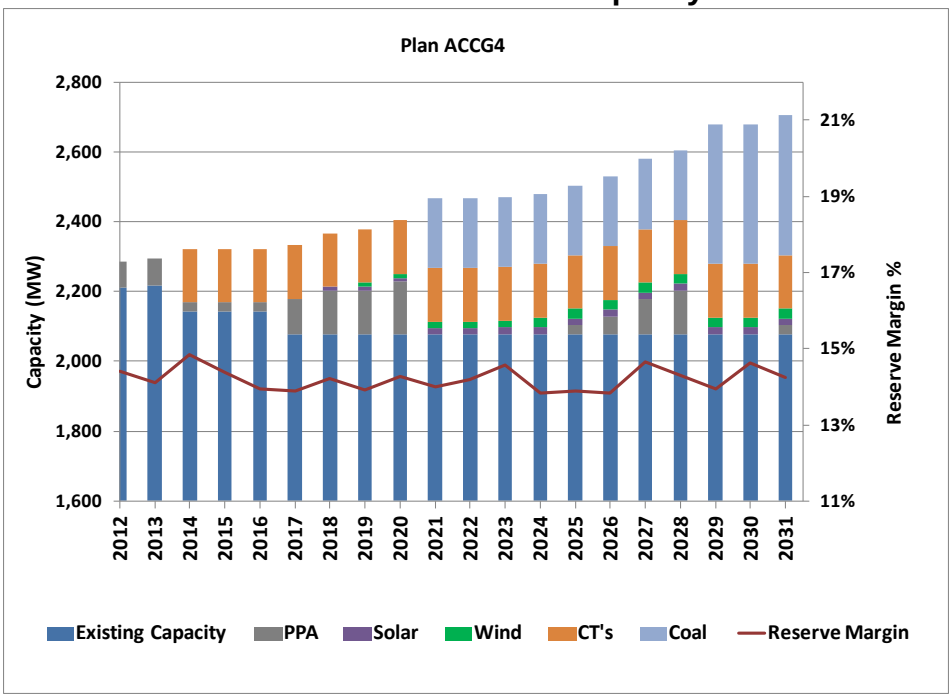

## Chart 46: Alternative Resource Plan Capacity to Grid ACCG1



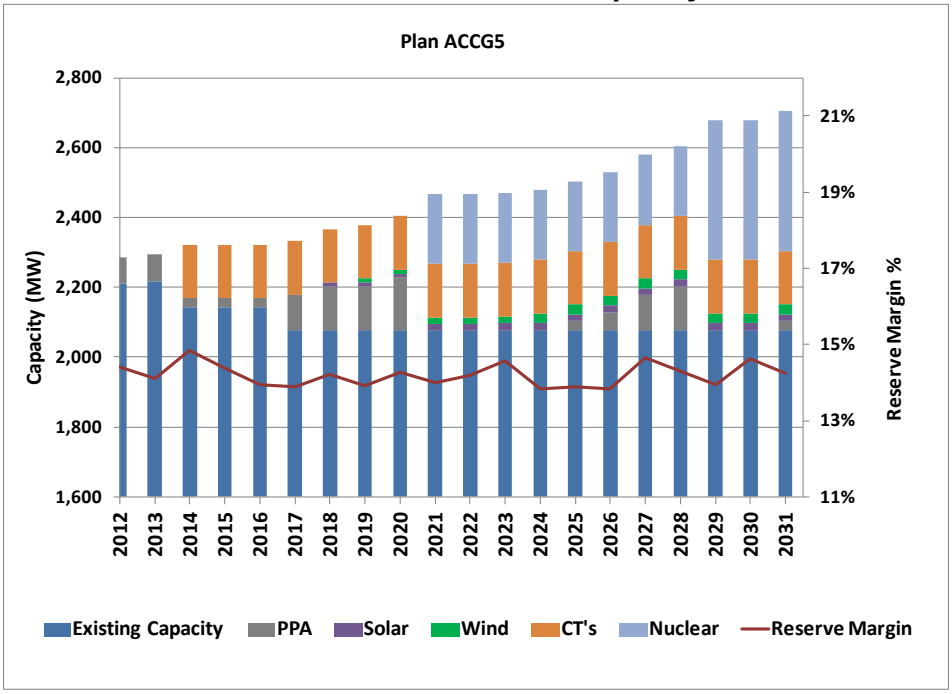
## Chart 47: Alternative Resource Plan Capacity to Grid ACCG3



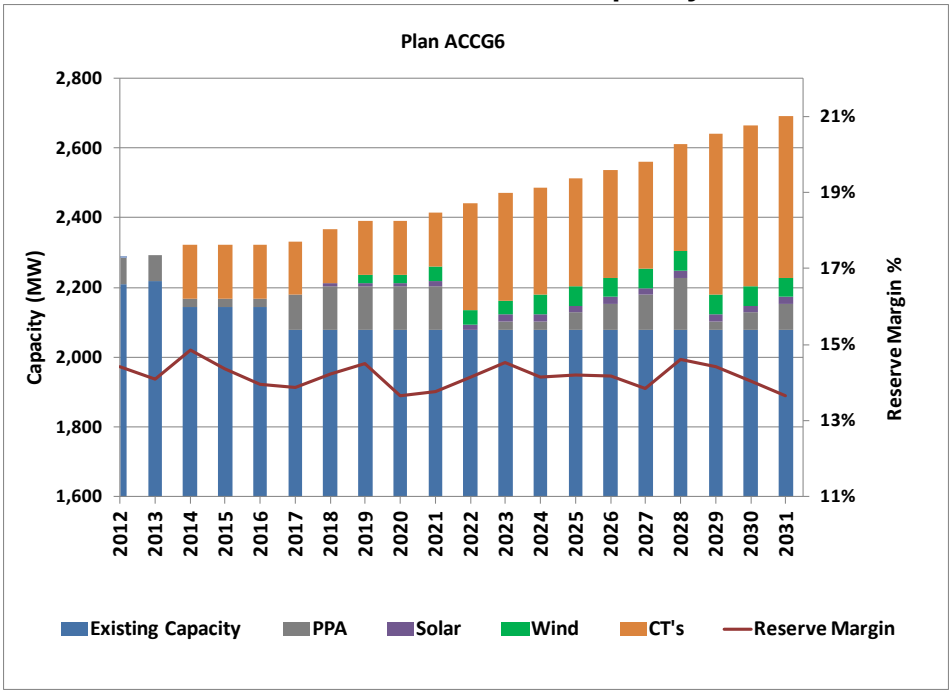

## Chart 48: Alternative Resource Plan Capacity to Grid ACCG4



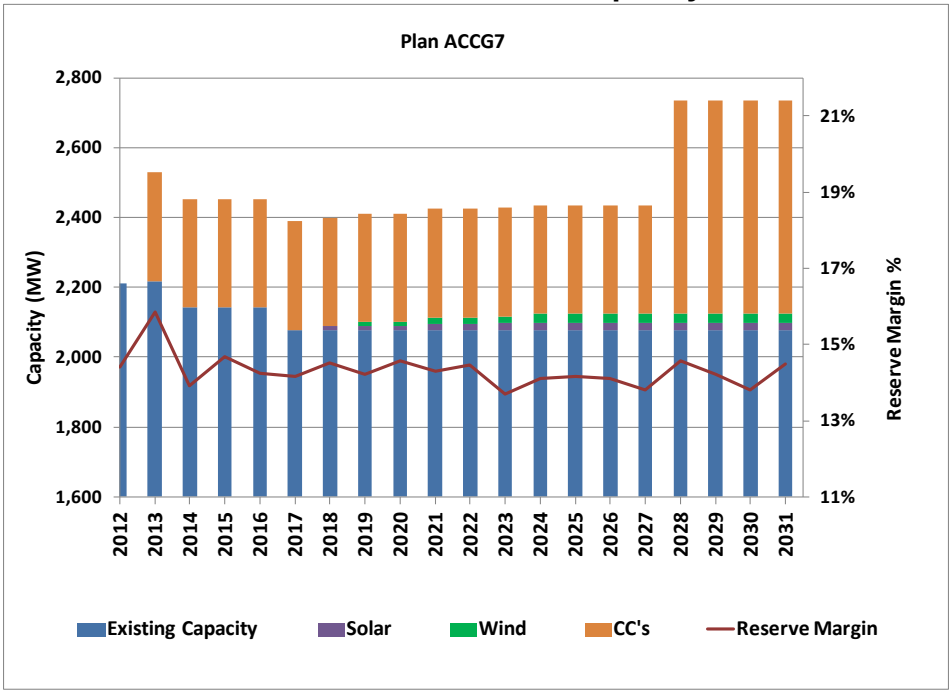
## Chart 49: Alternative Resource Plan Capacity to Grid ACCG5



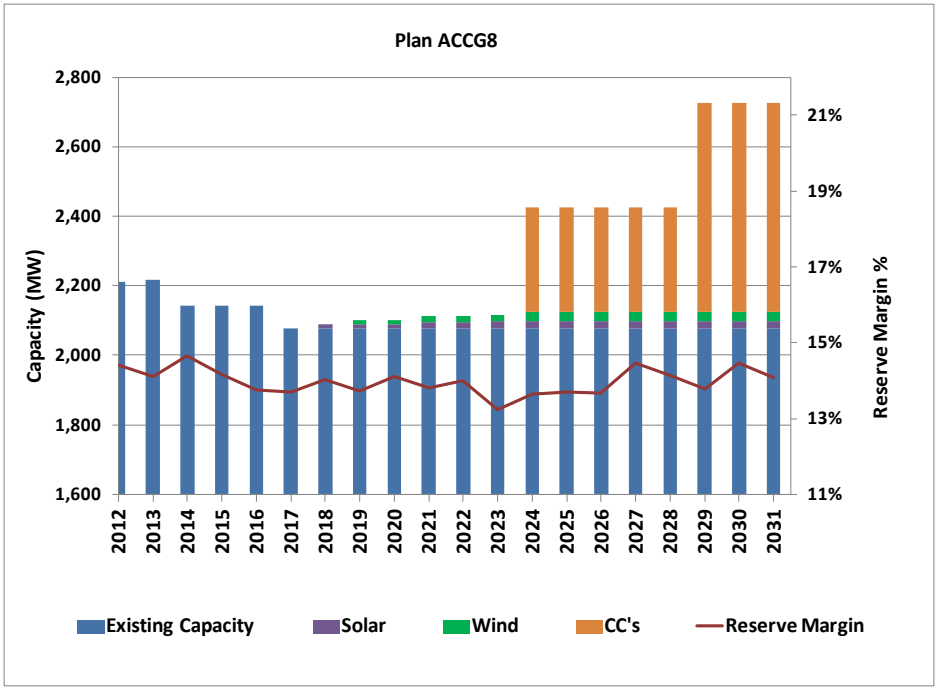

## Chart 50: Alternative Resource Plan Capacity to Grid ACCG6



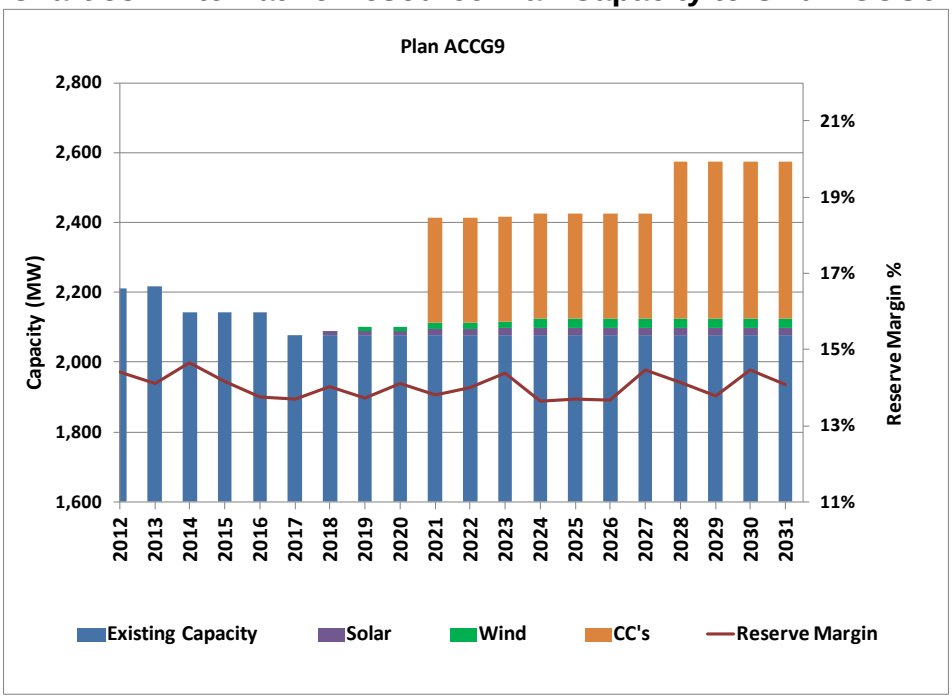
## Chart 51: Alternative Resource Plan Capacity to Grid ACCG7



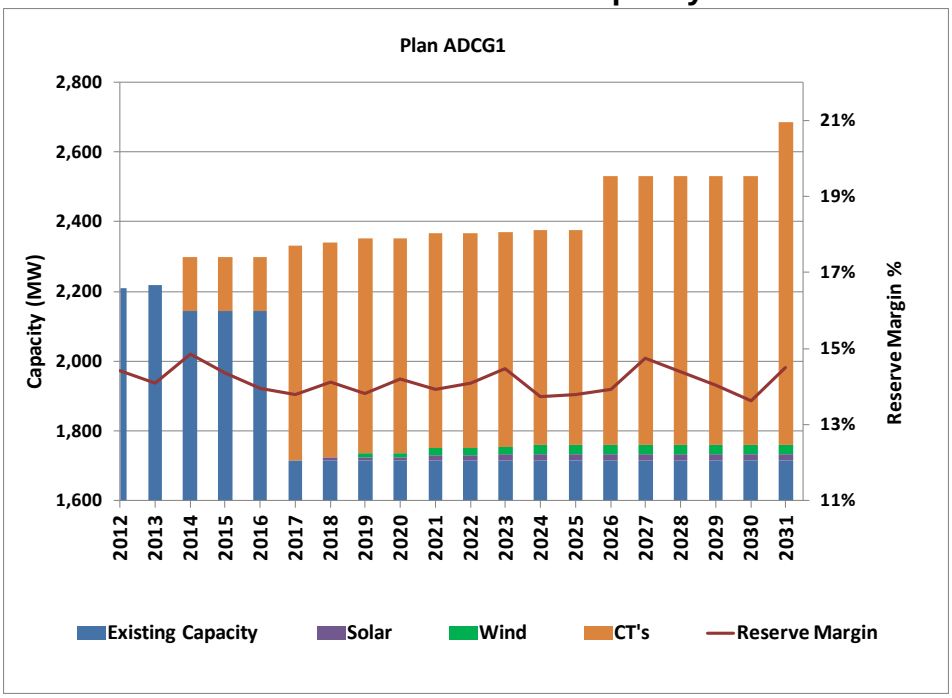

## Chart 52: Alternative Resource Plan Capacity to Grid ACCG8



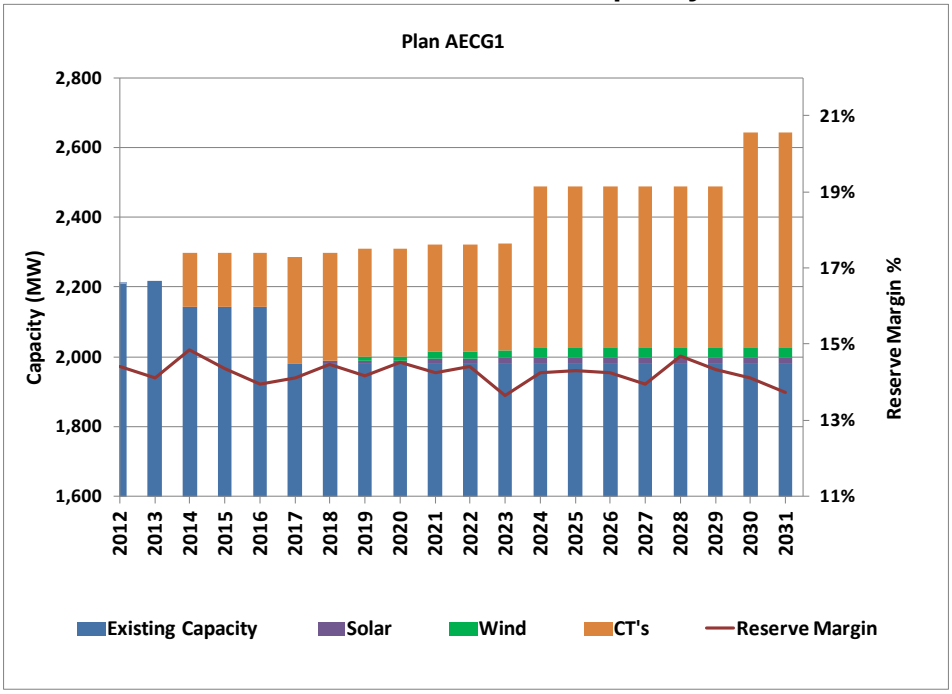
## Chart 53: Alternative Resource Plan Capacity to Grid ACCG9



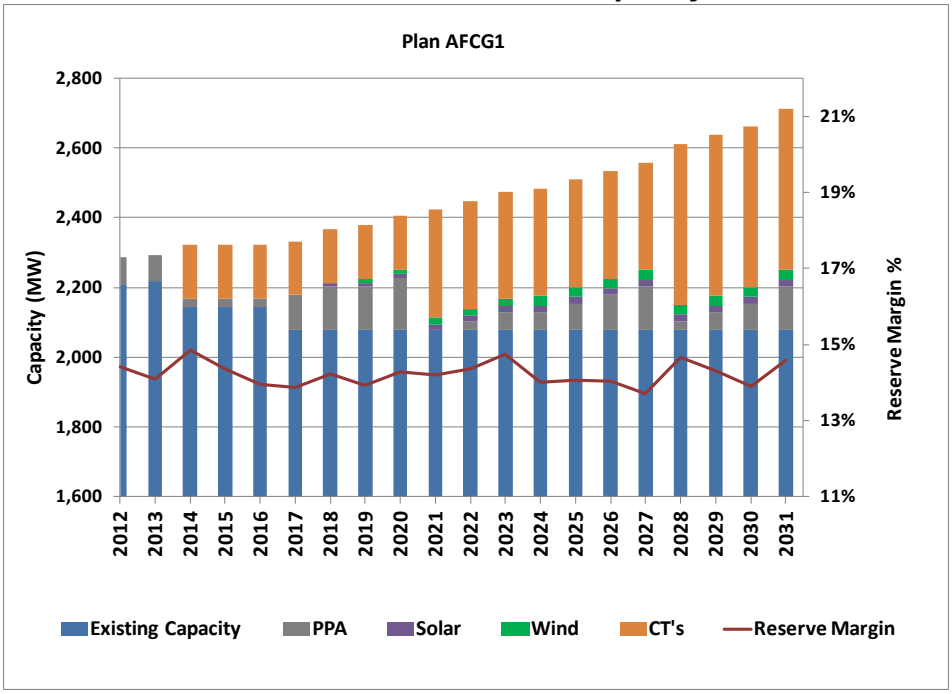

## Chart 54: Alternative Resource Plan Capacity to Grid ADCG1



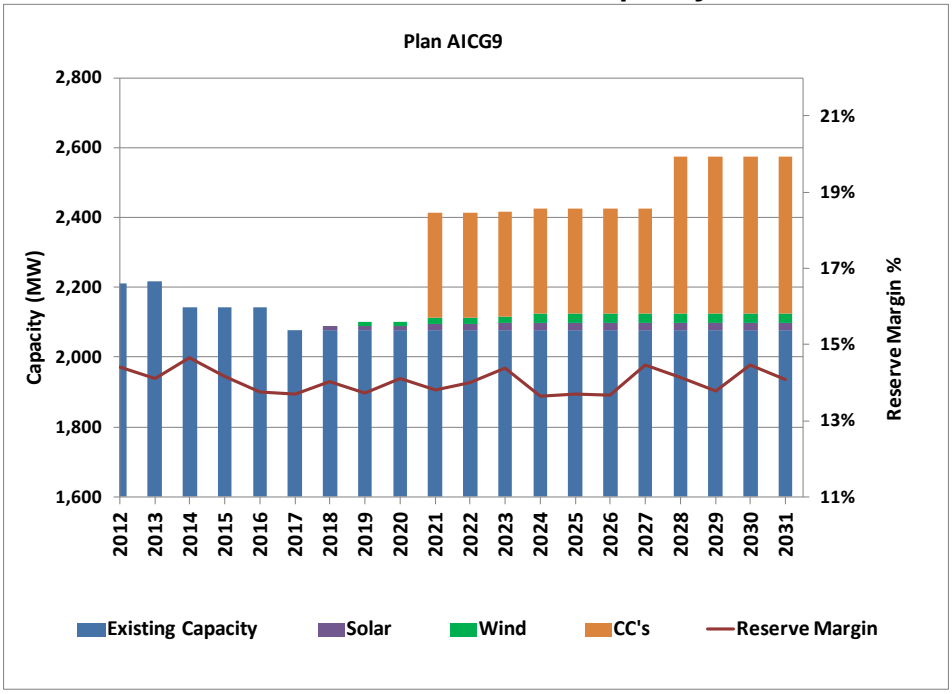
## Chart 55: Alternative Resource Plan Capacity to Grid AECG1



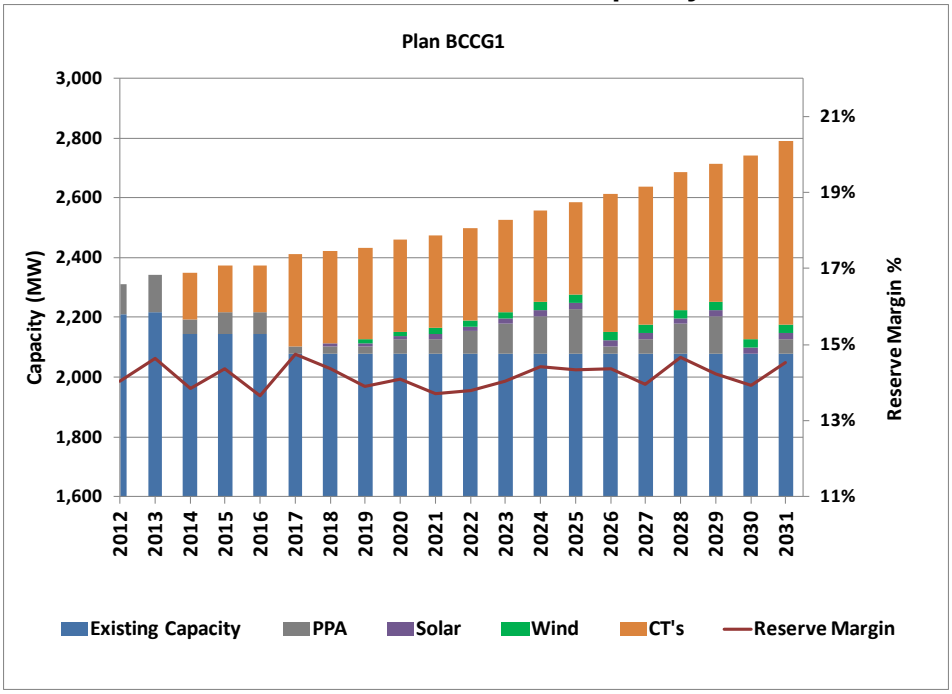

## Chart 56: Alternative Resource Plan Capacity to Grid AFCG1



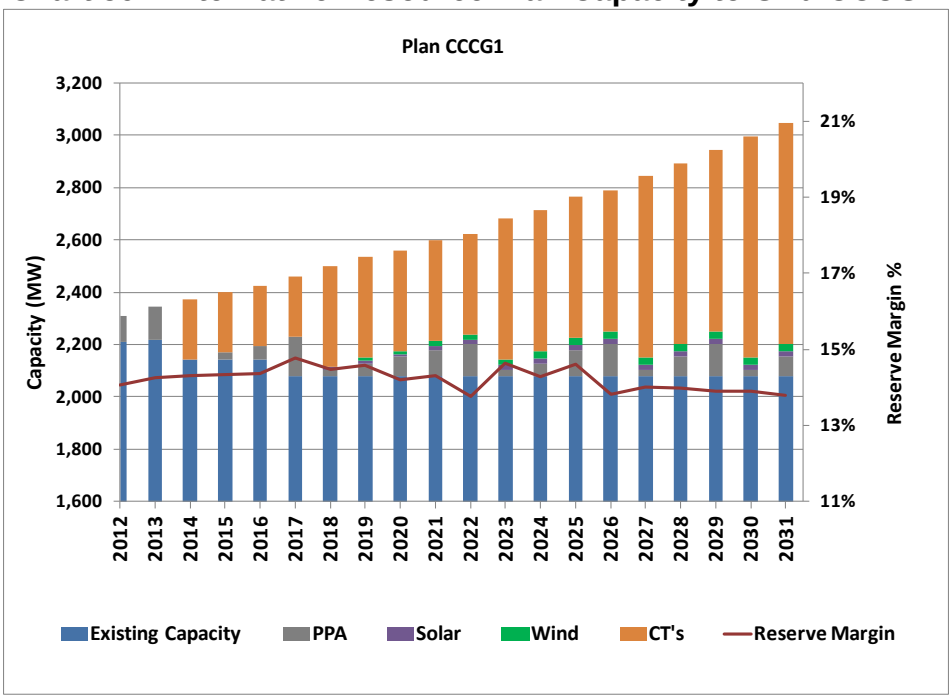
## Chart 57: Alternative Resource Plan Capacity to Grid AICG9



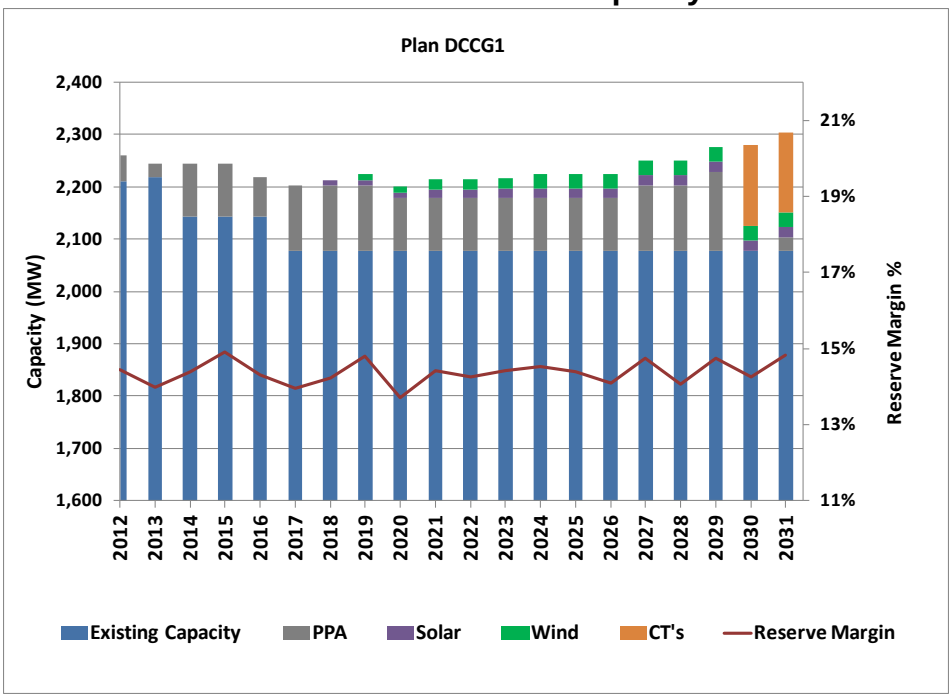

## Chart 58: Alternative Resource Plan Capacity to Grid BCCG1



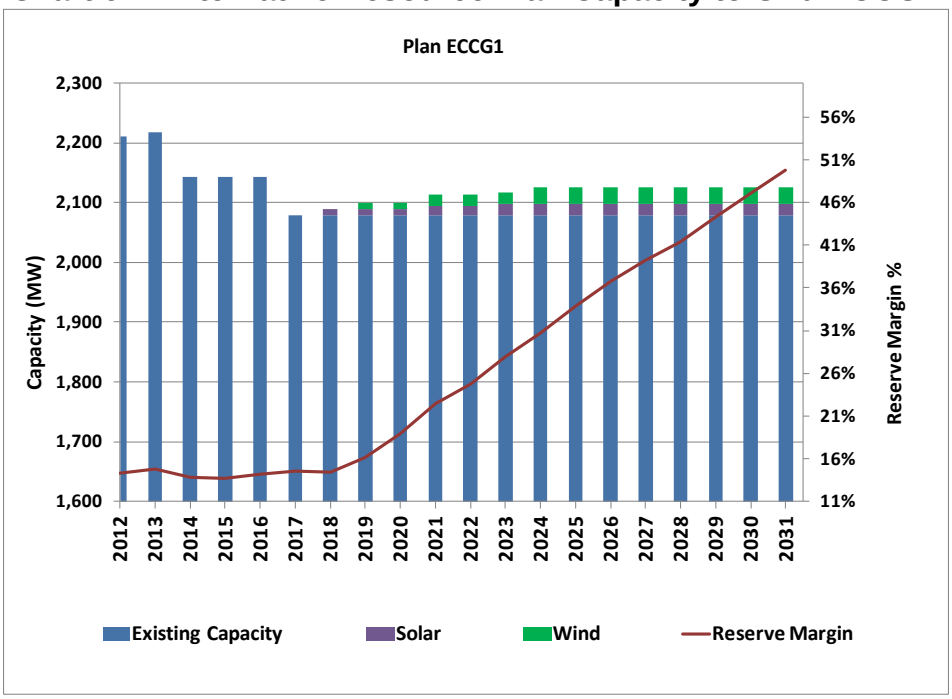
## Chart 59: Alternative Resource Plan Capacity to Grid CCCG1




## Chart 60: Alternative Resource Plan Capacity to Grid DCCG1



## Chart 61: Alternative Resource Plan Capacity to Grid ECCG1




## Chart 62: Alternative Resource Plan Capacity to Grid FCCG1

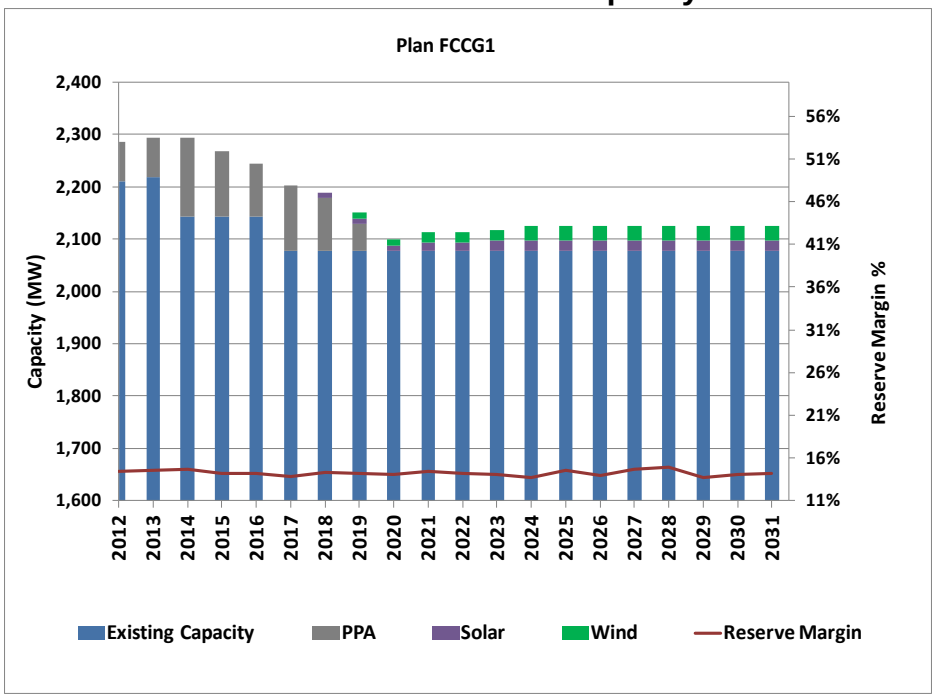
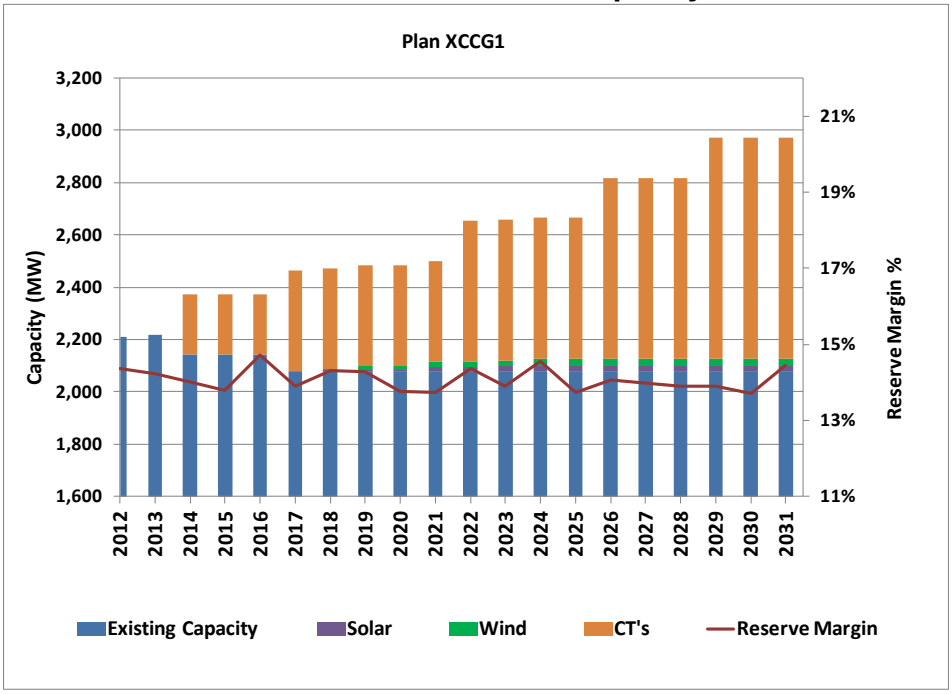


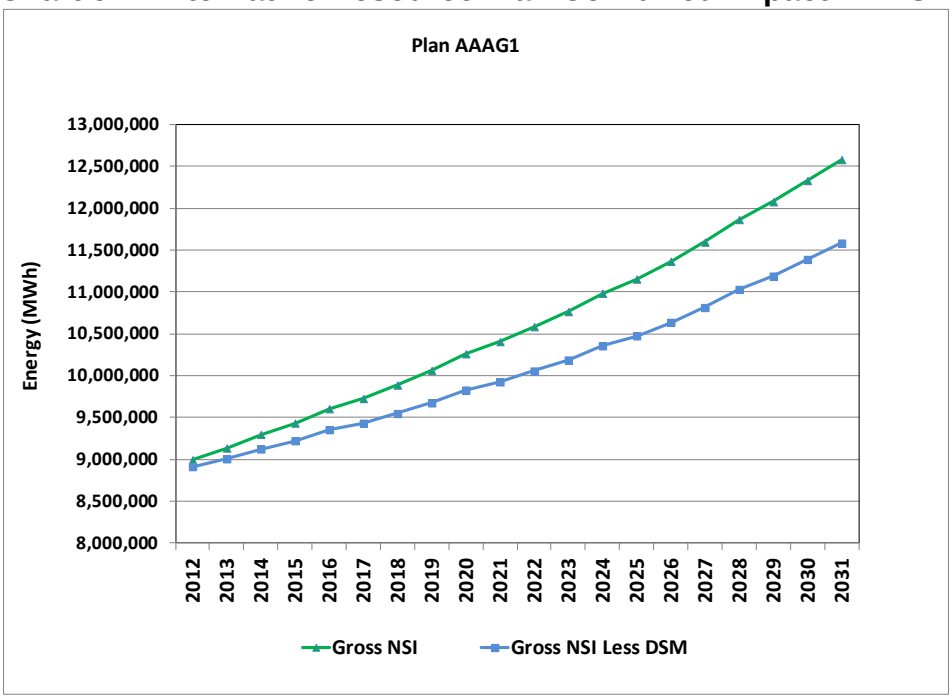
**Chart 63: Alternative Resource Plan Capacity to Grid XCCG1**



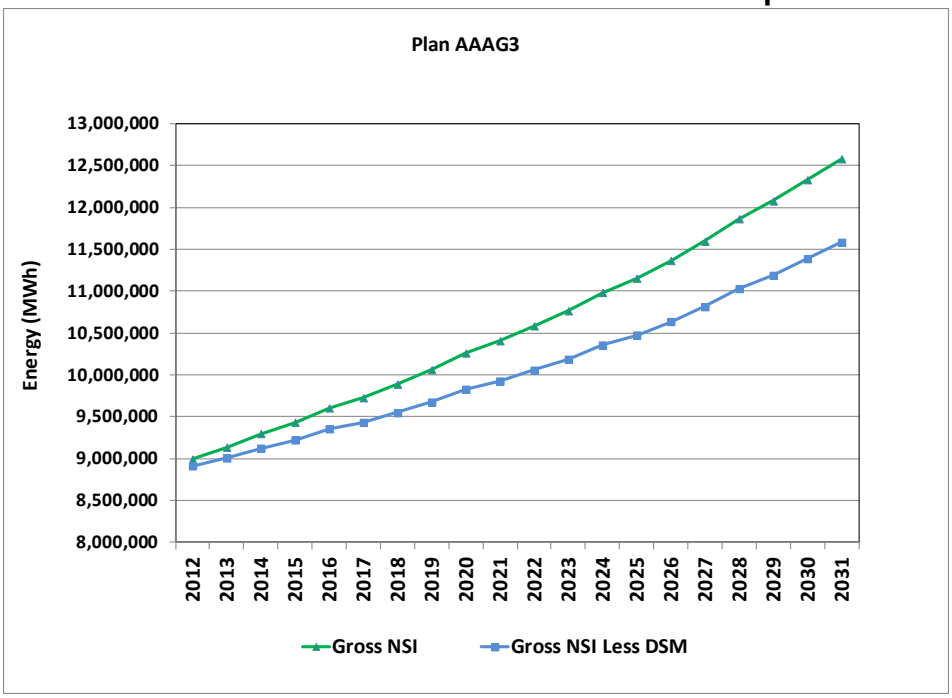

***4. The combined impact of all demand-side resources on the base-case forecast of annual energy requirements;***

The combined impact of all demand side resources on the base case forecast of annual energy requirements for each Alternative Resource Plan are shown in the following charts, Chart 64 through Chart 84.

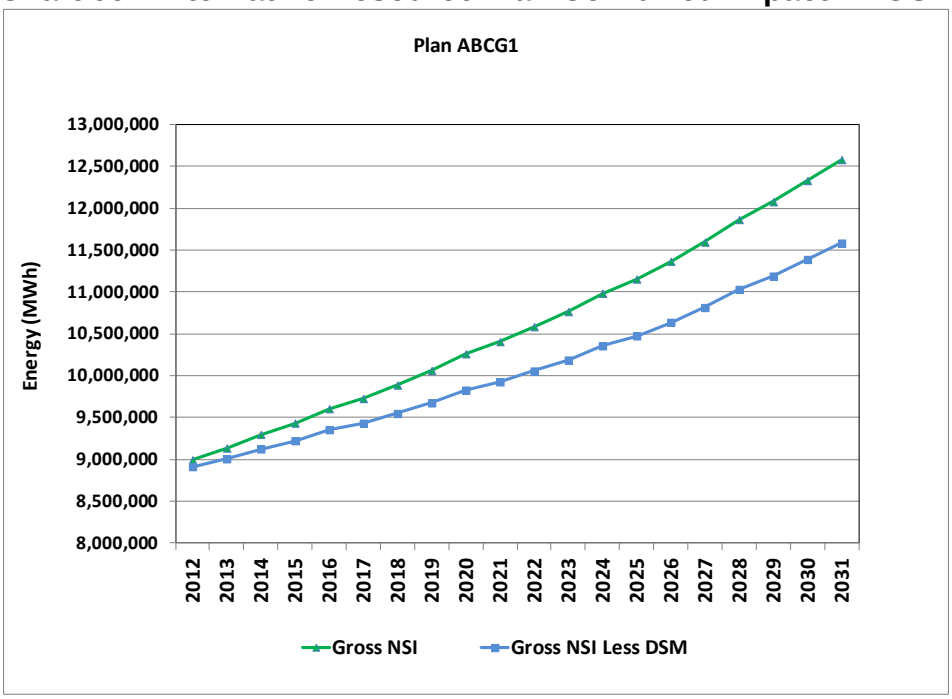
## Chart 64: Alternative Resource Plan Combined Impact AAAG1



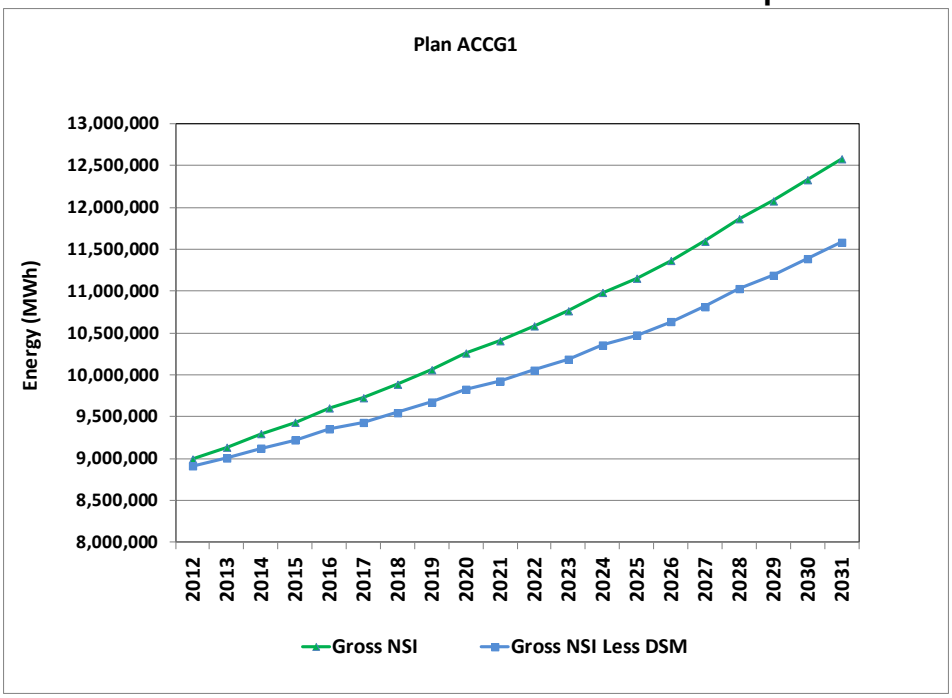

## Chart 65: Alternative Resource Plan Combined Impact AAAG3



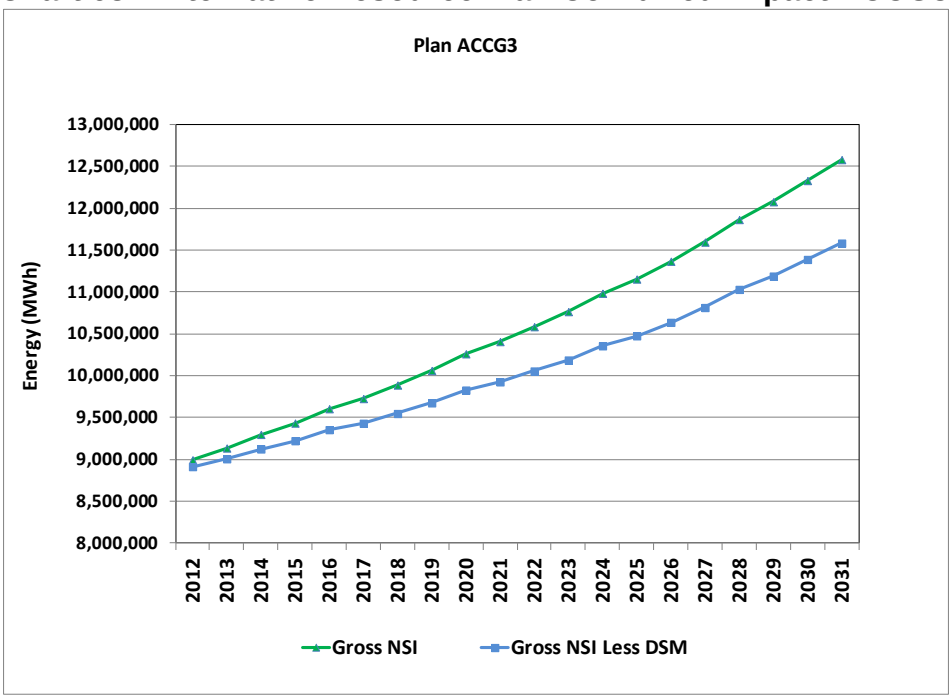
## Chart 66: Alternative Resource Plan Combined Impact ABCG1



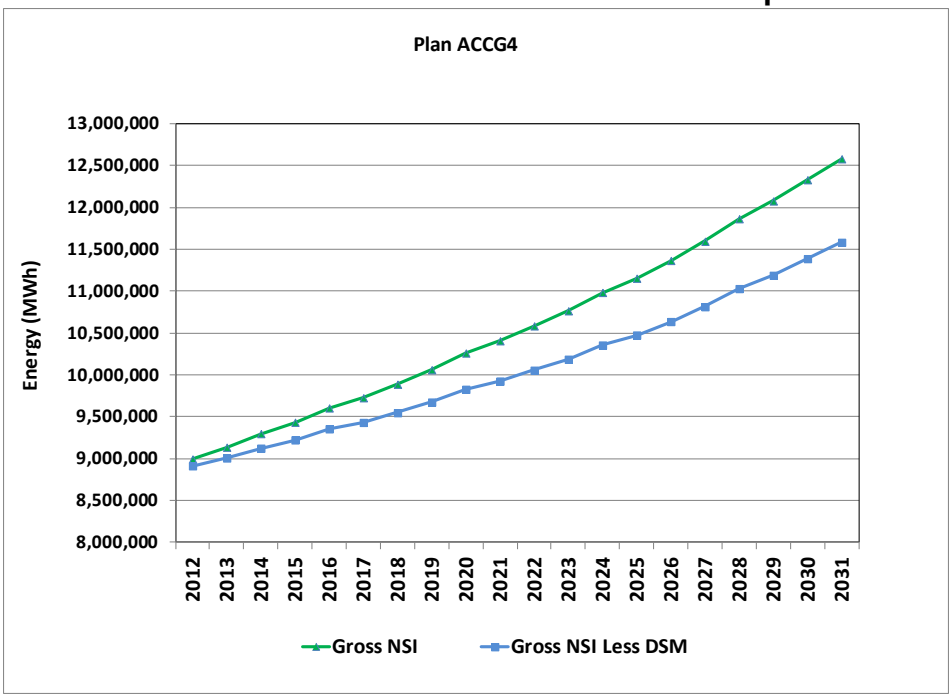

## Chart 67: Alternative Resource Plan Combined Impact ACCG1



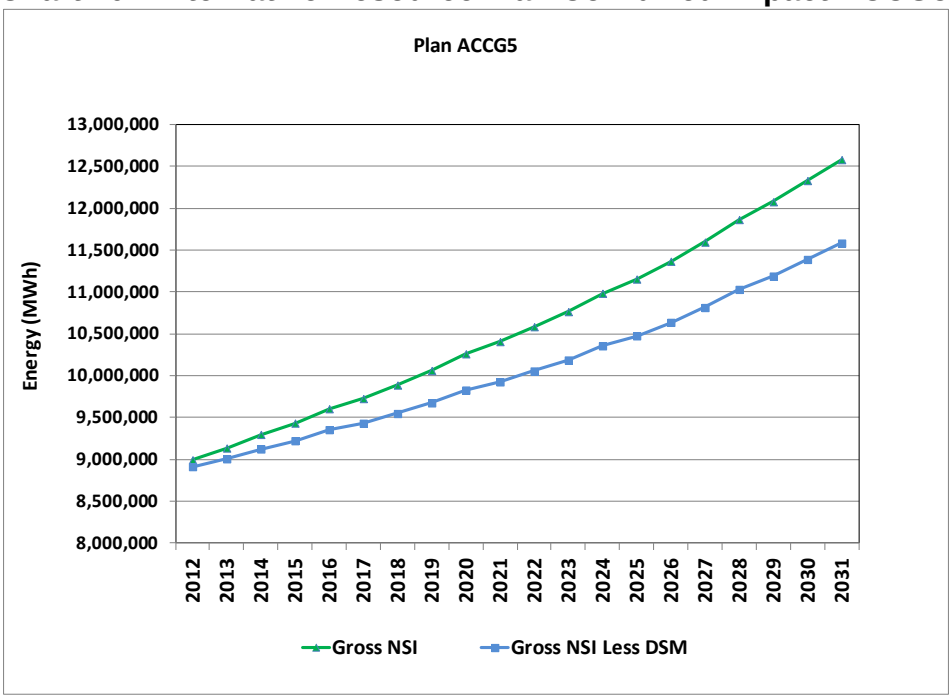
## Chart 68: Alternative Resource Plan Combined Impact ACCG3



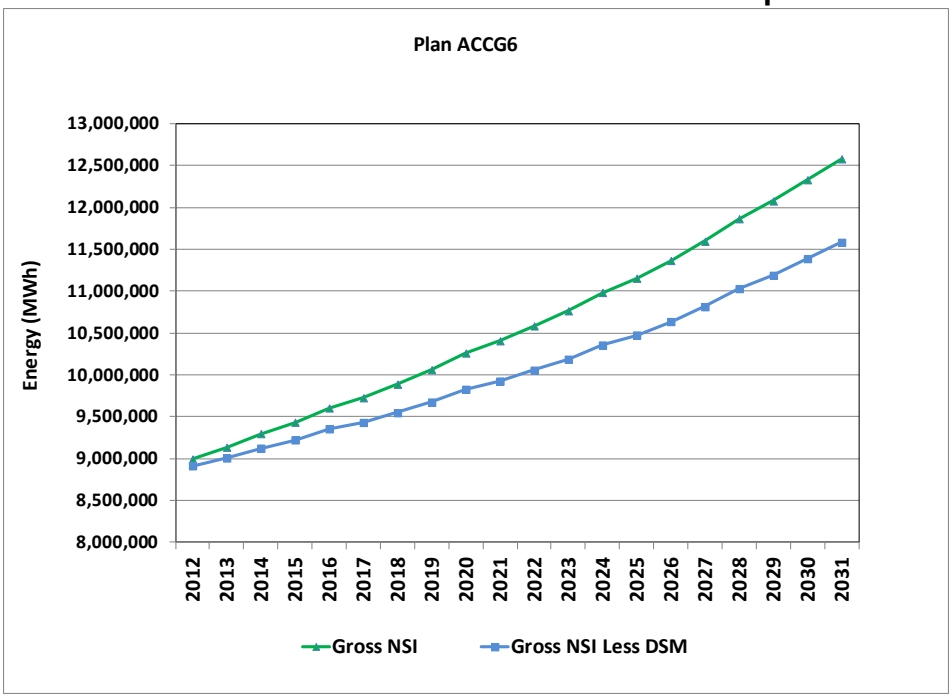

## Chart 69: Alternative Resource Plan Combined Impact ACCG4



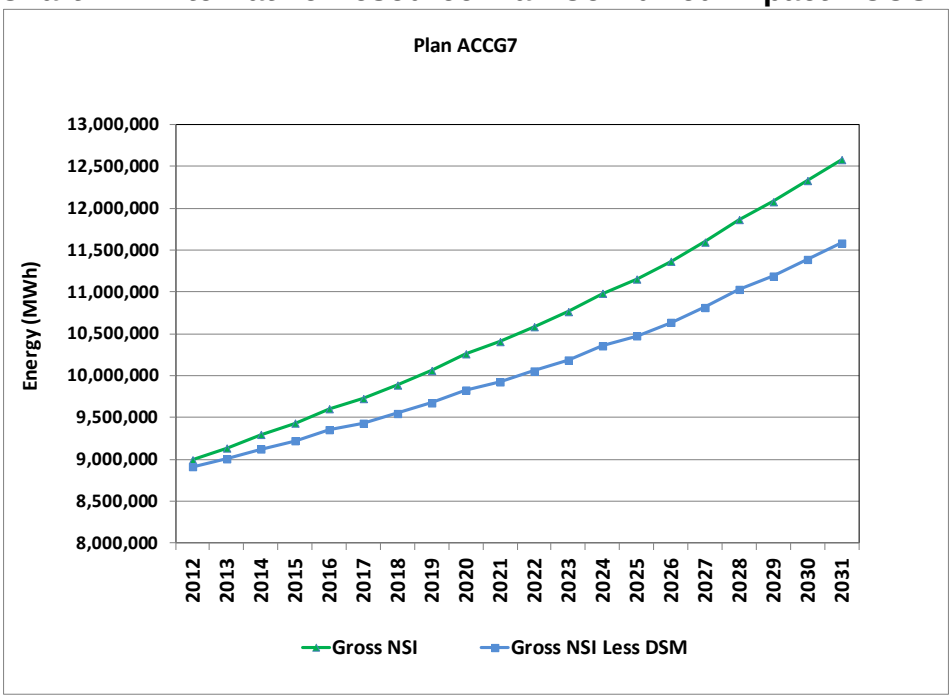
## Chart 70: Alternative Resource Plan Combined Impact ACCG5



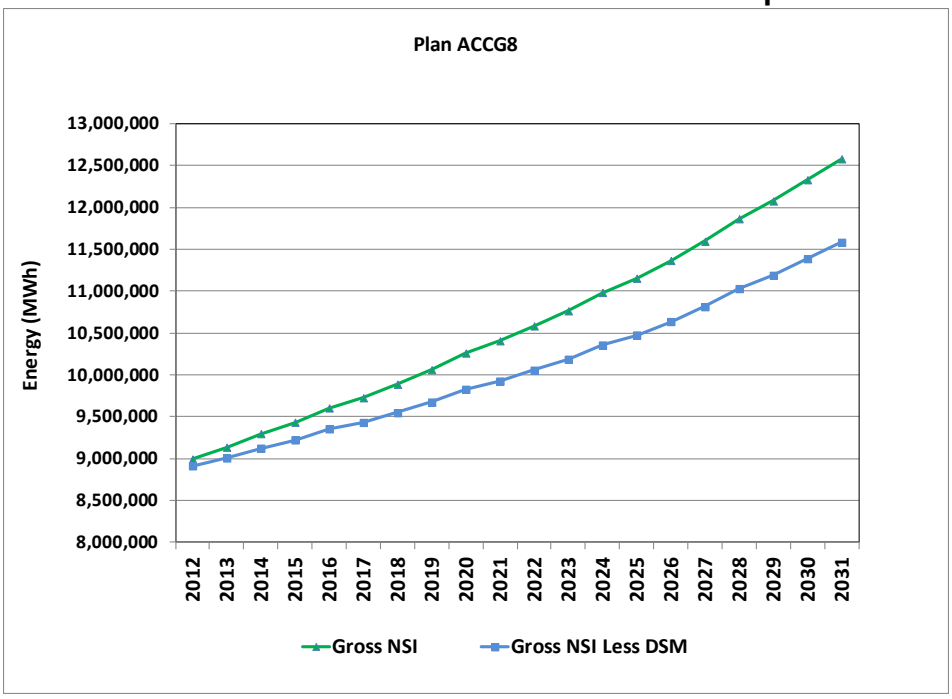

## Chart 71: Alternative Resource Plan Combined Impact ACCG6



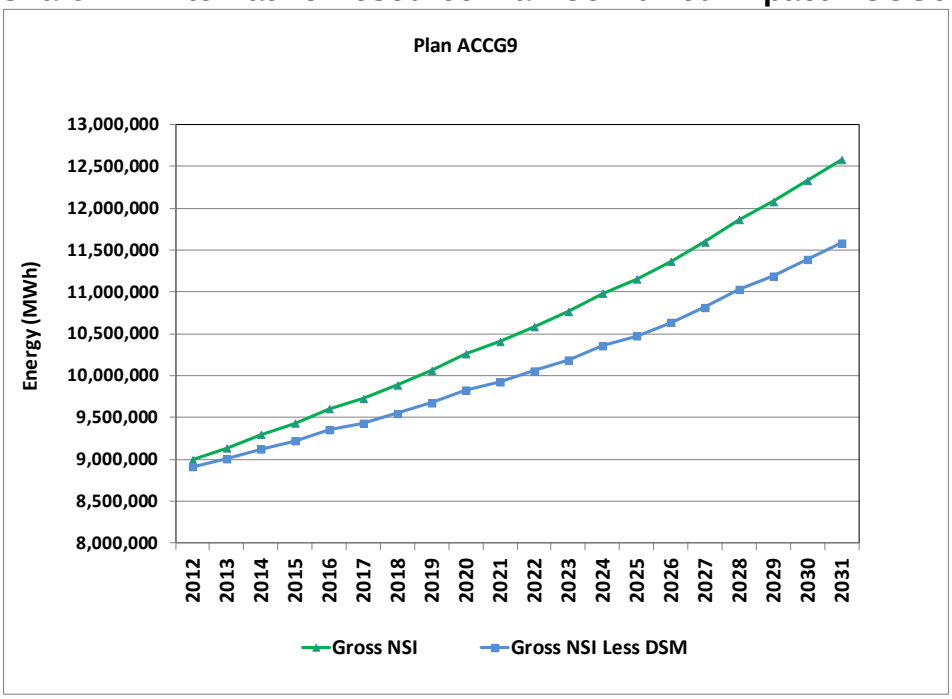
## Chart 72: Alternative Resource Plan Combined Impact ACCG7



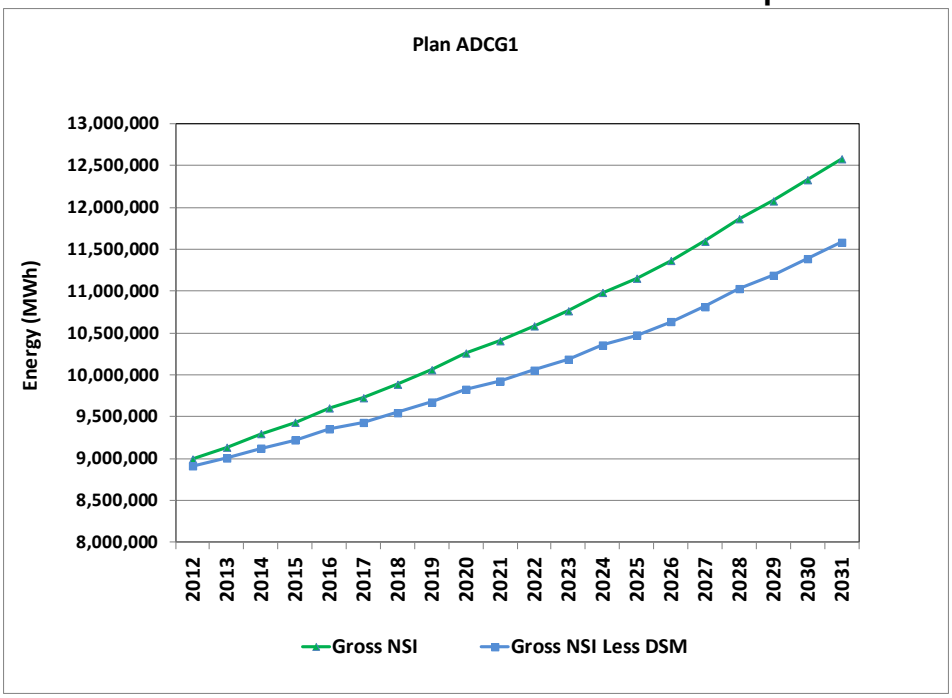

## Chart 73: Alternative Resource Plan Combined Impact ACCG8



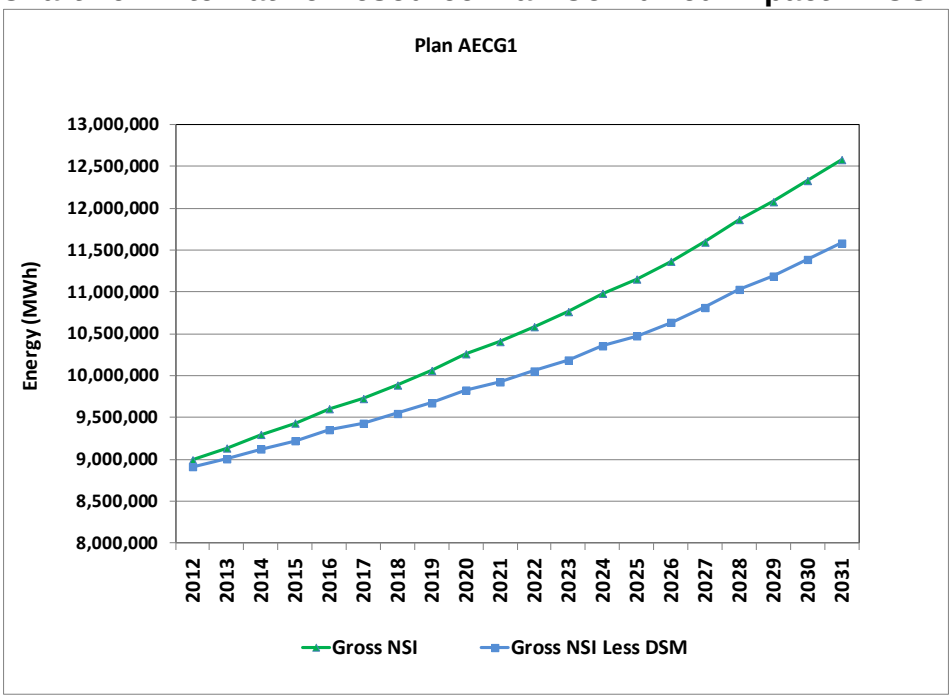
## Chart 74: Alternative Resource Plan Combined Impact ACCG9



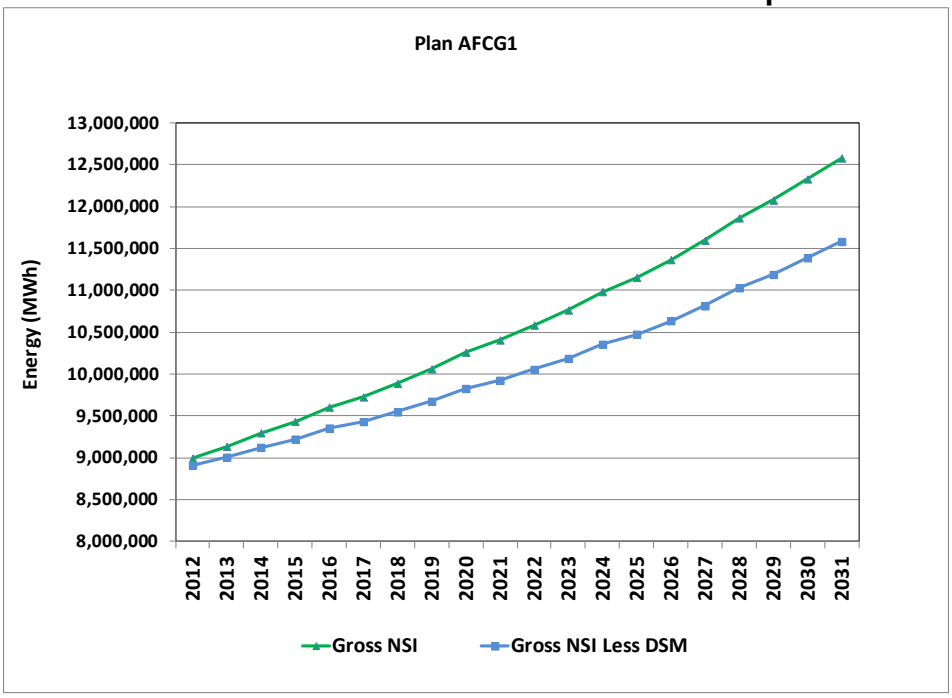

## Chart 75: Alternative Resource Plan Combined Impact ADCG1



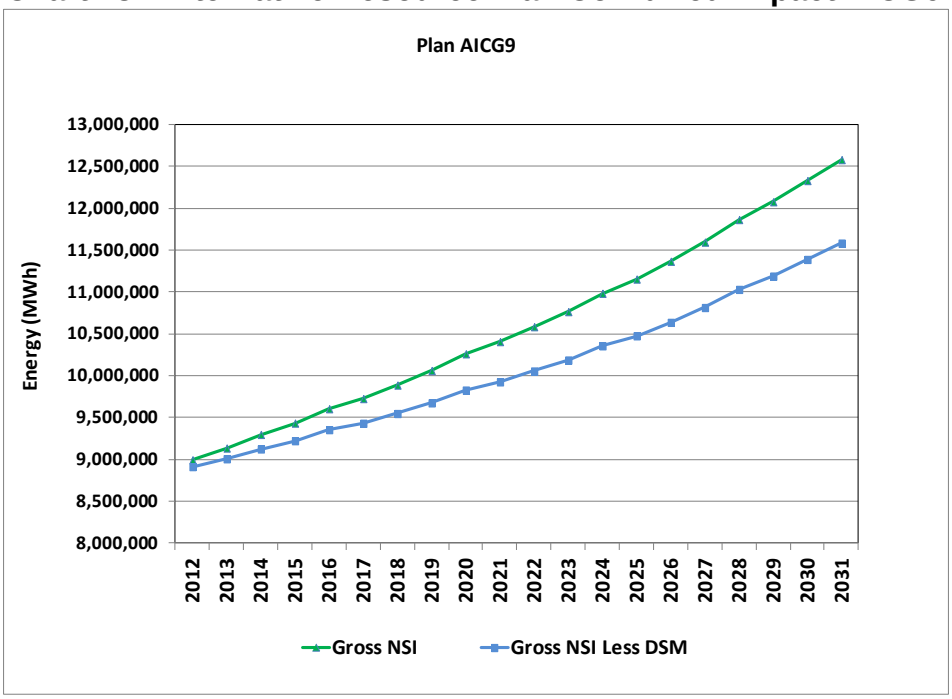
## Chart 76: Alternative Resource Plan Combined Impact AECG1



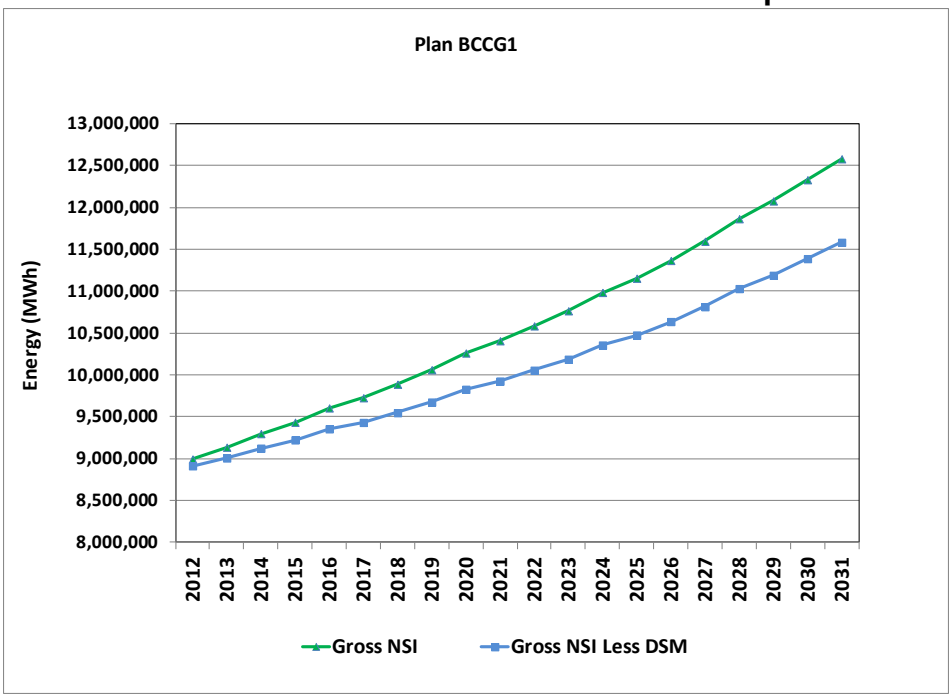

## Chart 77: Alternative Resource Plan Combined Impact AFCG1



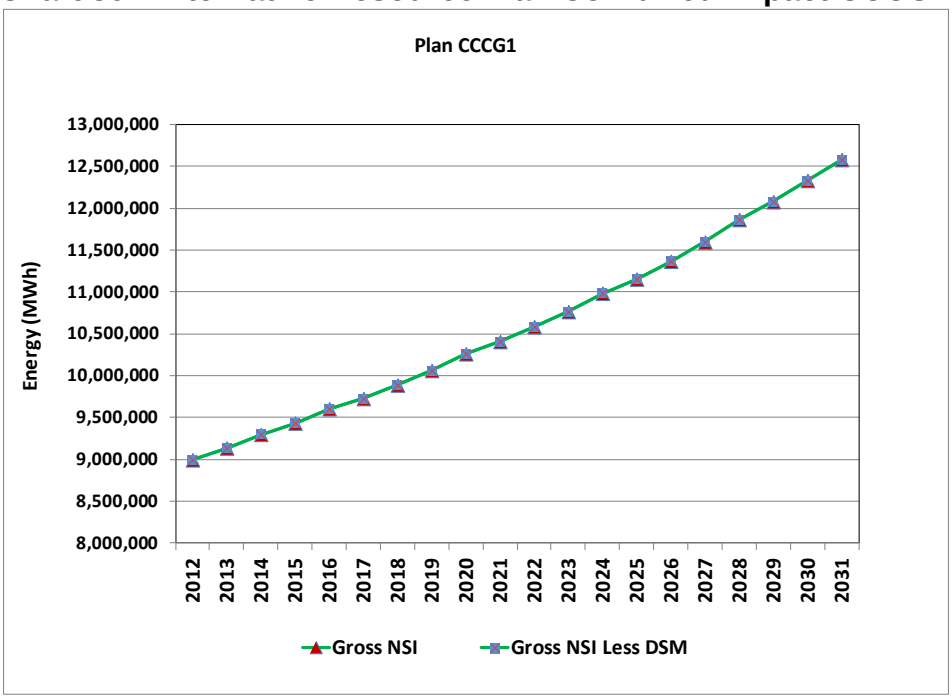
## Chart 78: Alternative Resource Plan Combined Impact AICG9



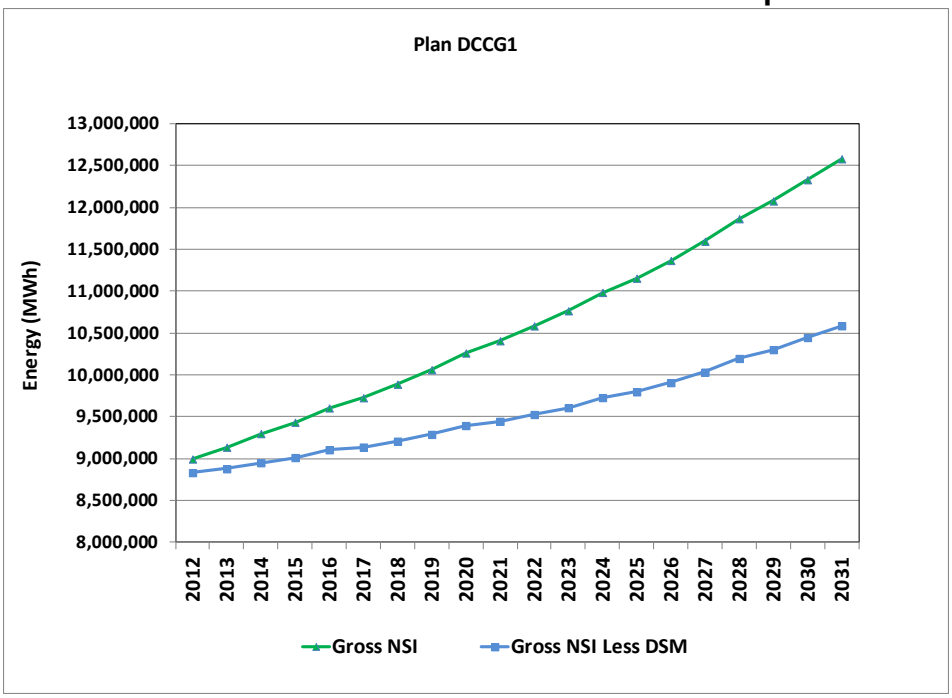

## Chart 79: Alternative Resource Plan Combined Impact BCCG1



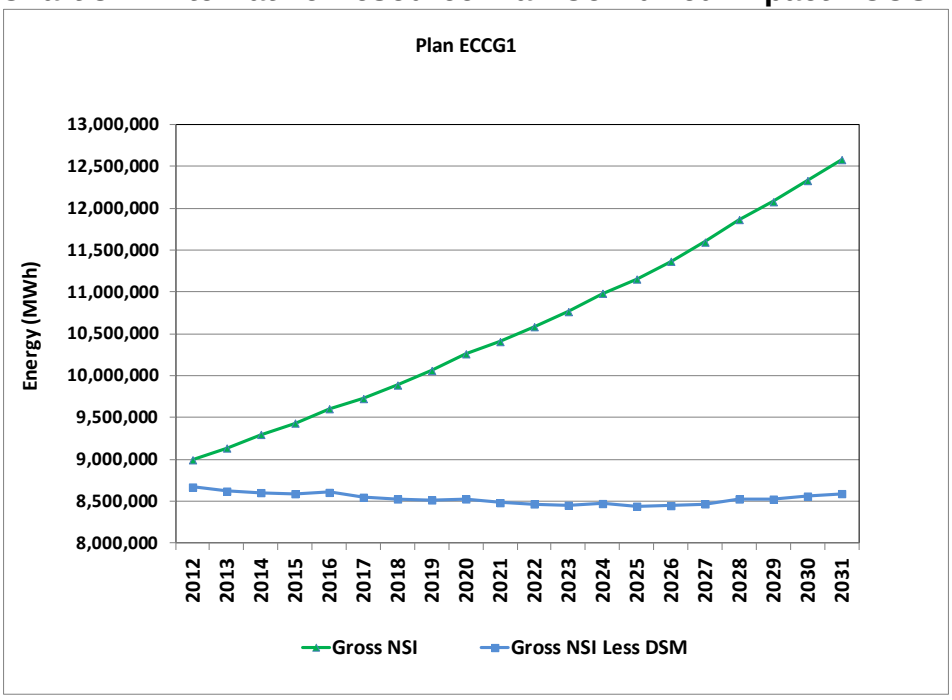
## Chart 80: Alternative Resource Plan Combined Impact CCCG1




## Chart 81: Alternative Resource Plan Combined Impact DCCG1



## Chart 82: Alternative Resource Plan Combined Impact ECCG1




## Chart 83: Alternative Resource Plan Combined Impact FCCG1

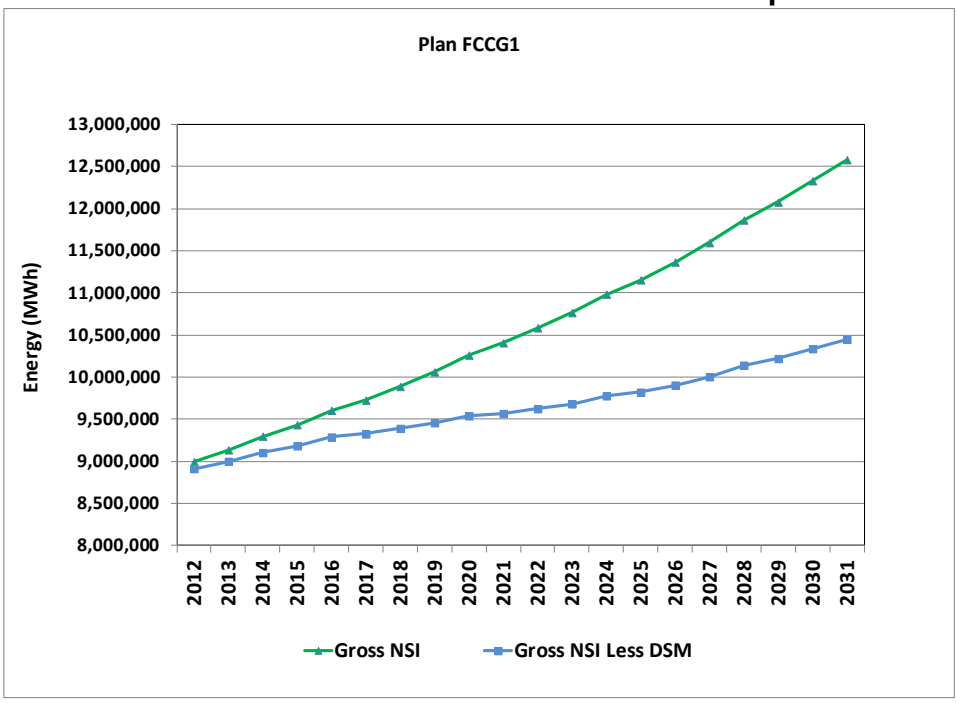
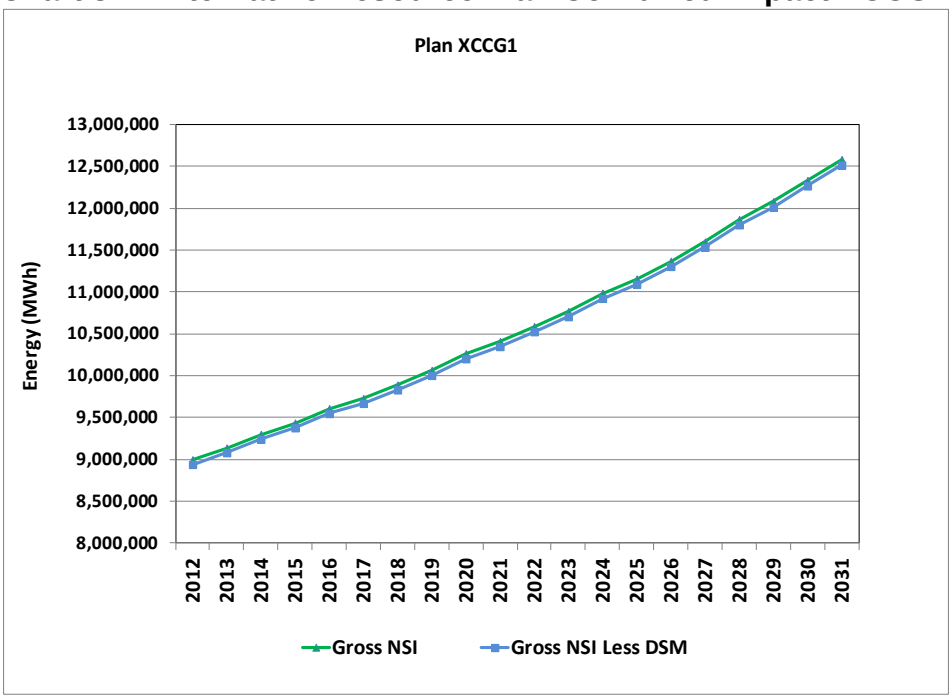


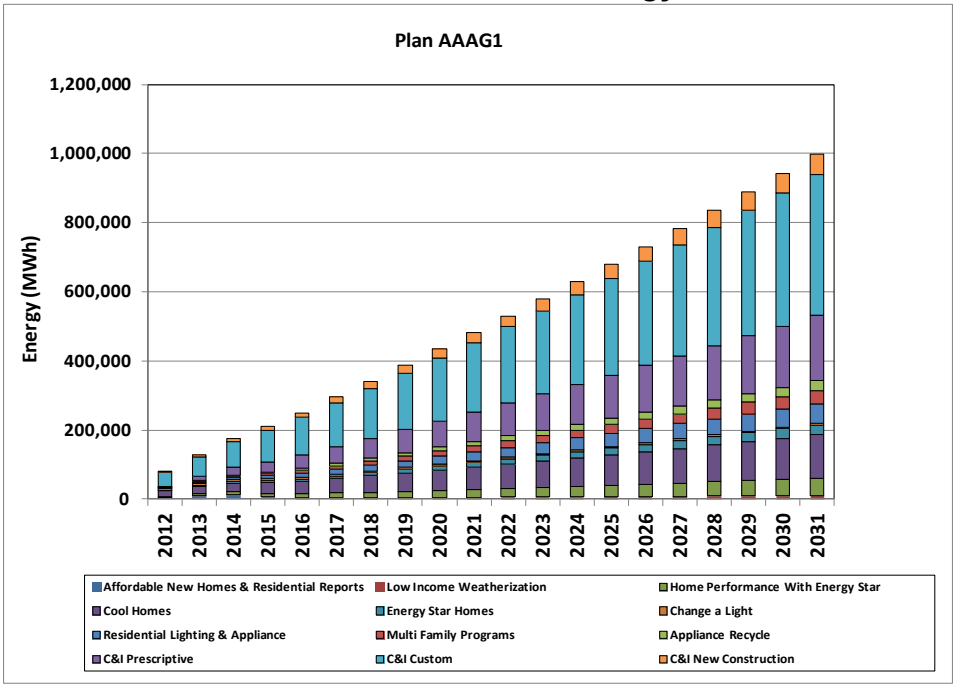
**Chart 84: Alternative Resource Plan Combined Impact XCCG1**



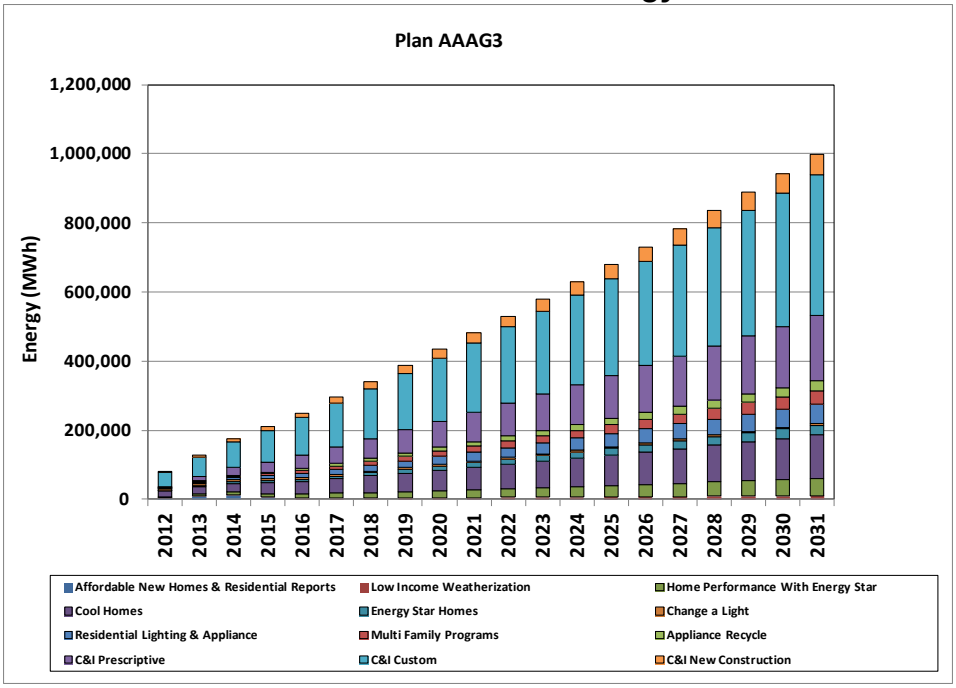

***5. The composition, by program and demand-side rate, of the annual energy provided by demand-side resources;***

The composition, by program and demand-side rate, of the annual energy provided by demand-side resources for each Alternative Resource Plan is shown in the following charts, Chart 85 through Chart 105.

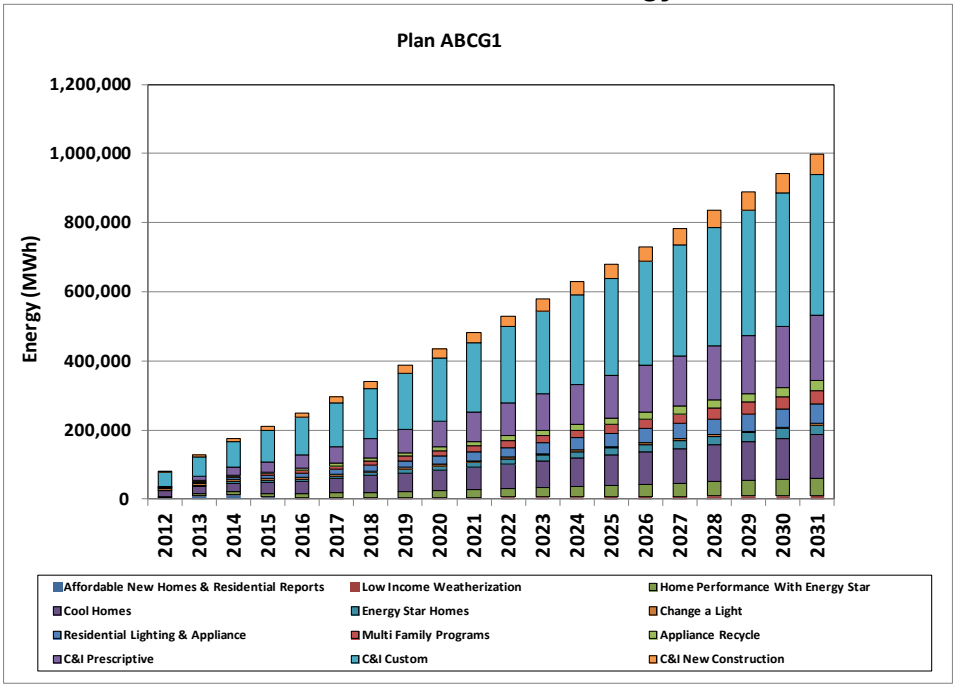
## Chart 85: Alternative Resource Plan Energy Provided AAAG1



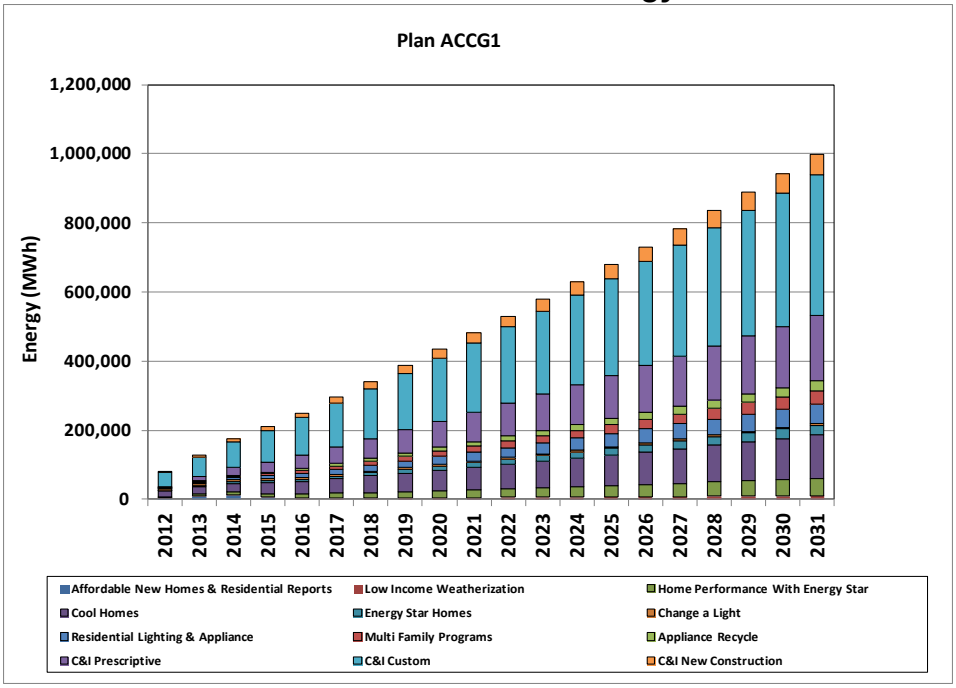

## Chart 86: Alternative Resource Plan Energy Provided AAAG3



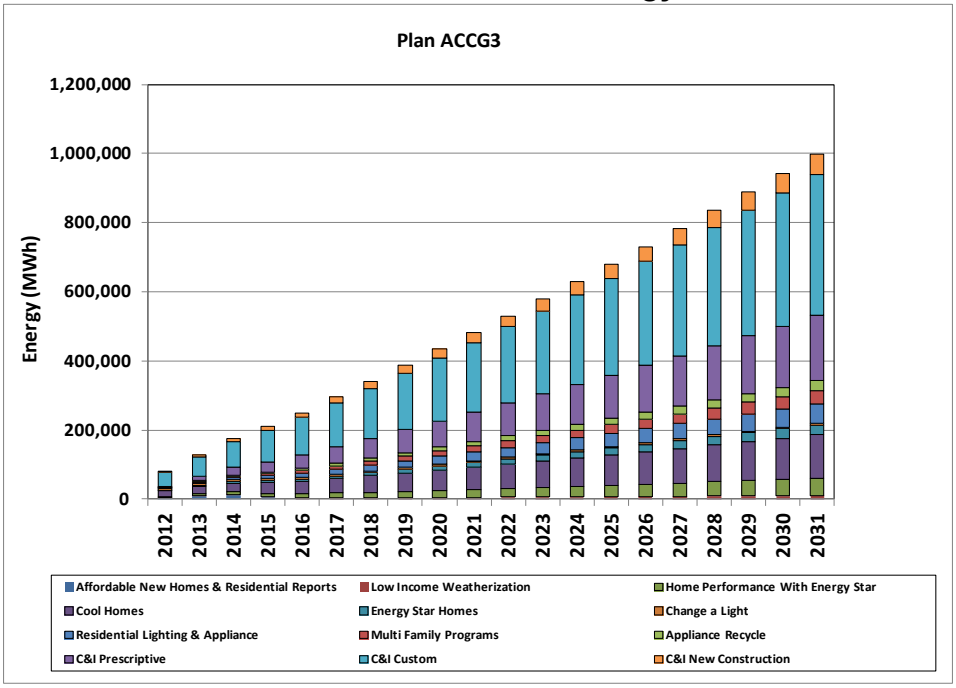
## Chart 87: Alternative Resource Plan Energy Provided ABCG1



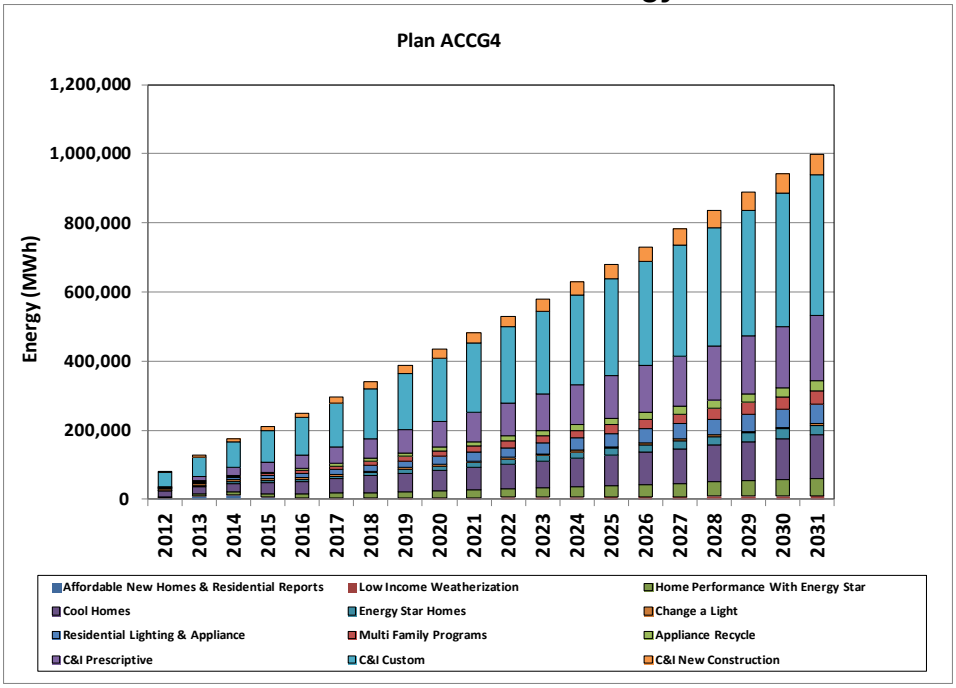

## Chart 88: Alternative Resource Plan Energy Provided ACCG1



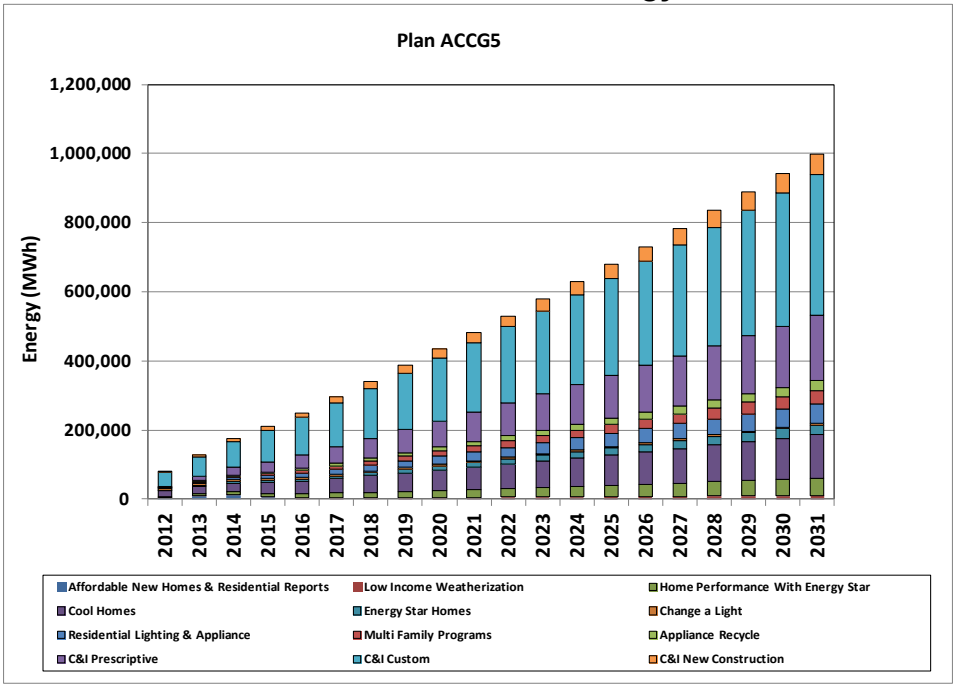
## Chart 89: Alternative Resource Plan Energy Provided ACCG3



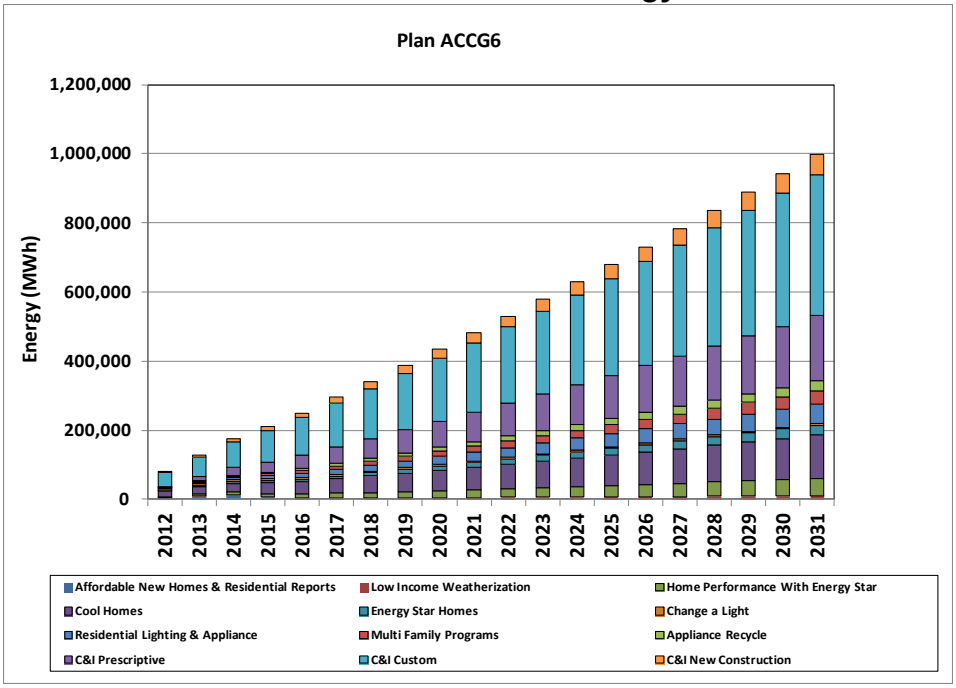

## Chart 90: Alternative Resource Plan Energy Provided ACCG4



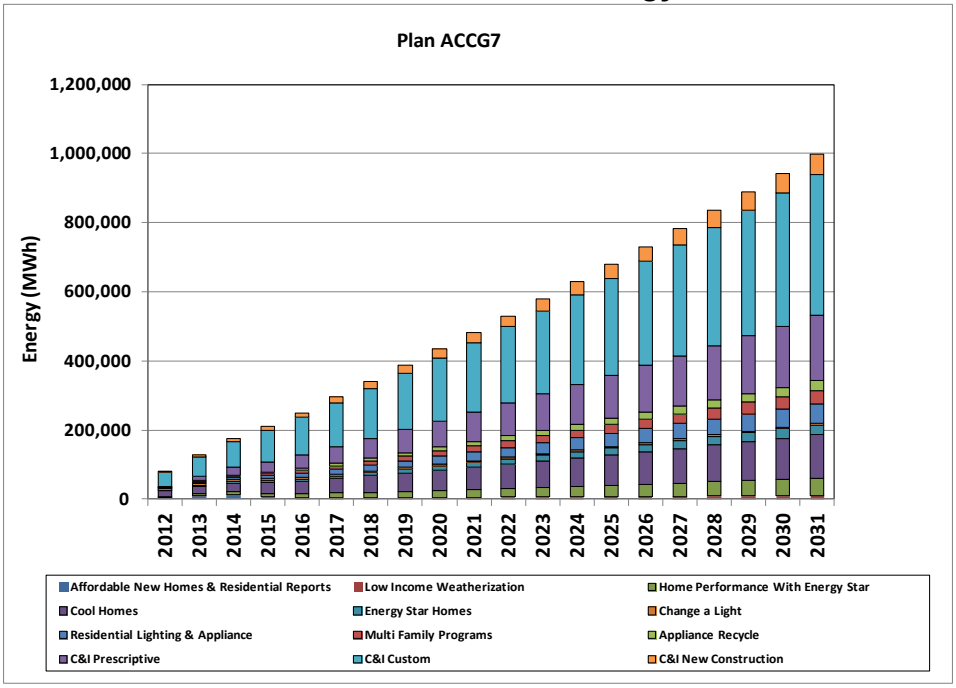
## Chart 91: Alternative Resource Plan Energy Provided ACCG5



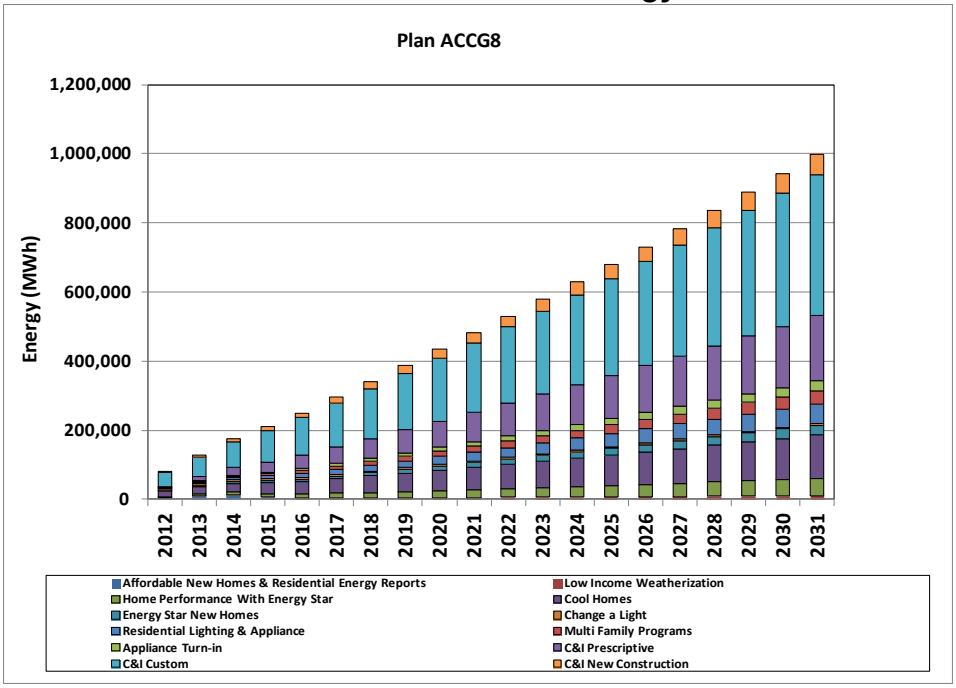

## Chart 92: Alternative Resource Plan Energy Provided ACCG5



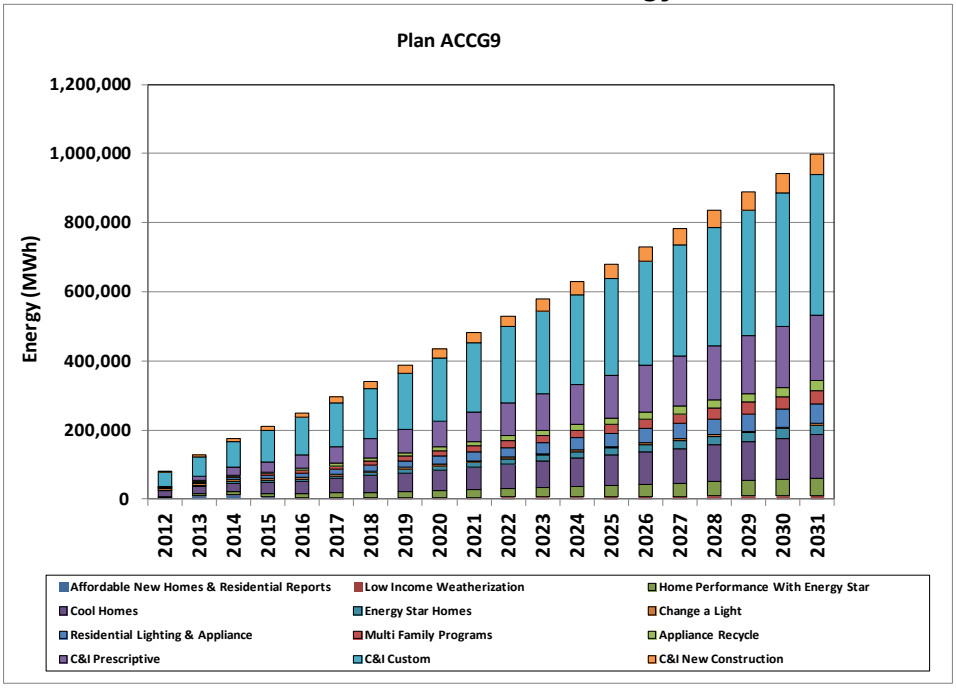
## Chart 93: Alternative Resource Plan Energy Provided ACCG7



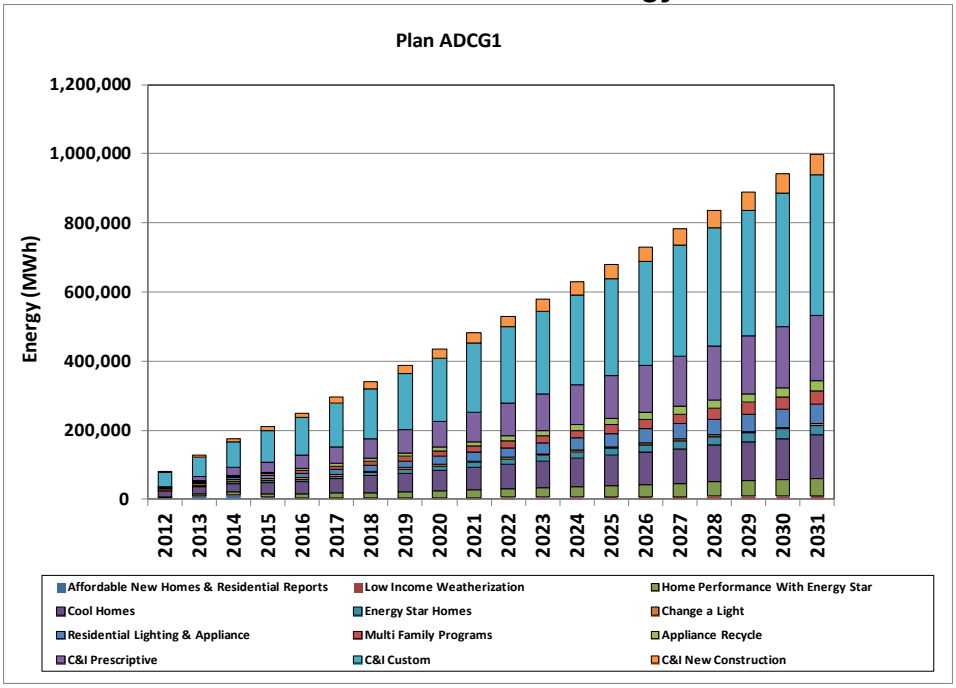

## Chart 94: Alternative Resource Plan Energy Provided ACCG8



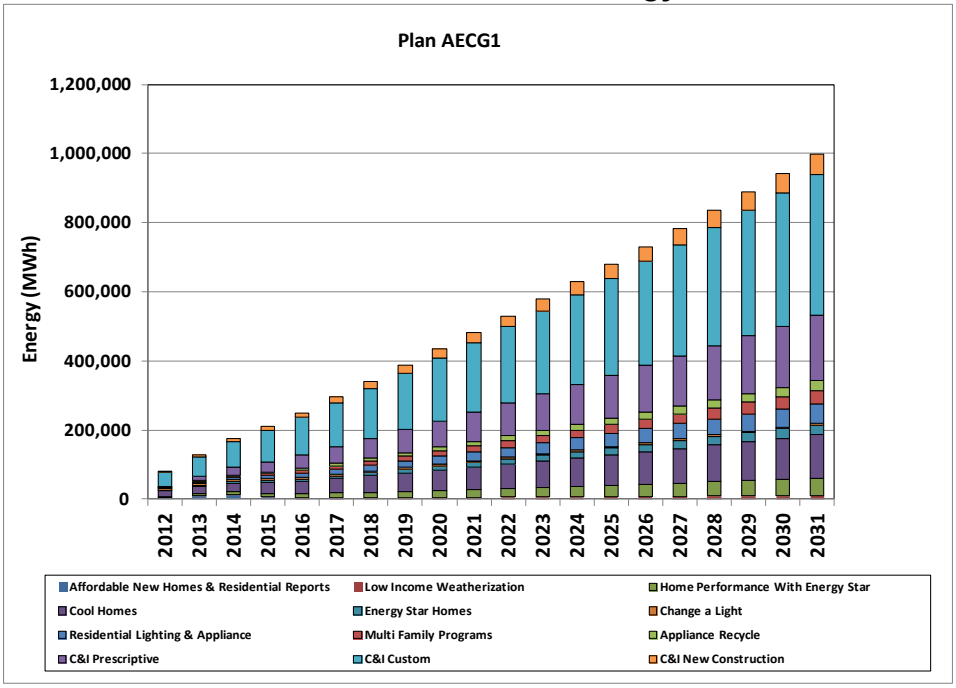
## Chart 95: Alternative Resource Plan Energy Provided ACCG9



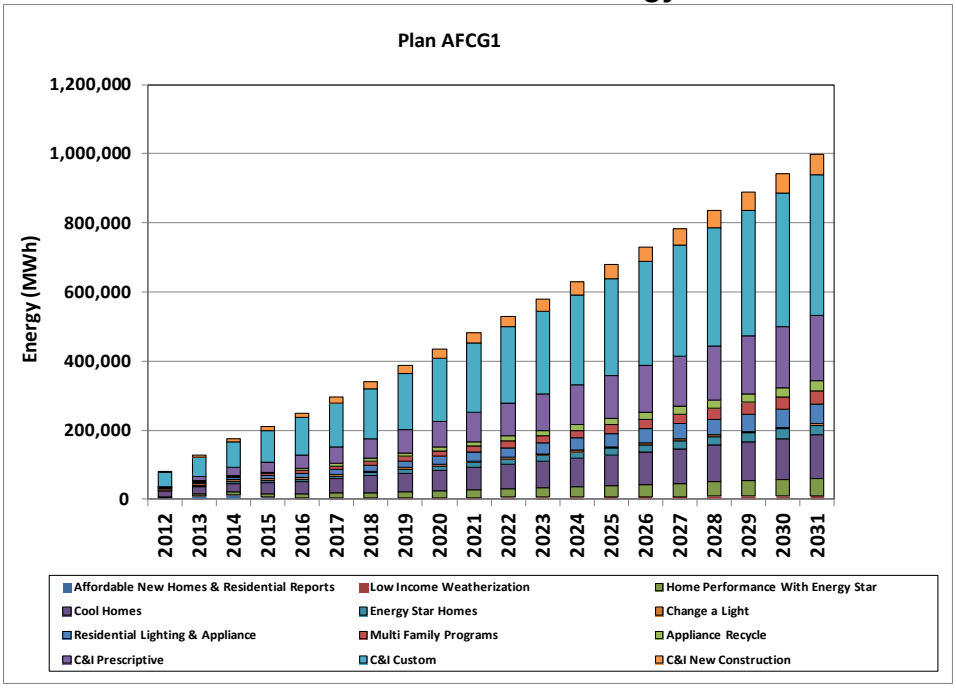

## Chart 96: Alternative Resource Plan Energy Provided ADCG1



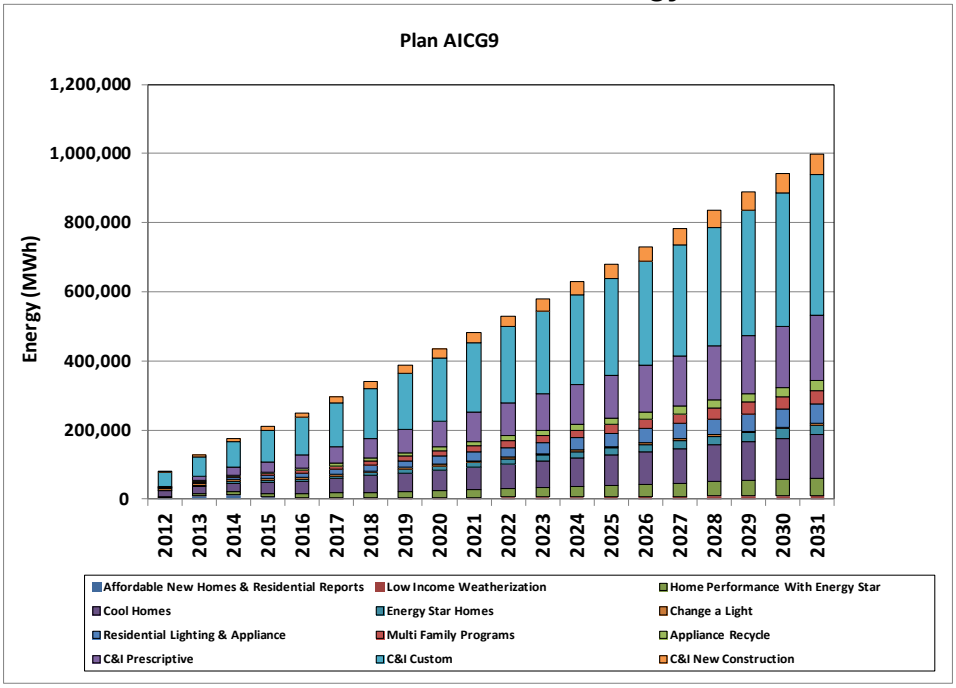
## Chart 97: Alternative Resource Plan Energy Provided AECG1




## Chart 98: Alternative Resource Plan Energy Provided AFCG1



## Chart 99: Alternative Resource Plan Energy Provided AICG9




## Chart 100: Alternative Resource Plan Energy Provided BCCG1

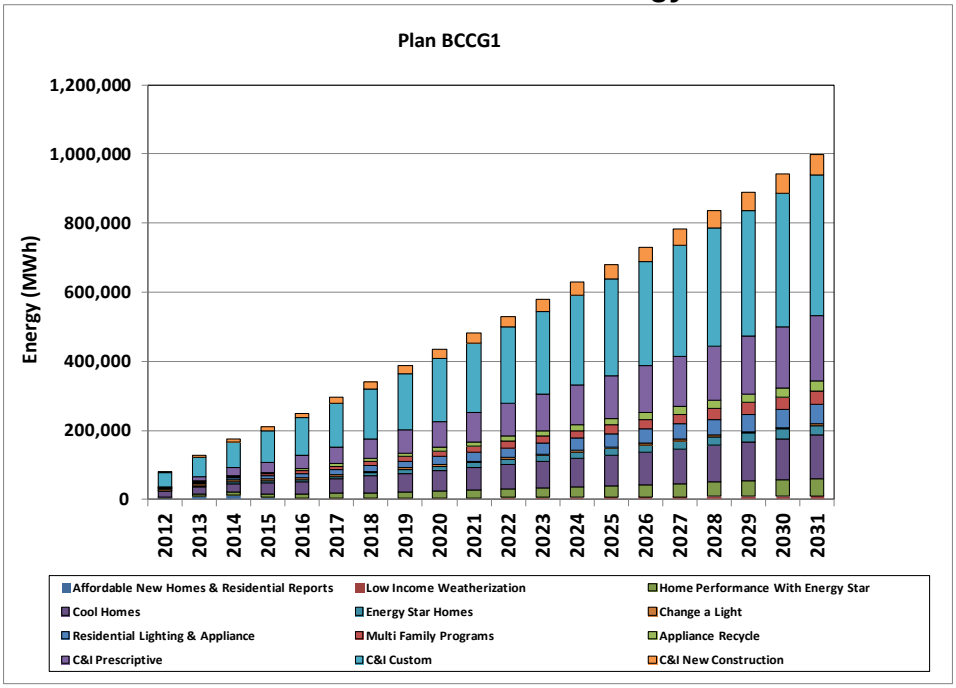
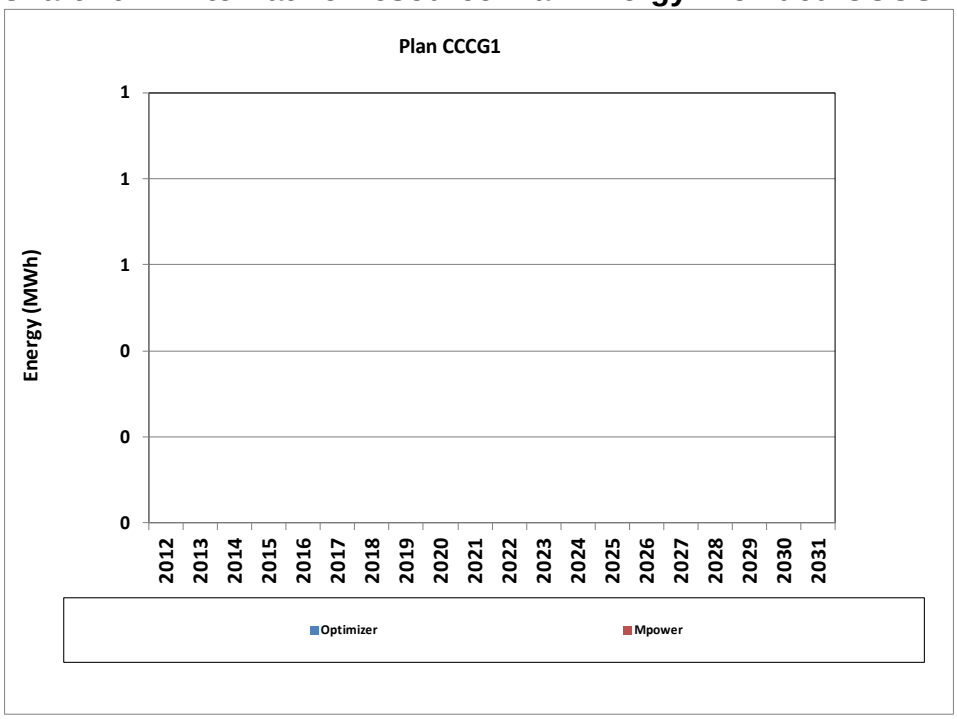
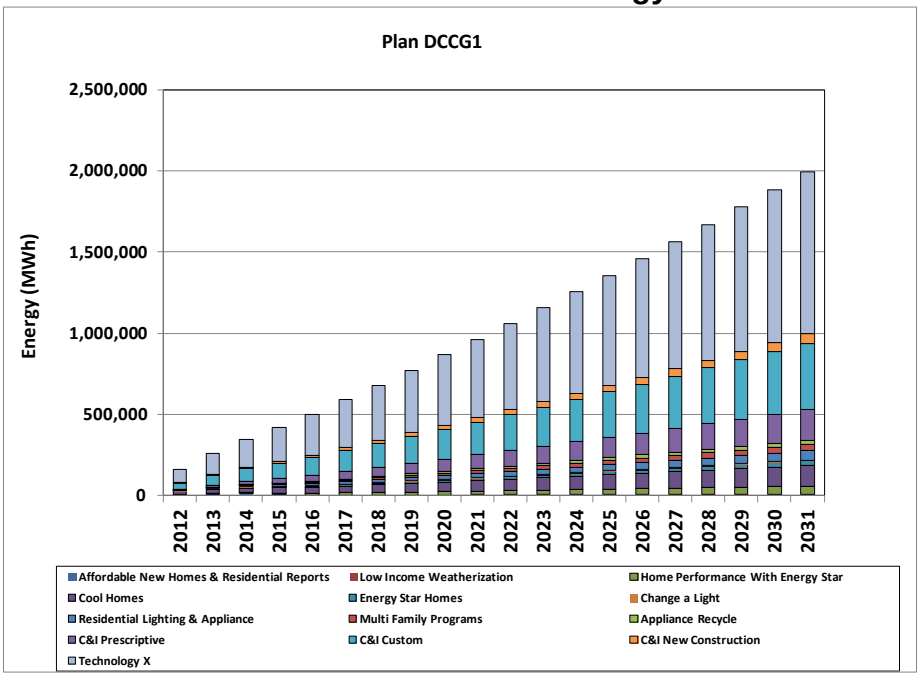


**Chart 101: Alternative Resource Plan Energy Provided CCCG1**

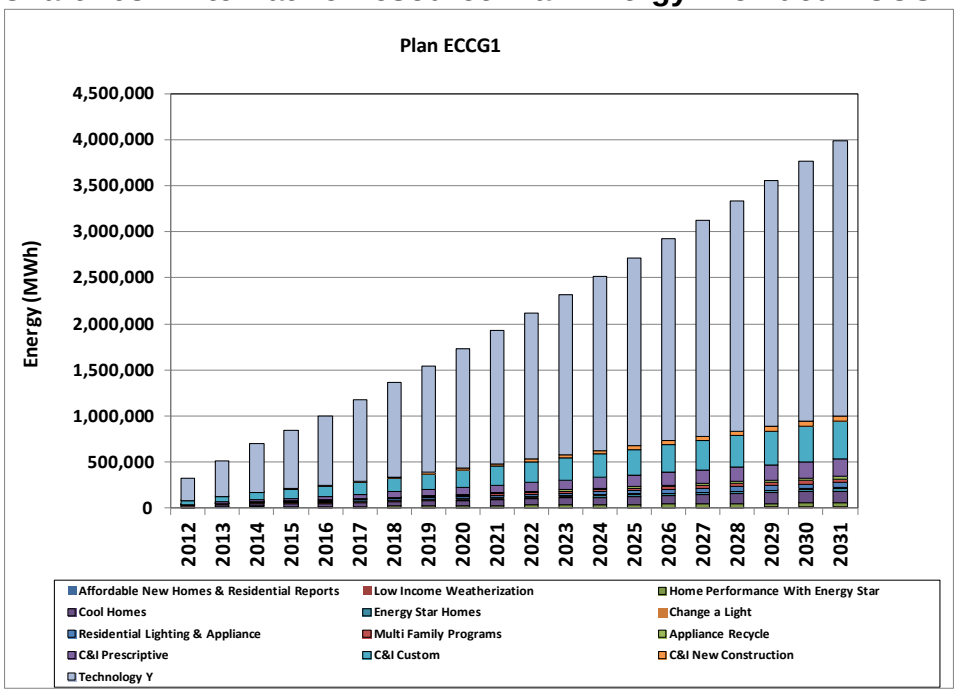



Note that DSM Alternative "C" refers to only Demand Response programs. The Demand Response programs, Energy Optimizer and Mpower, do not have energy reductions associated with them.

**Chart 102: Alternative Resource Plan Energy Provided DCCG1**



## Chart 103: Alternative Resource Plan Energy Provided ECCG1




## Chart 104: Alternative Resource Plan Energy Provided FCCG1

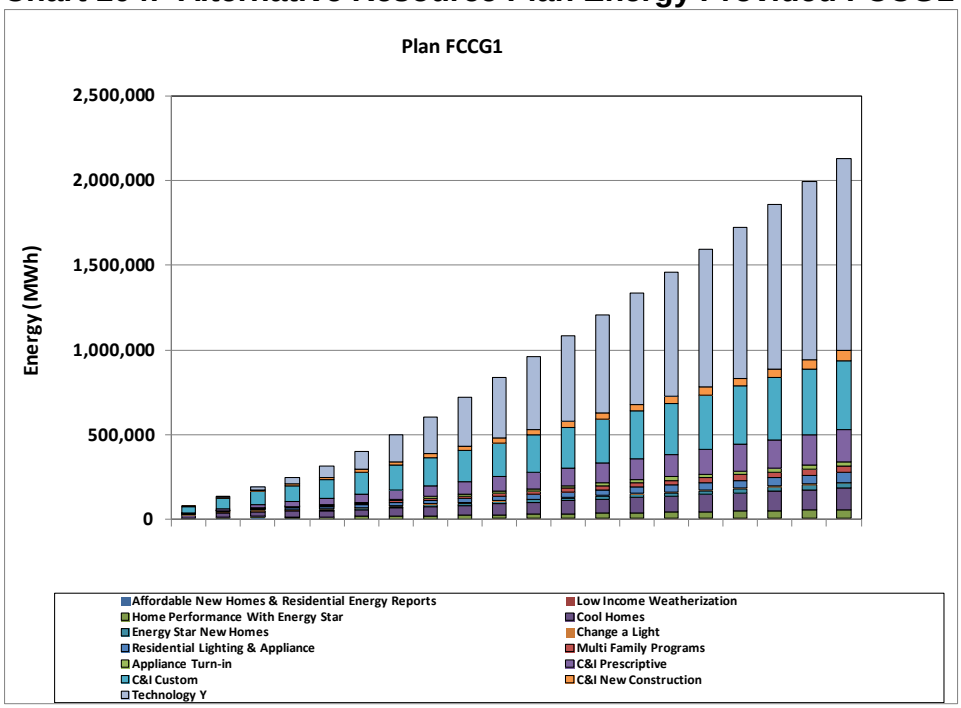
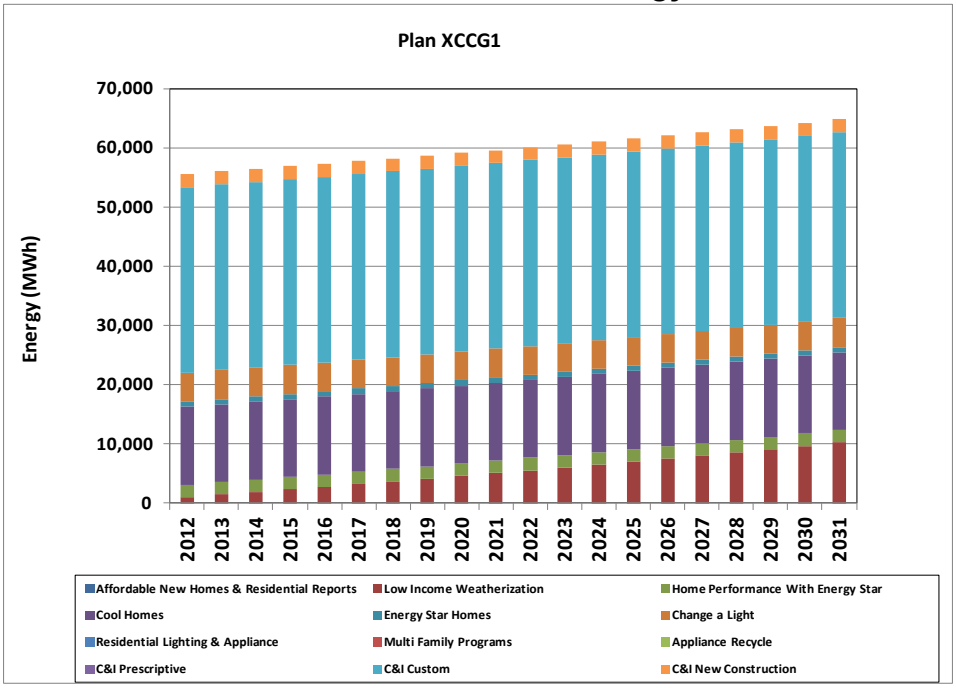


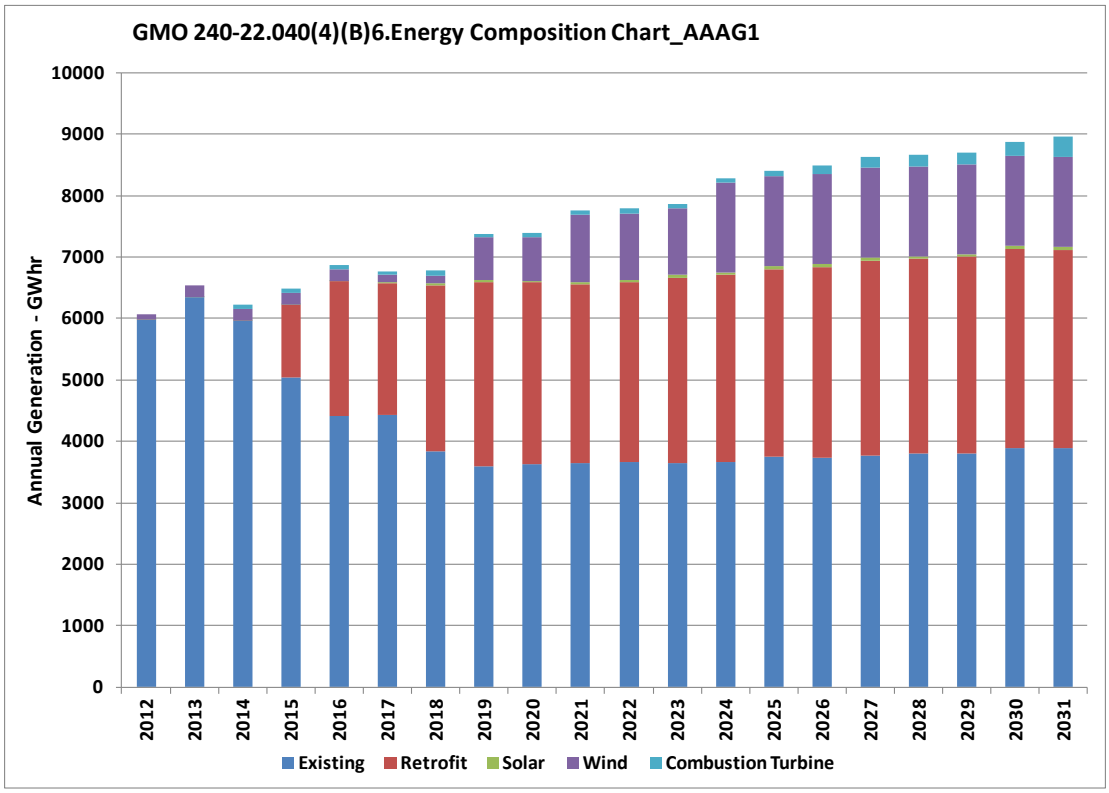
**Chart 105: Alternative Resource Plan Energy Provided XCCG1**



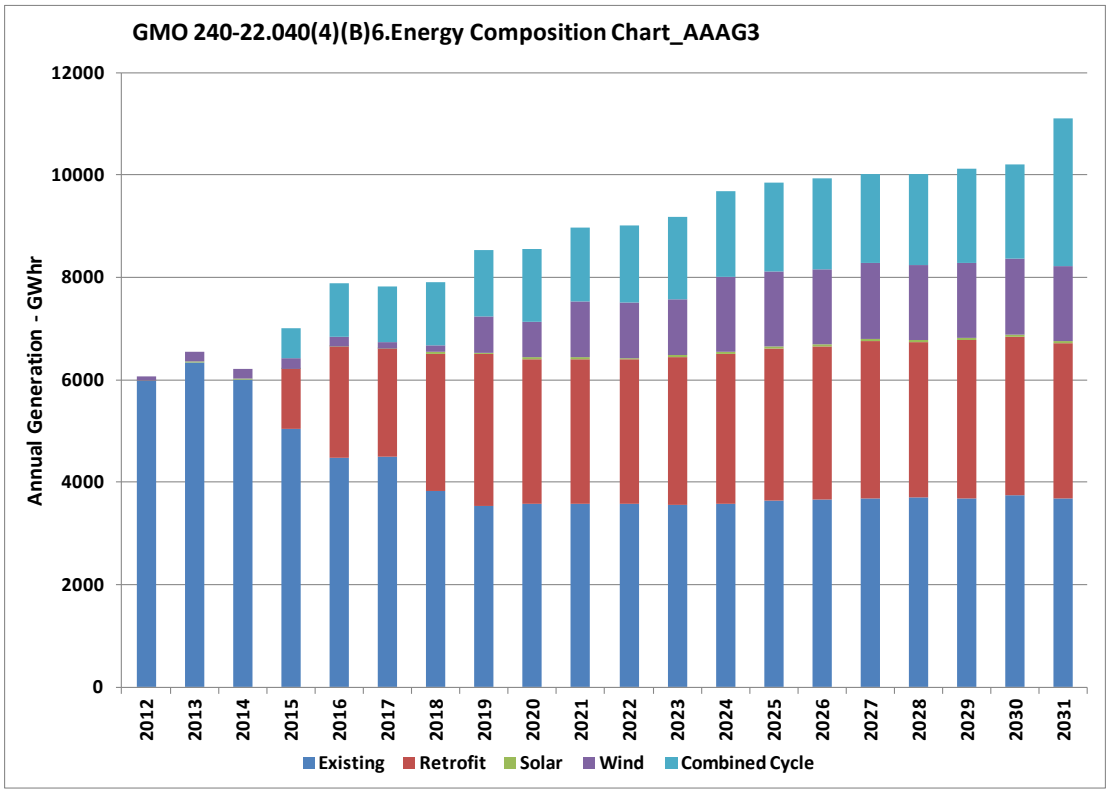

***6. The composition, by supply-side resource, of the annual energy supplied to the transmission grid, less losses, provided by supply-side resources. Existing supply-side resources may be shown as a single resource;***

The following charts detail the expected-value composition by supply-side resource of all energy generated by the assets included in each plan and supplied to the transmission grid. 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.

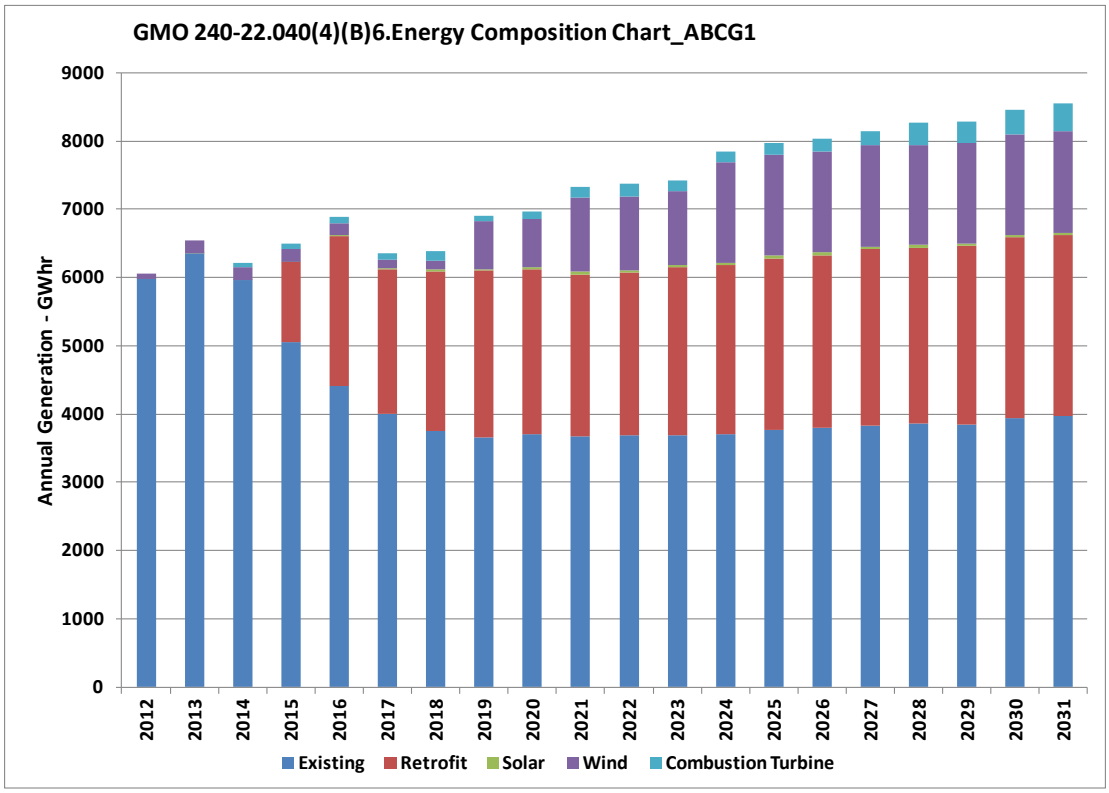
## Chart 106: Annual Generation AAAG1



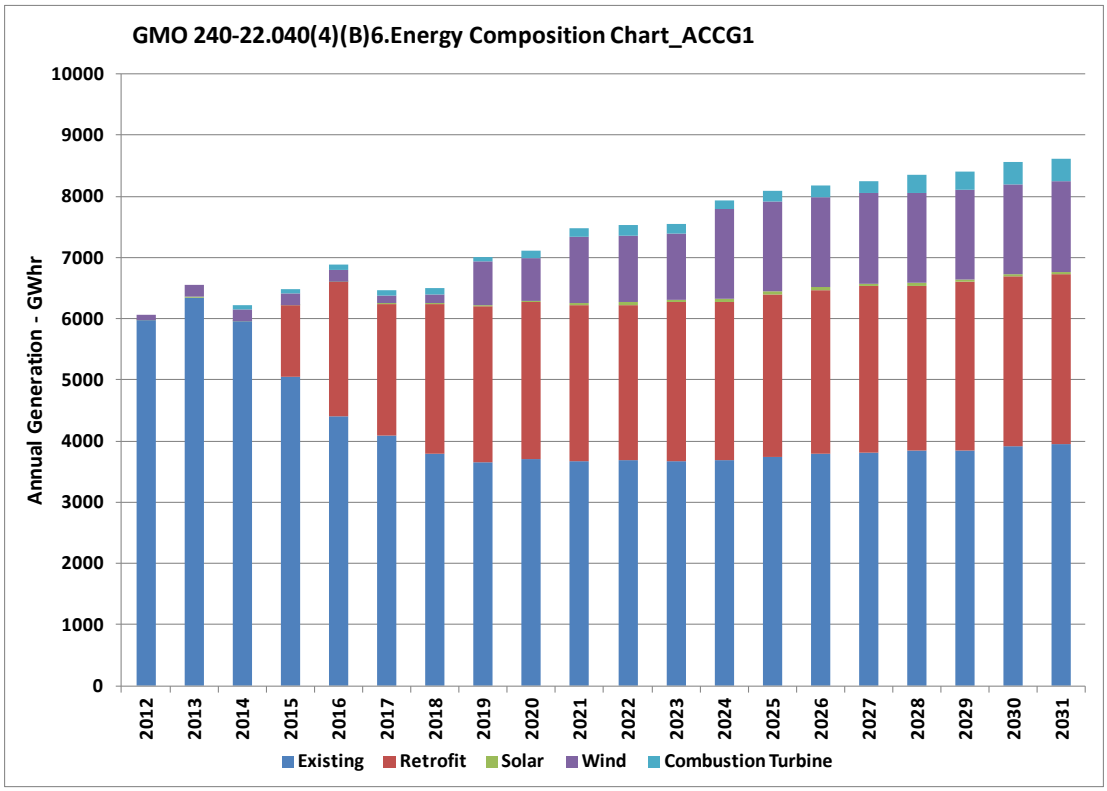

## Chart 107: Annual Generation AAAG3



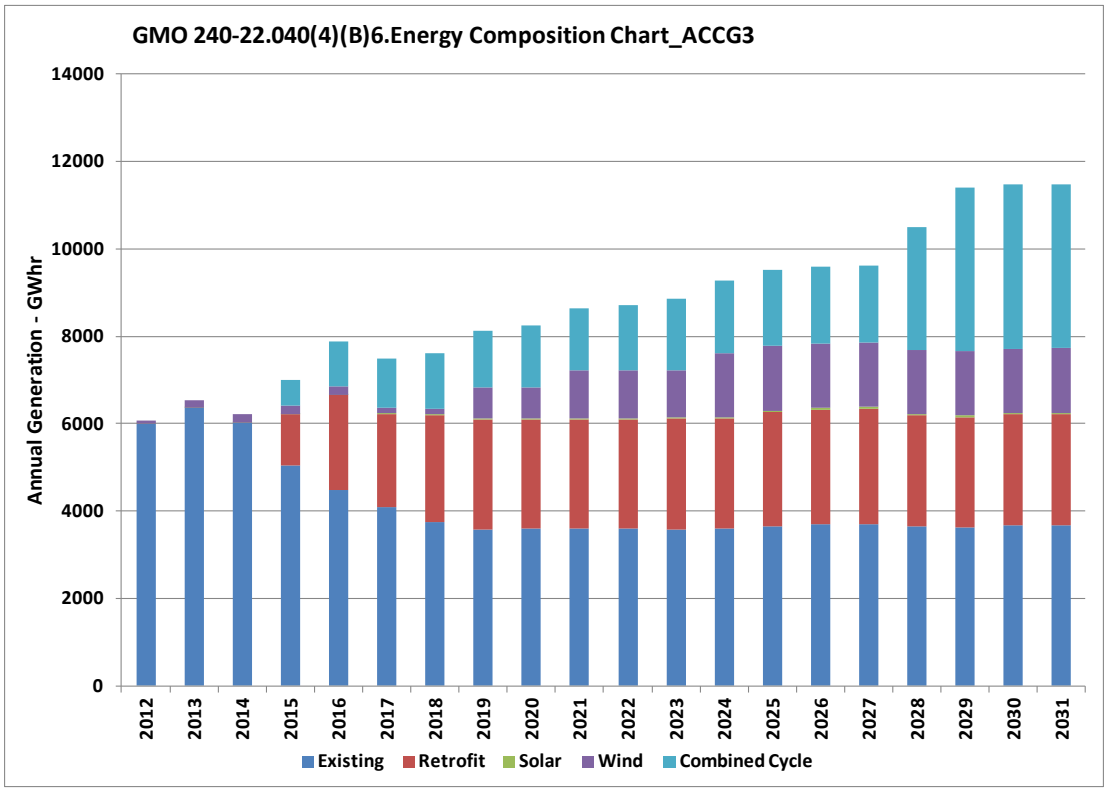
## Chart 108: Annual Generation ABCG1



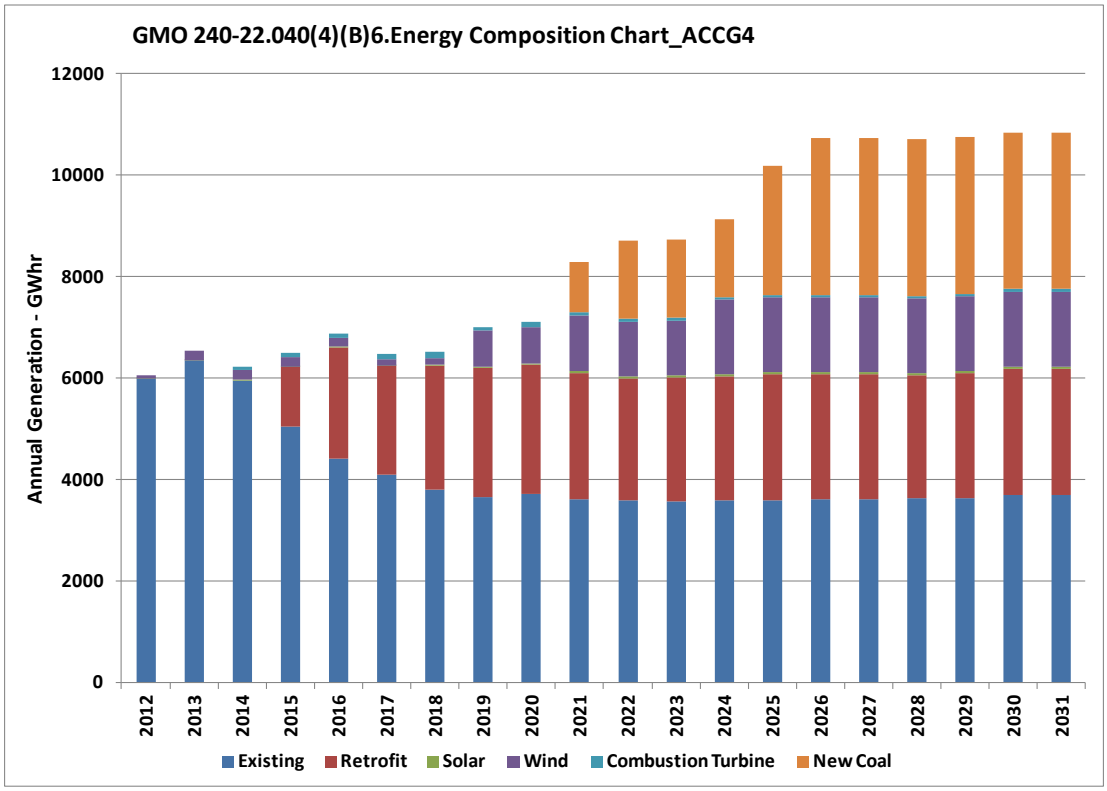

## Chart 109: Annual Generation ACCG1



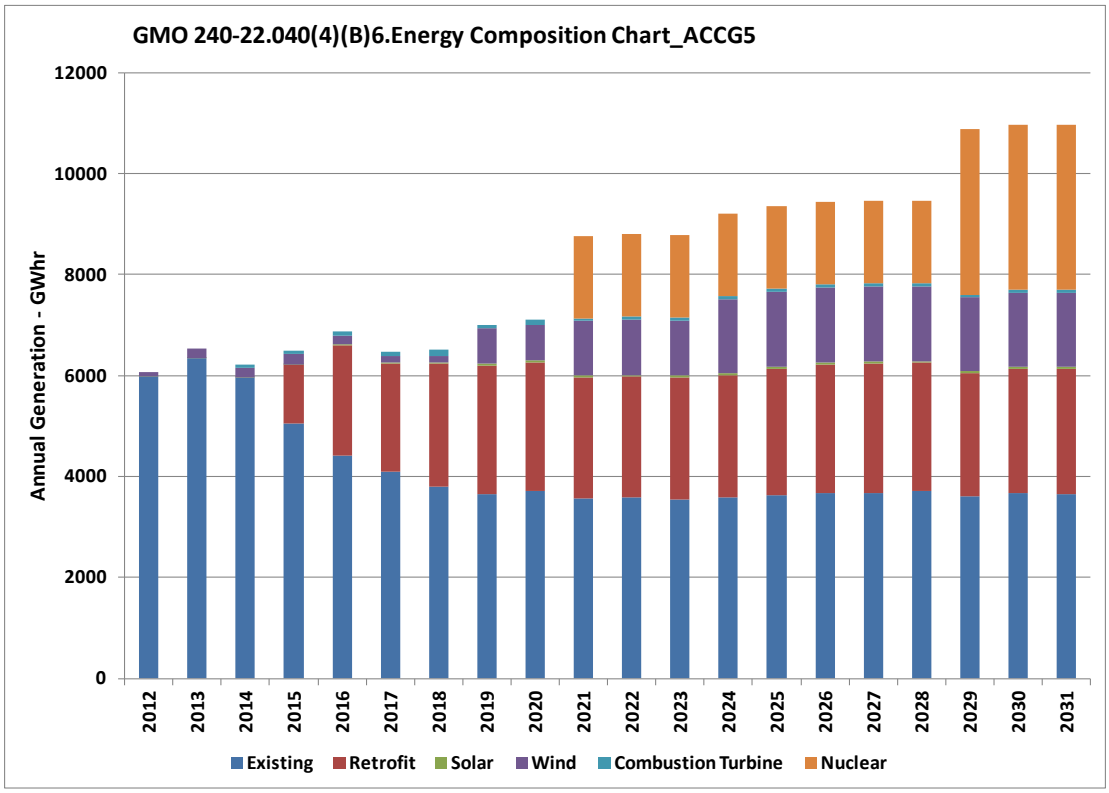
## Chart 110: Annual Generation ACCG3



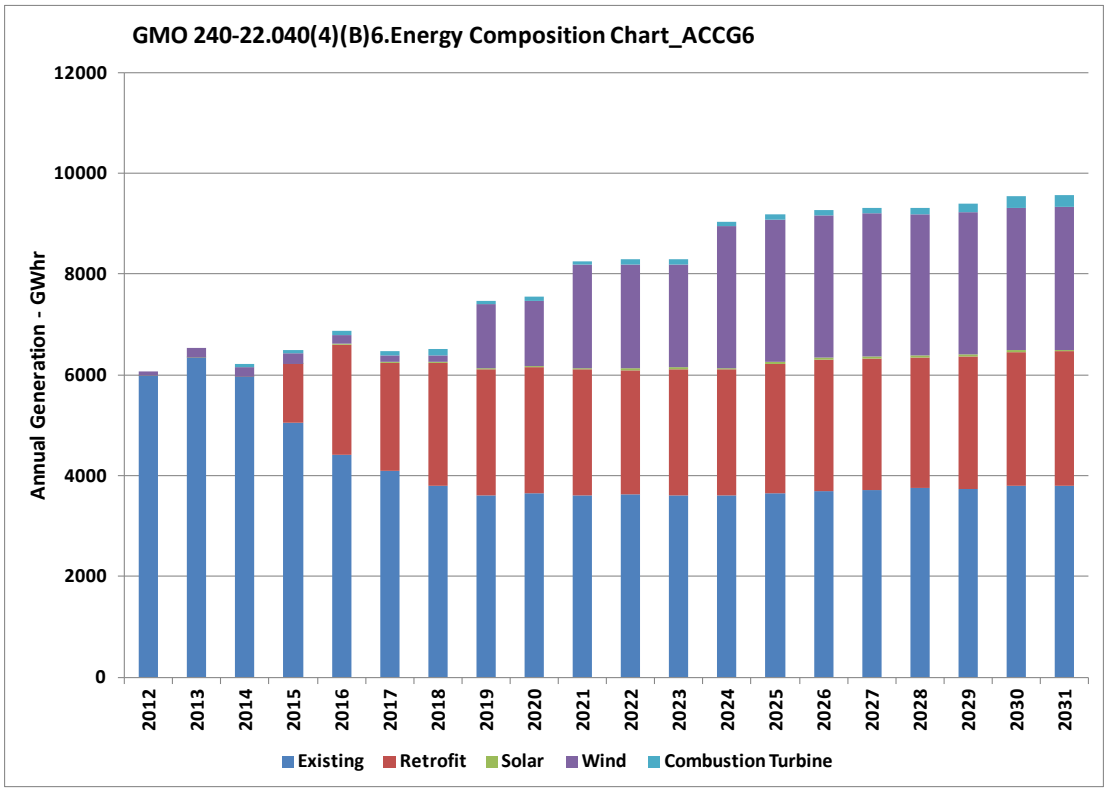

## Chart 111: Annual Generation ACCG4



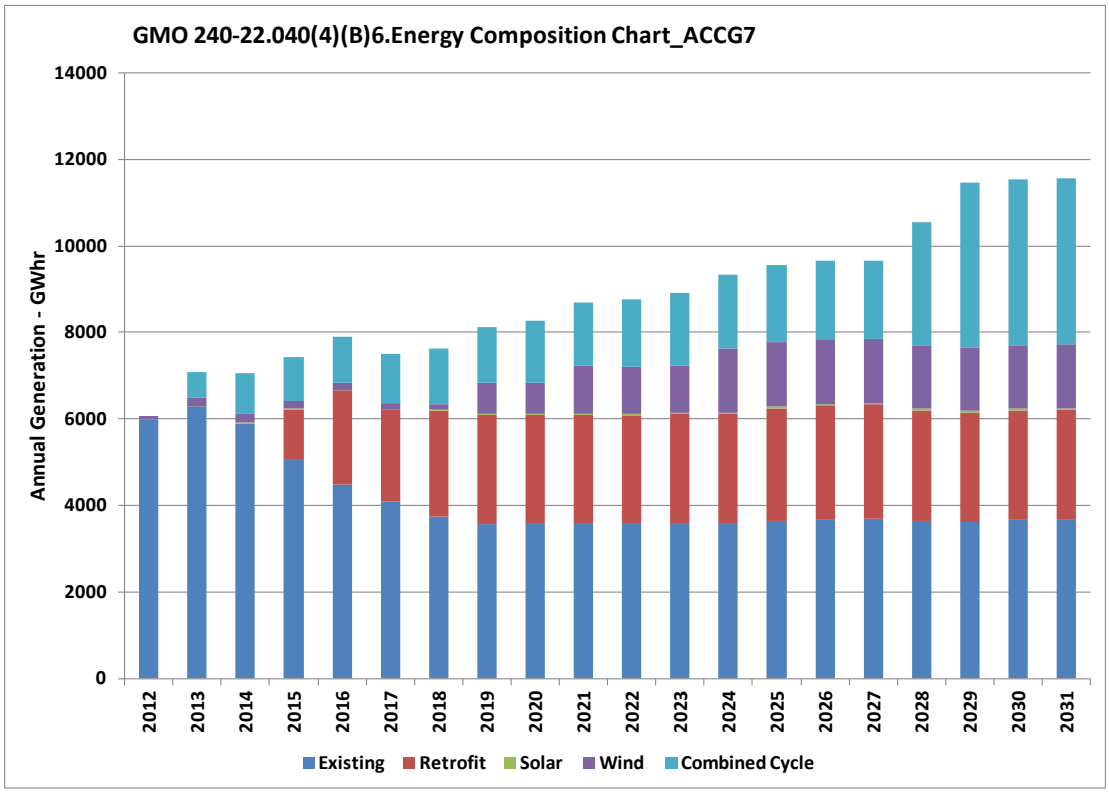
## Chart 112: Annual Generation ACCG5



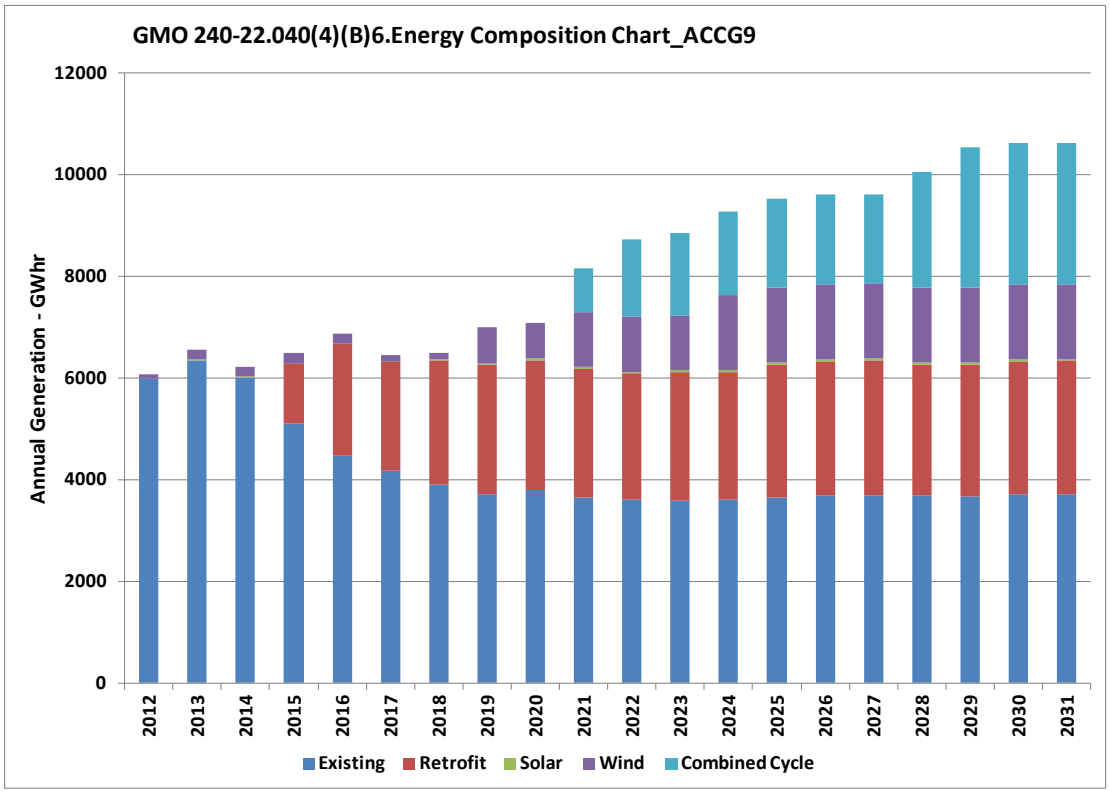

## Chart 113: Annual Generation ACCG6



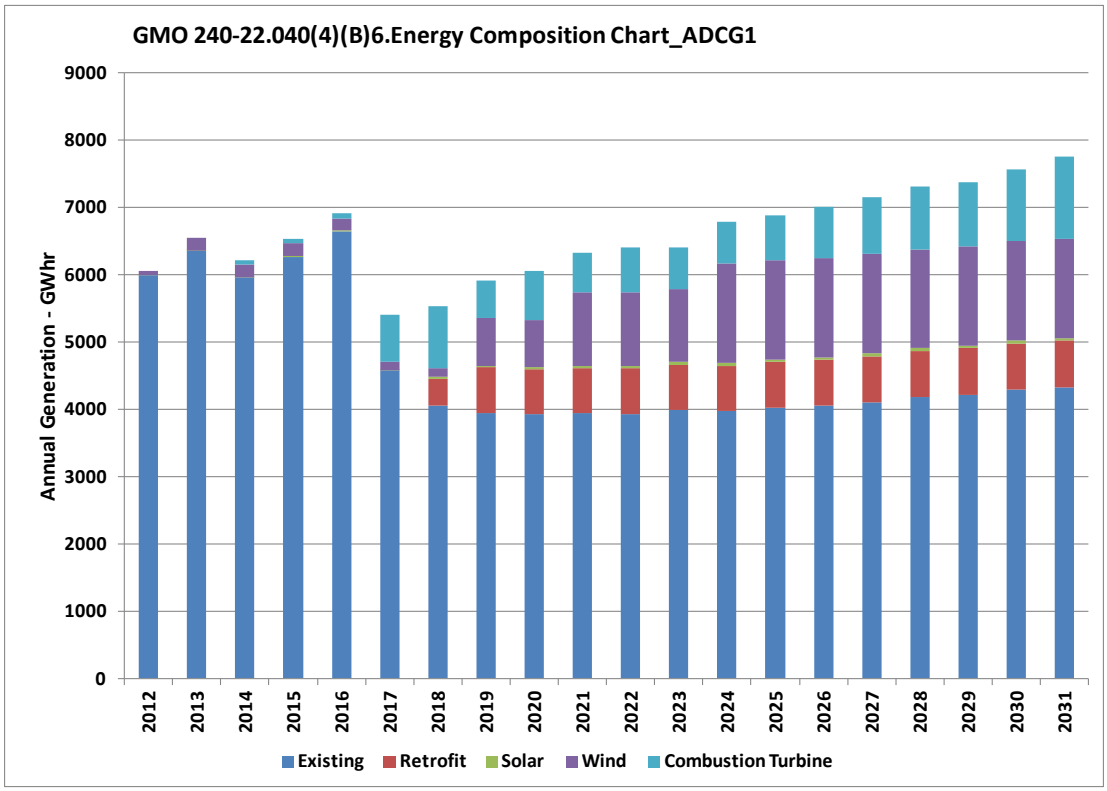
## Chart 114: Annual Generation ACCG7



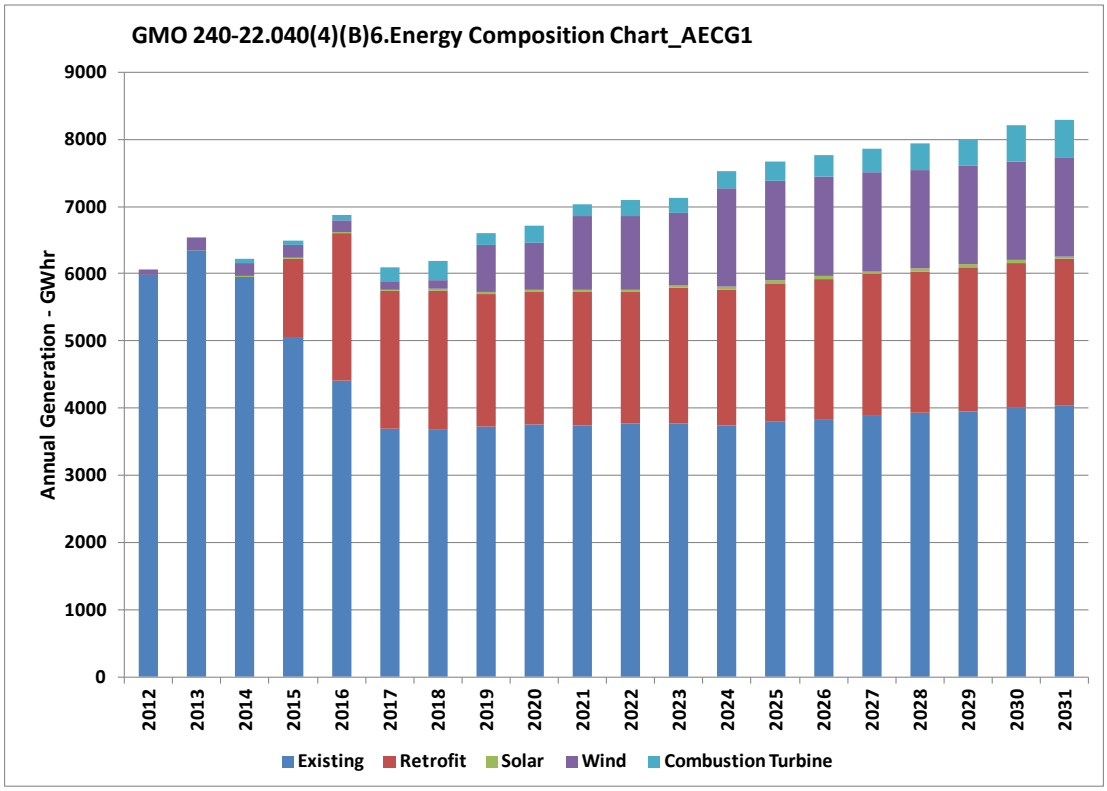

## Chart 115: Annual Generation ACCG9



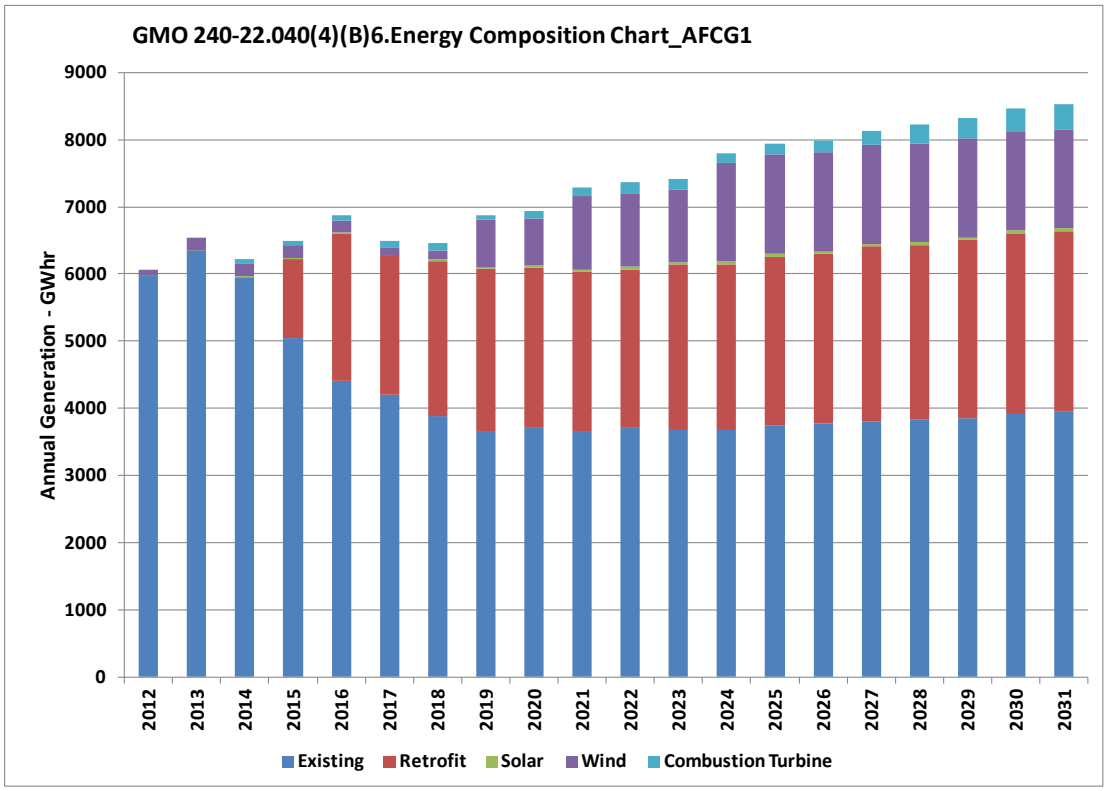
## Chart 116: Annual Generation ADCG1



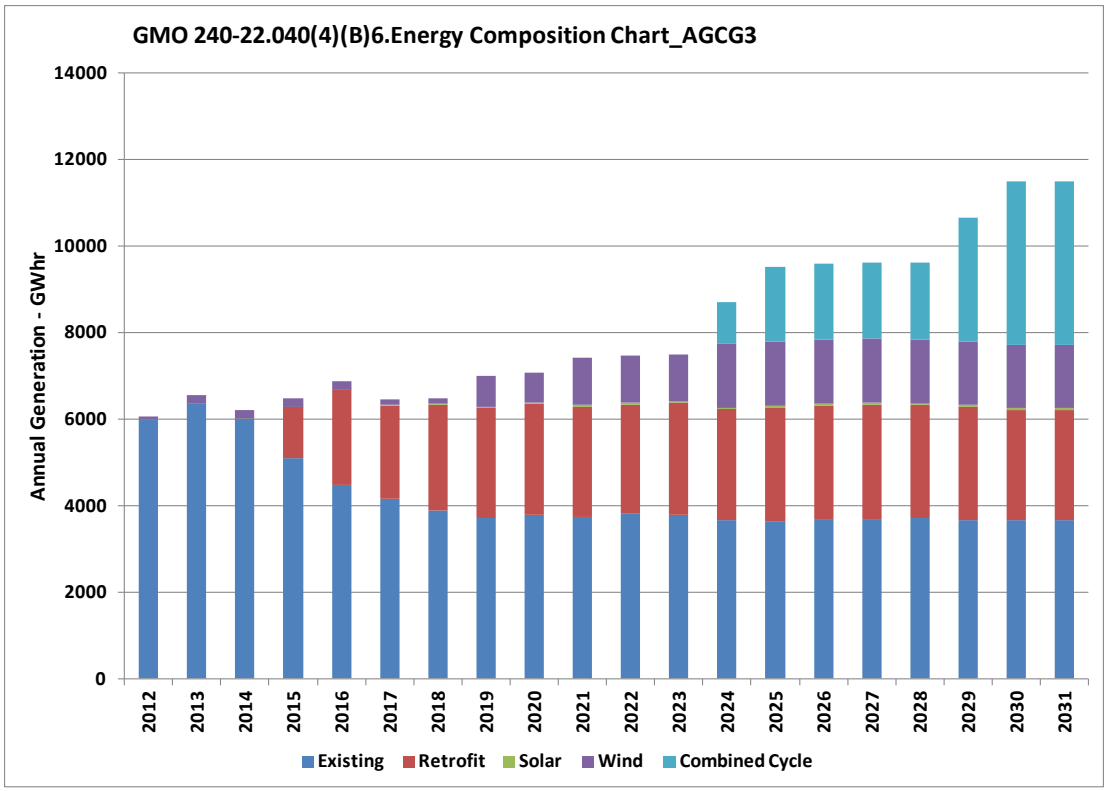

## Chart 117: Annual Generation AECG1



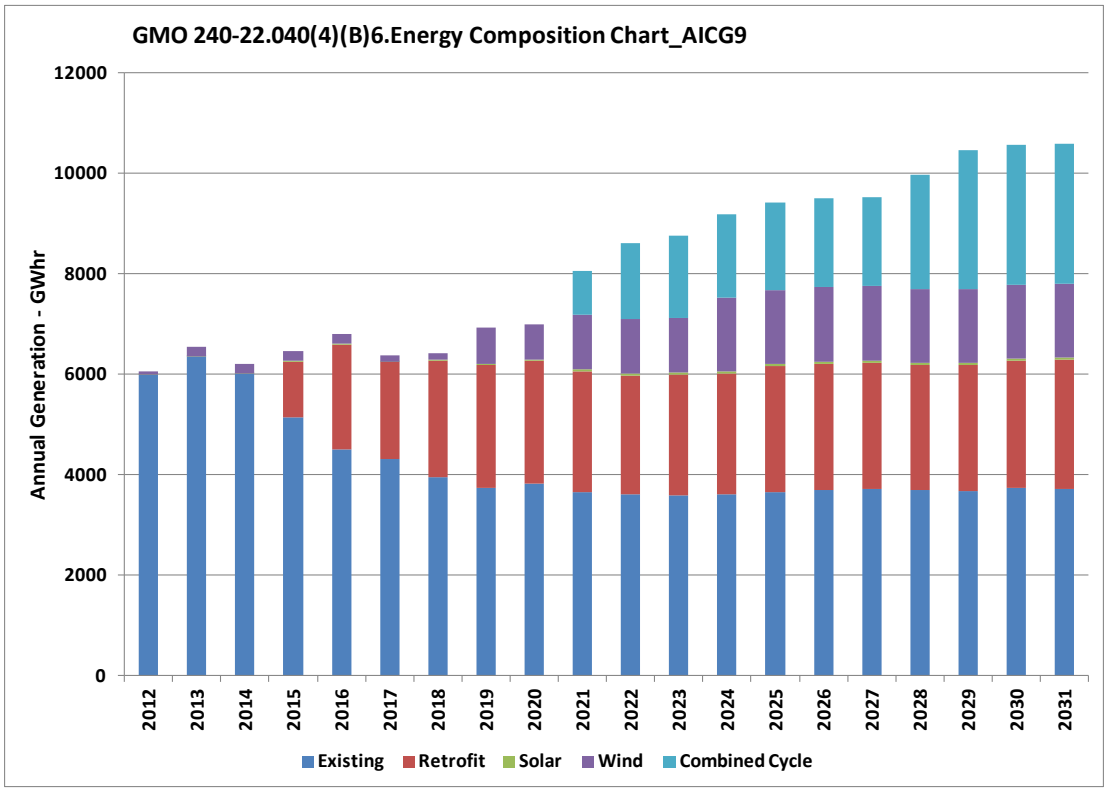
## Chart 118: Annual Generation AFCG1



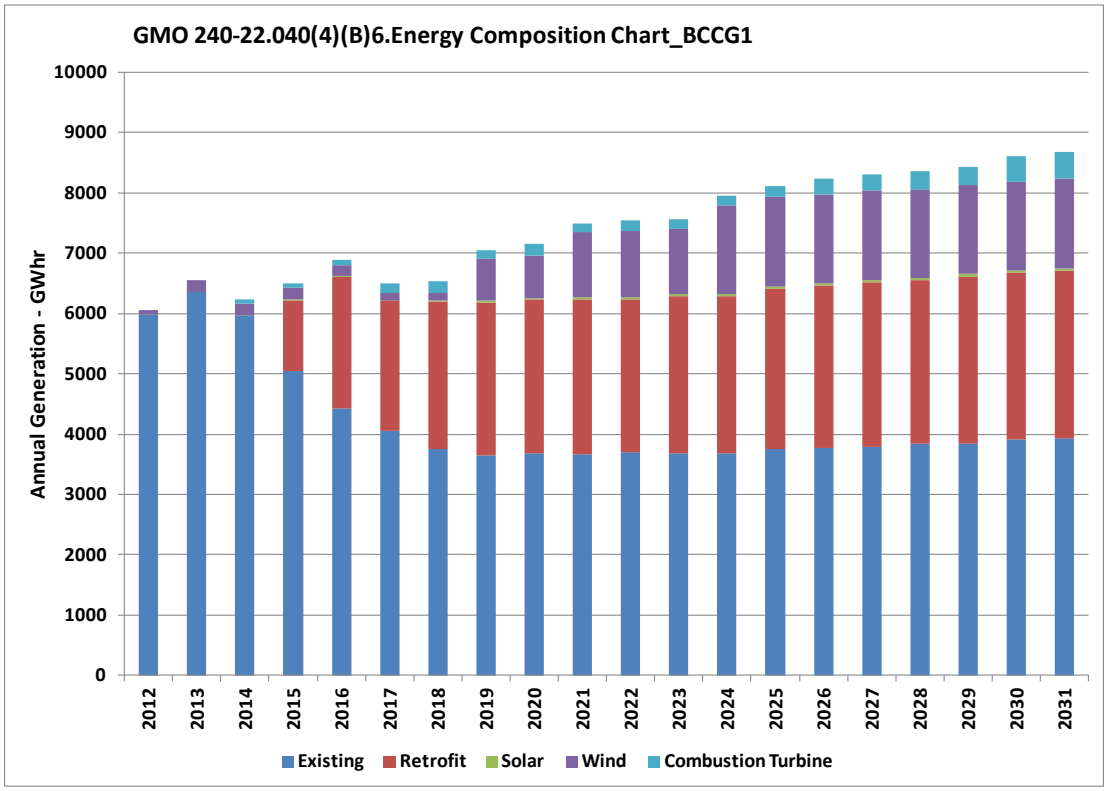

## Chart 119: Annual Generation AGCG3



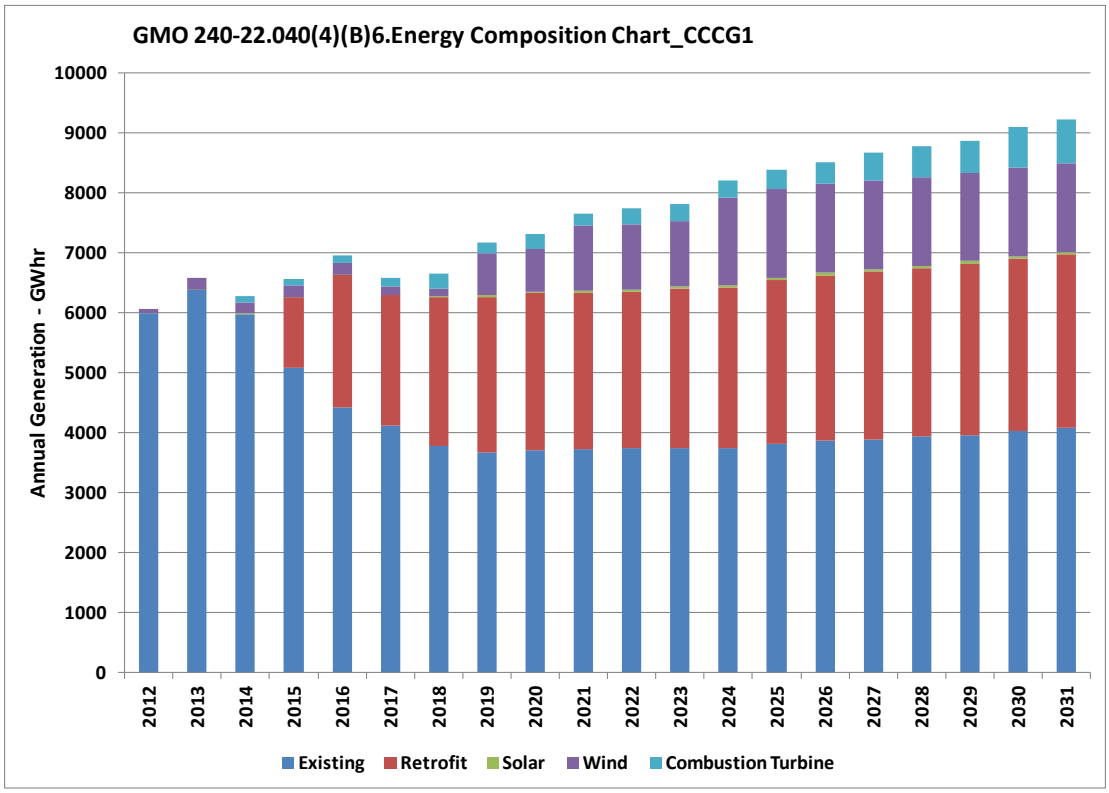
## Chart 120: Annual Generation AICG9



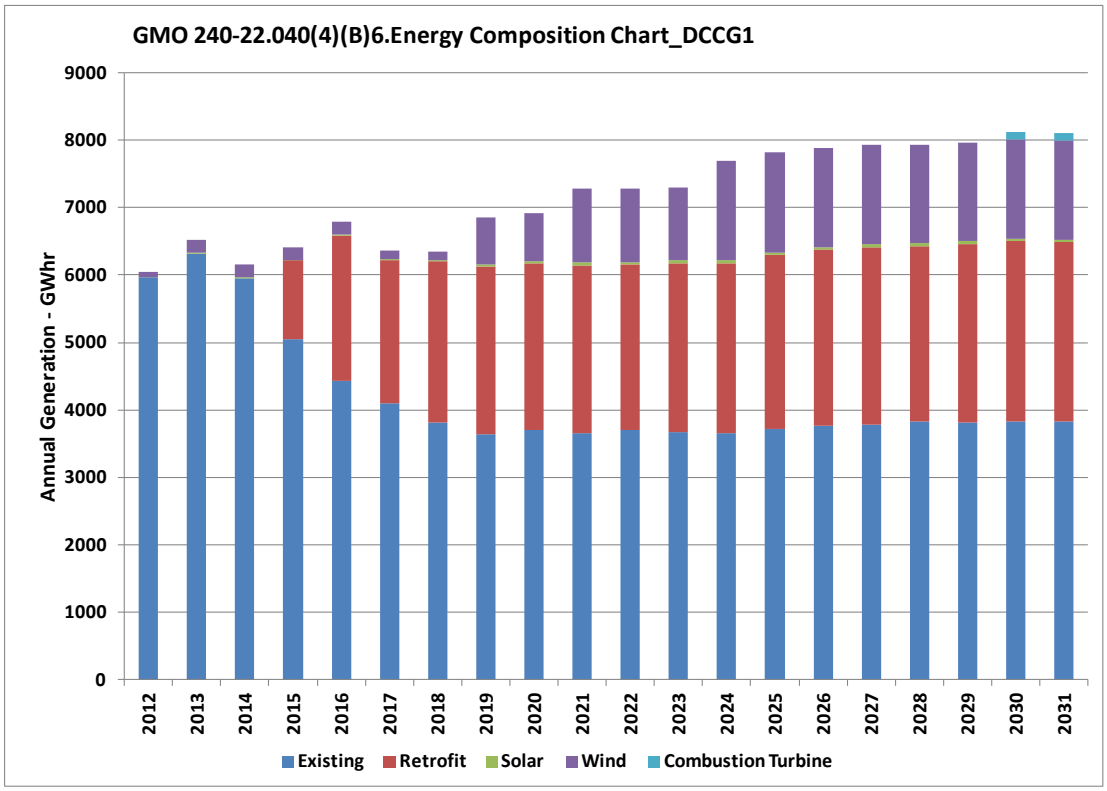

## Chart 121: Annual Generation BCCG1



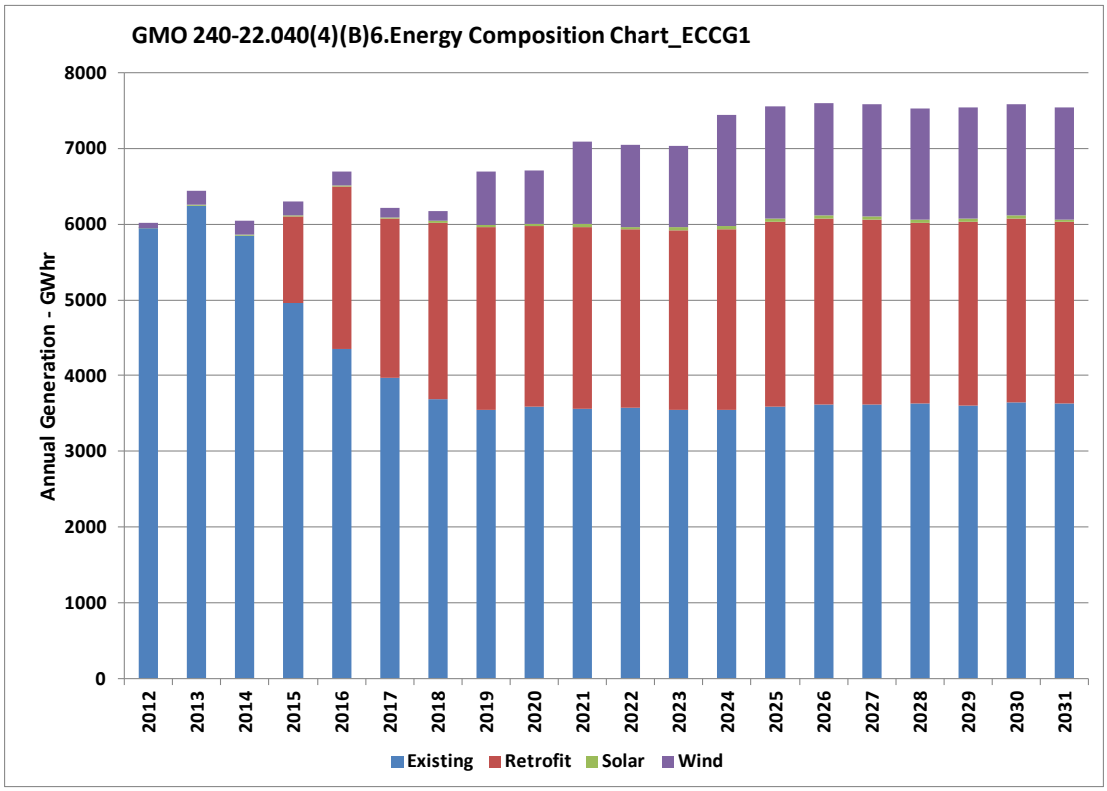
## Chart 122: Annual Generation CCCG1




## Chart 123: Annual Generation DCCG1



## Chart 124: Annual Generation ECCG1




## Chart 125: Annual Generation FCCG1

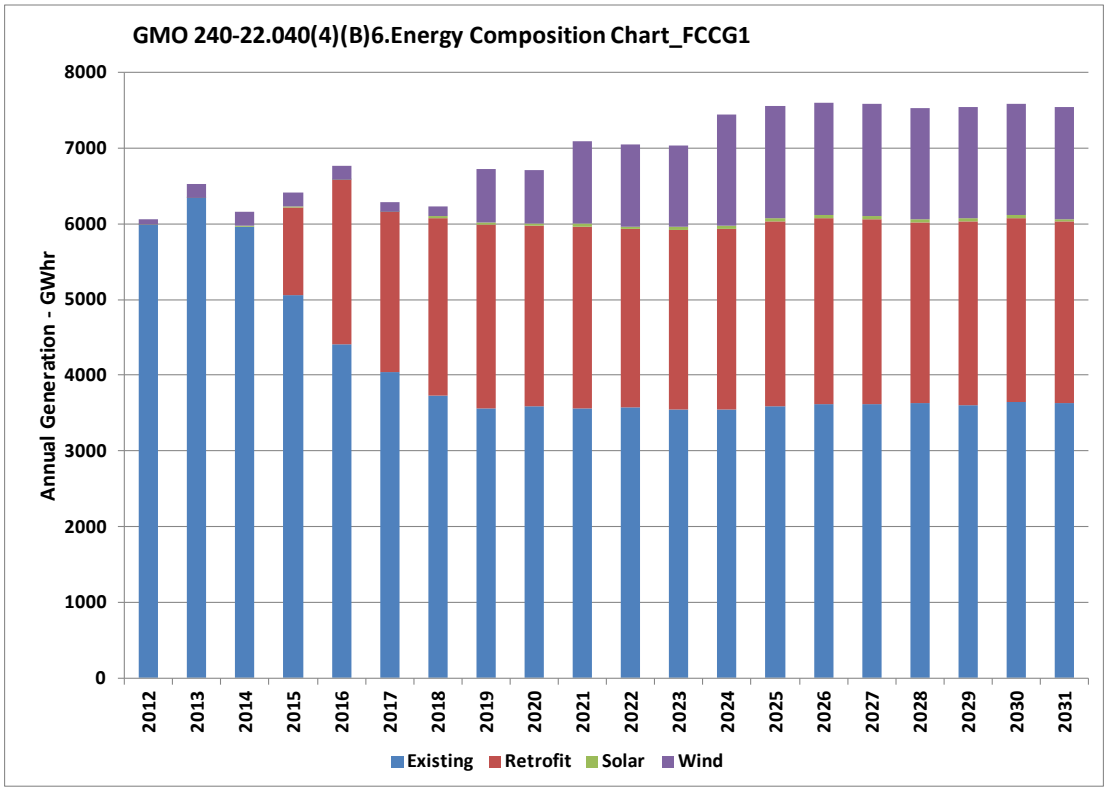
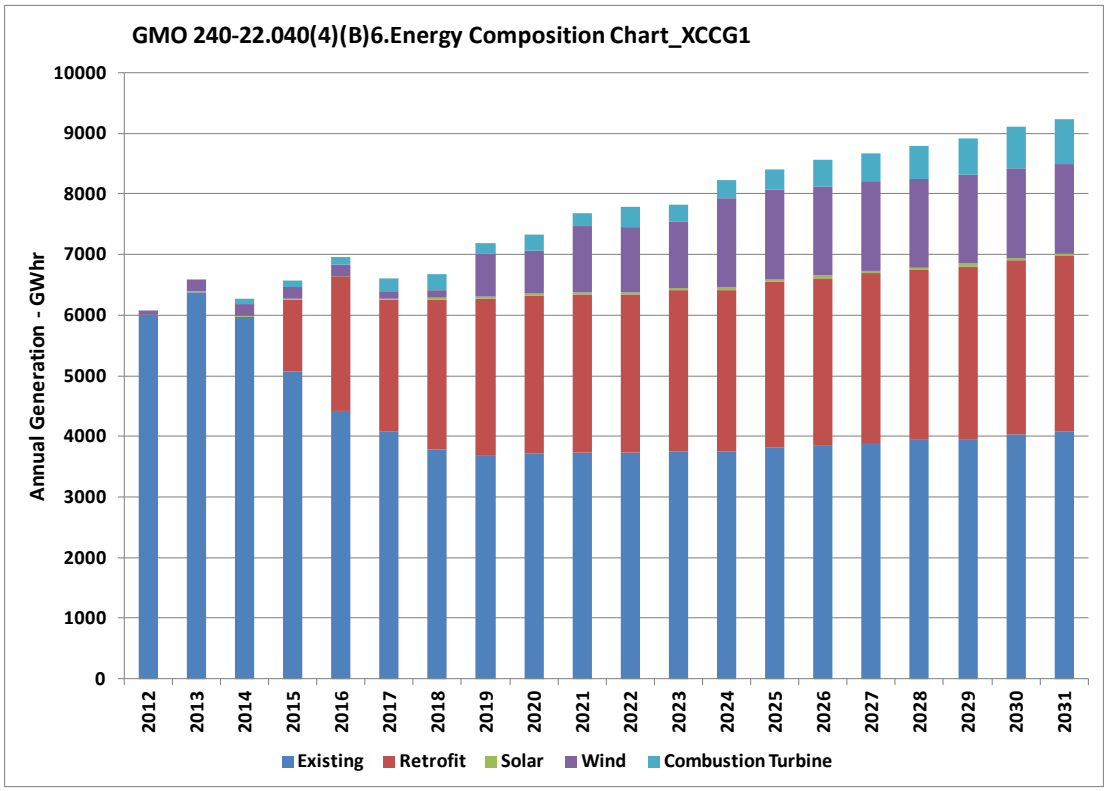


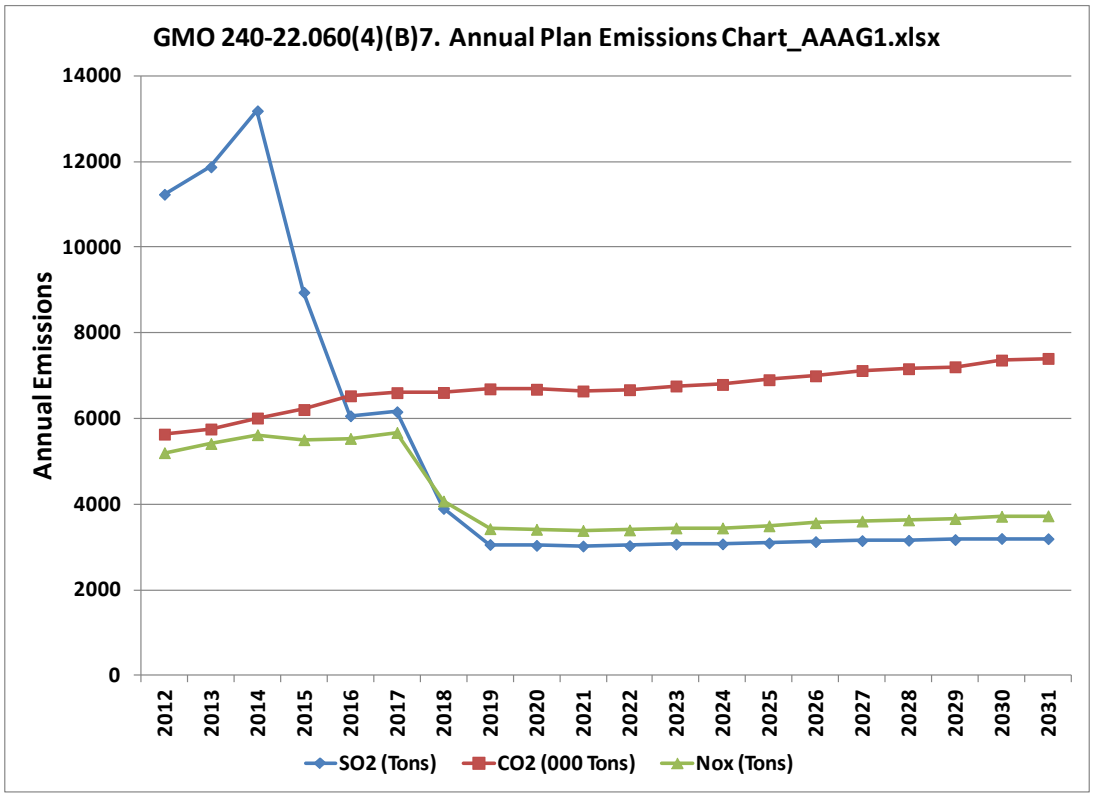
**Chart 126: Annual Generation XCCG1**



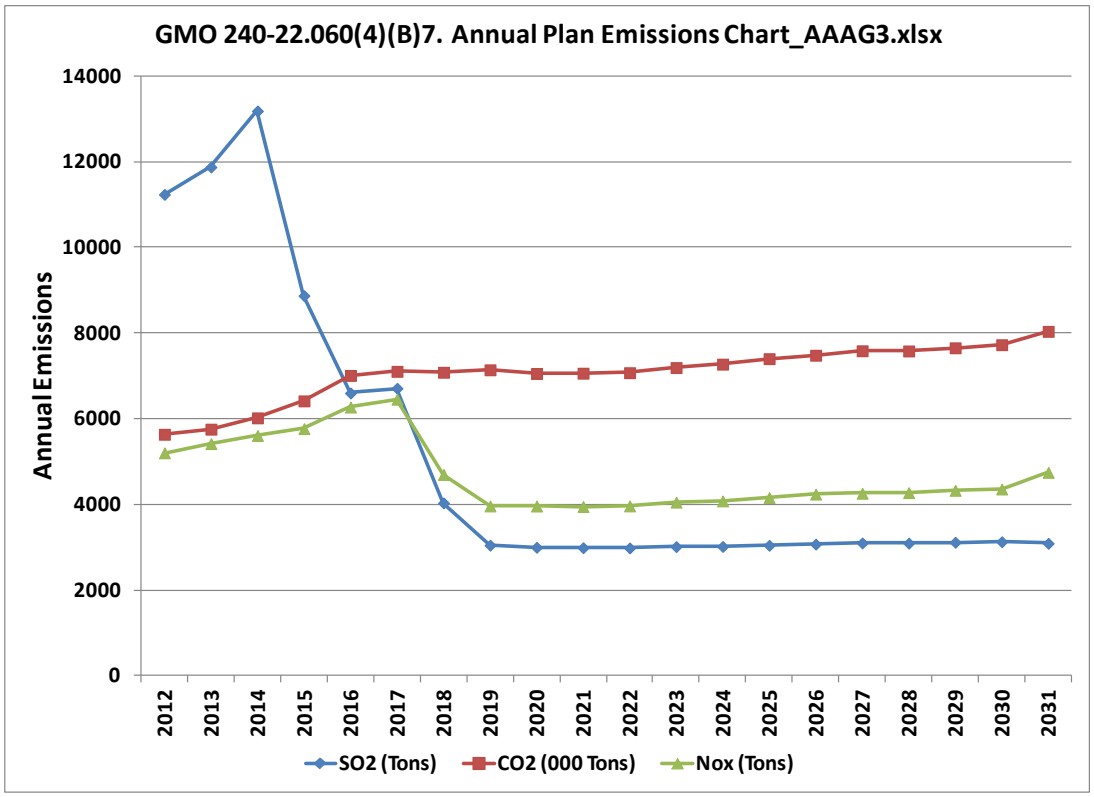

***7. Annual emissions of each environmental pollutant identified pursuant to 4 CSR 240-22.040(2)(B);***

The following charts detail the expected value of annual emissions in each alternative resource plan.

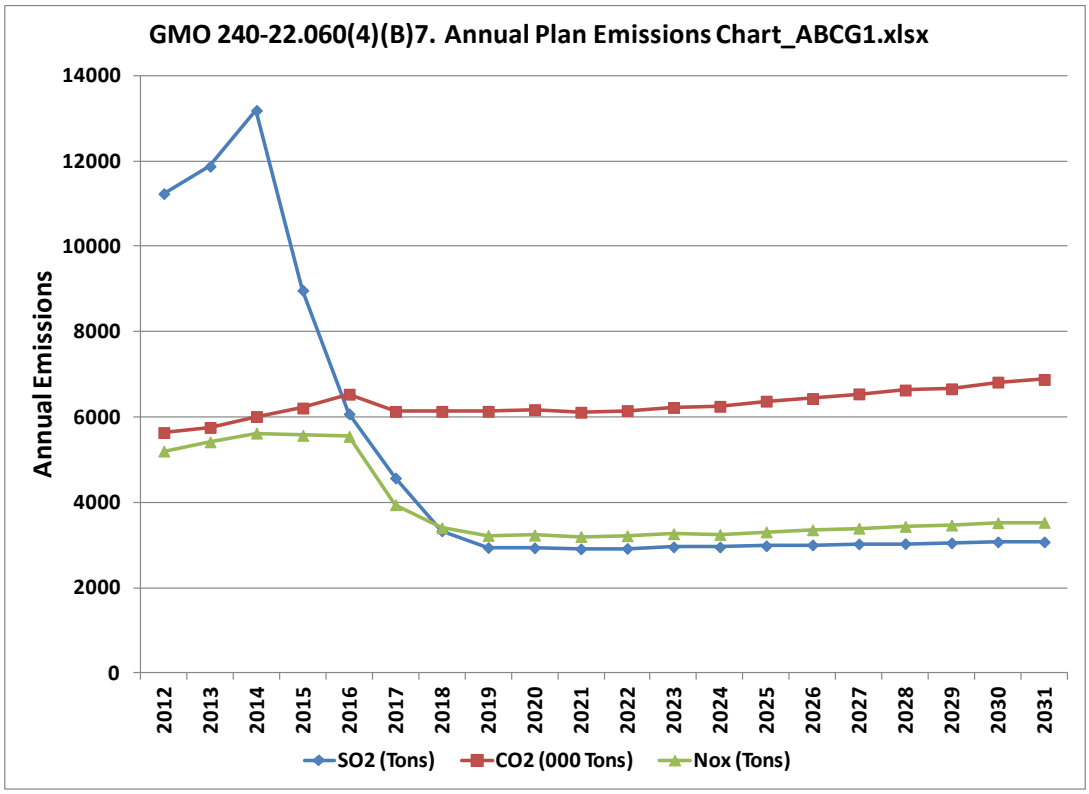
## Chart 127: Annual Emissions AAAG1



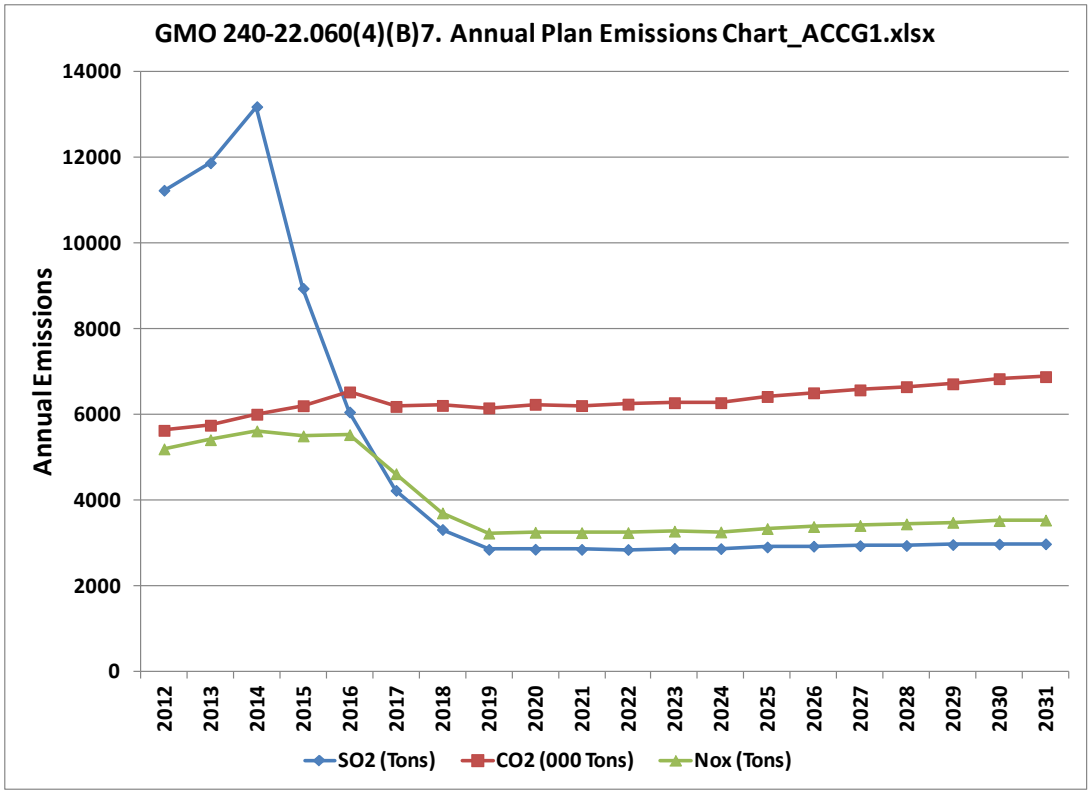

## Chart 128: Annual Emissions AAAG3



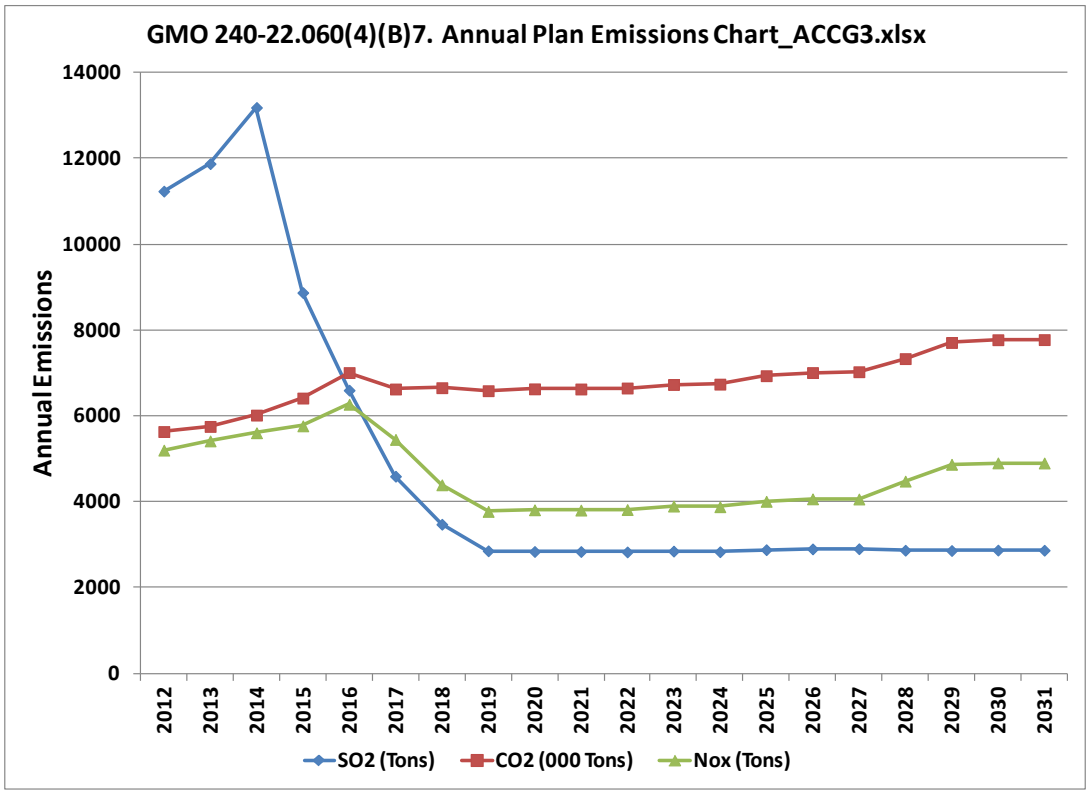
## Chart 129: Annual Emissions ABCG1



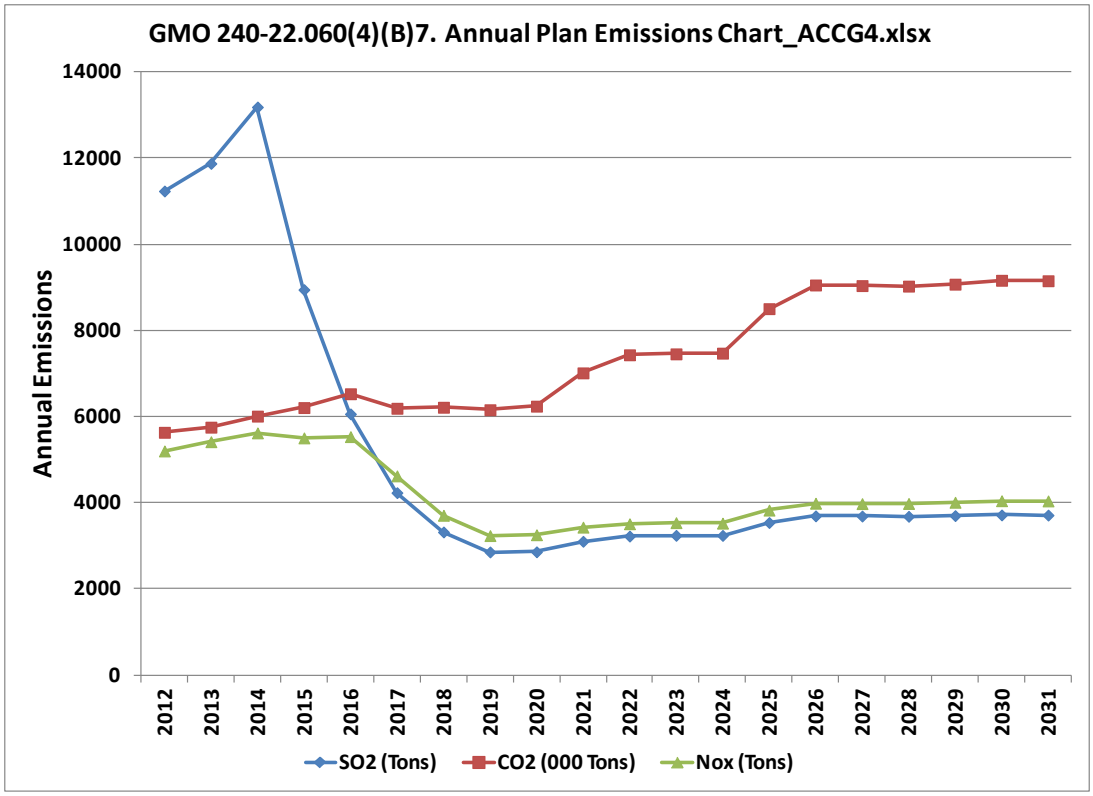

## Chart 130: Annual Emissions ACCG1



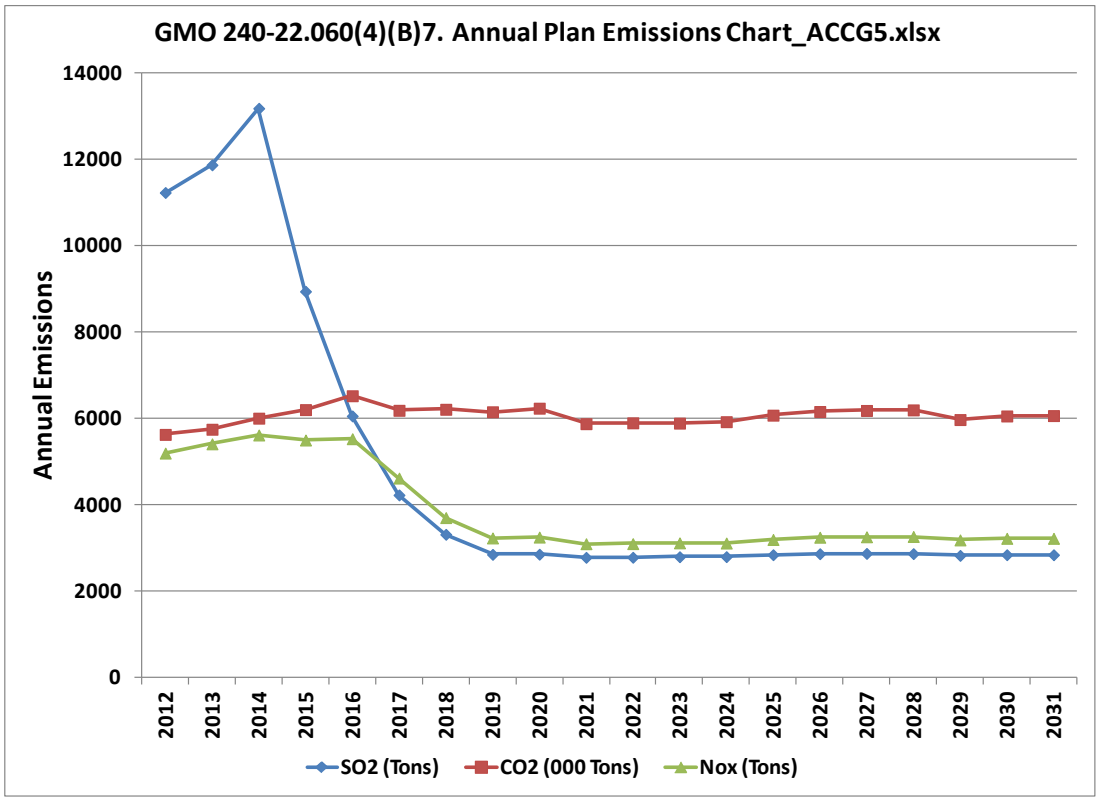
## Chart 131: Annual Emissions ACCG3



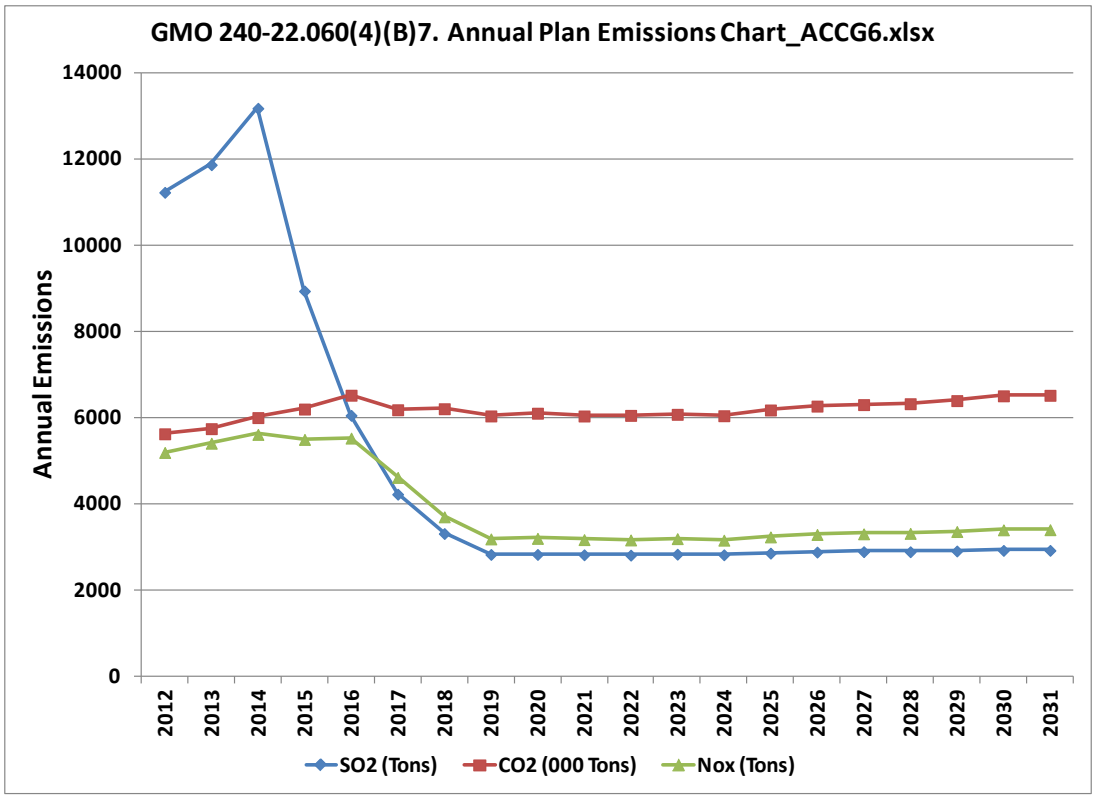

## Chart 132: Annual Emissions ACCG4



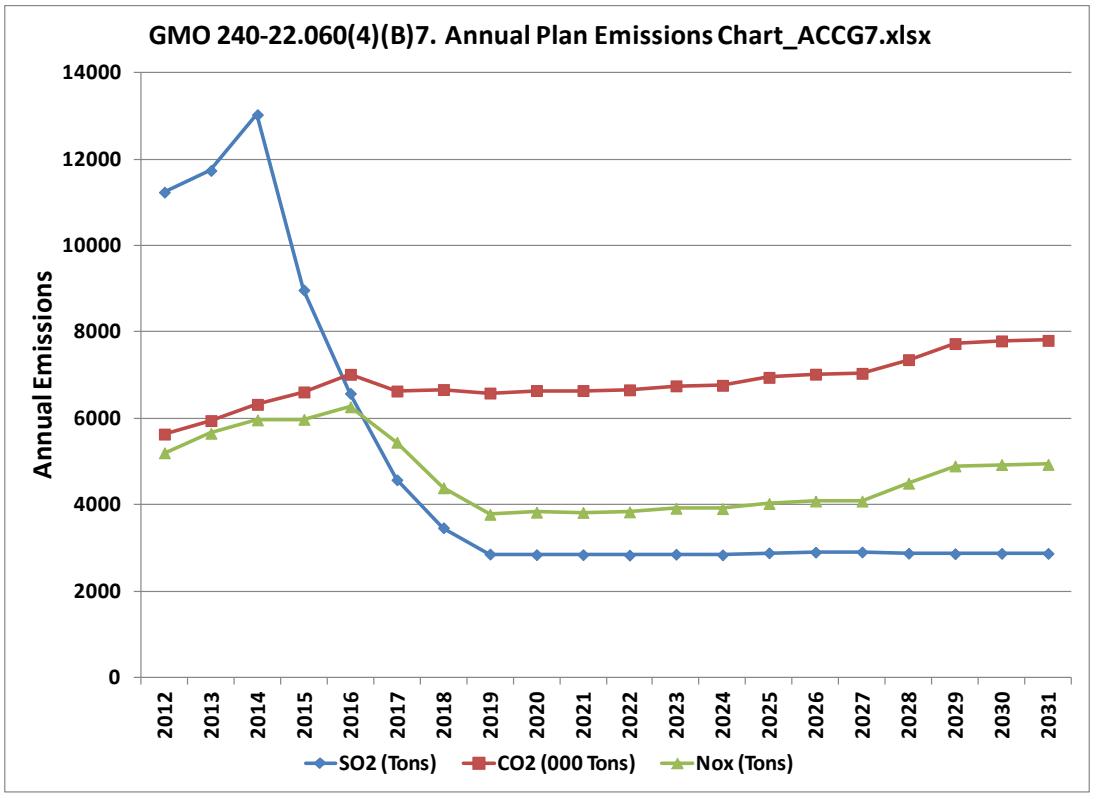
## Chart 133: Annual Emissions ACCG5



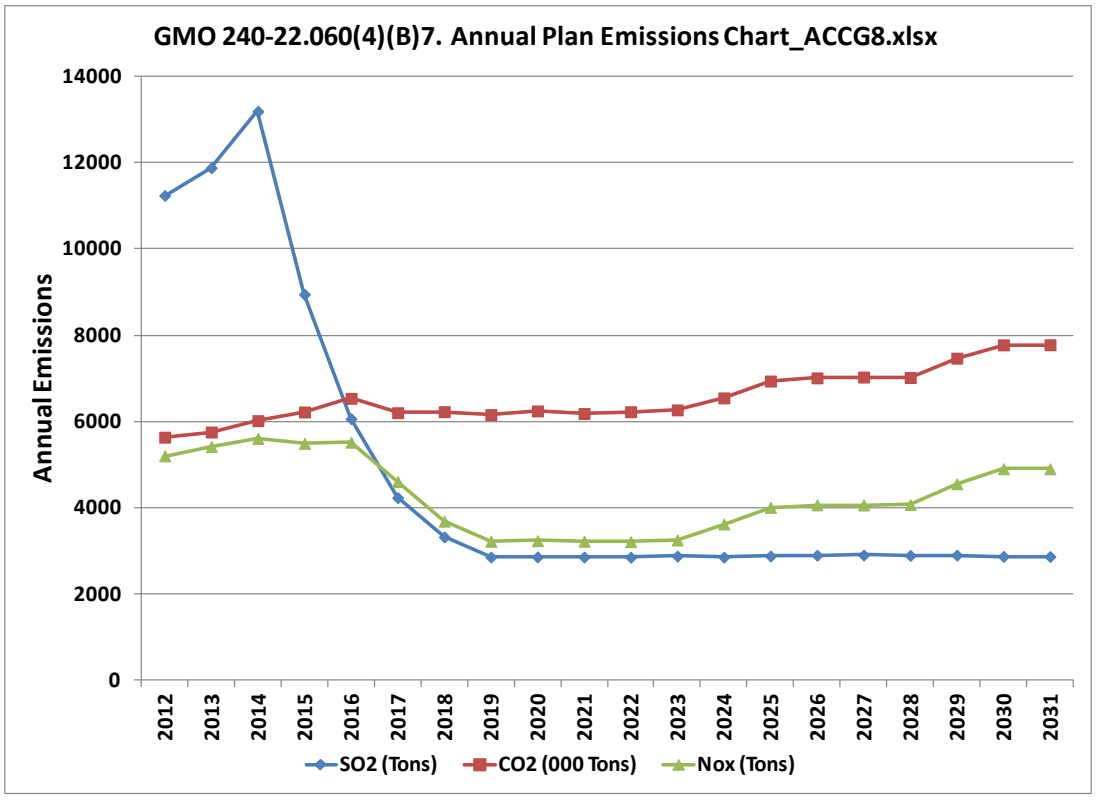

## Chart 134: Annual Emissions ACCG6



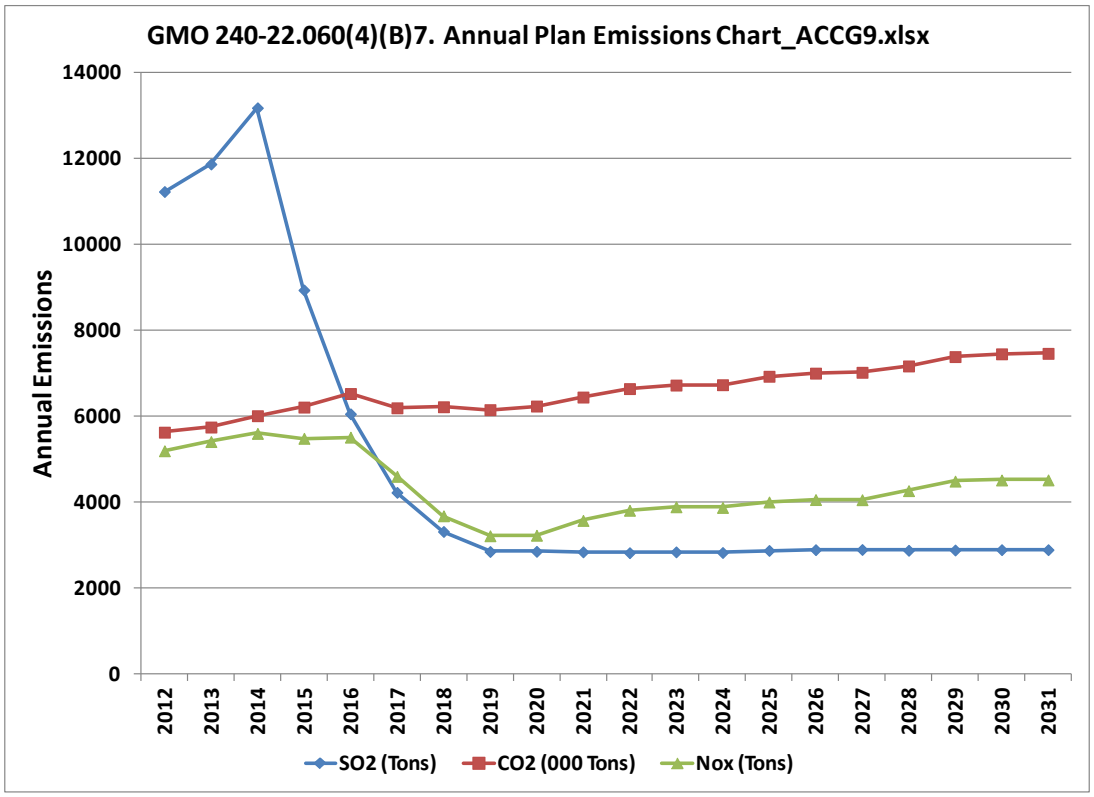
## Chart 135: Annual Emissions ACCG7



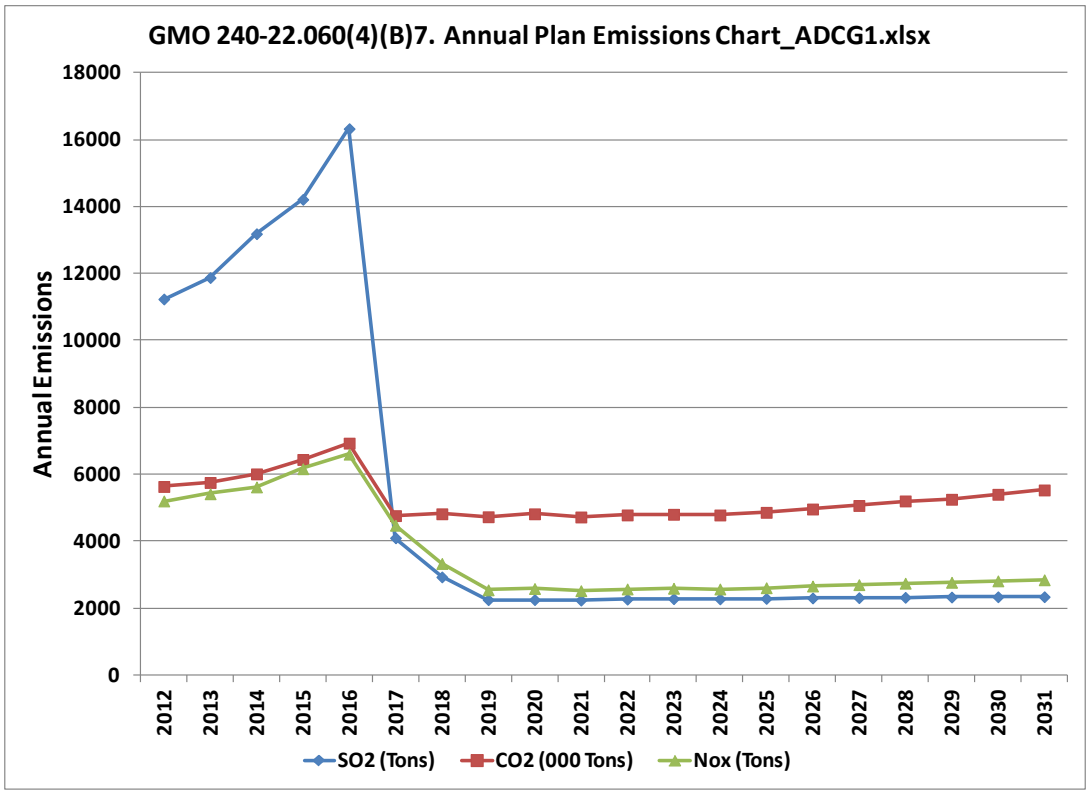

## Chart 136: Annual Emissions ACCG8



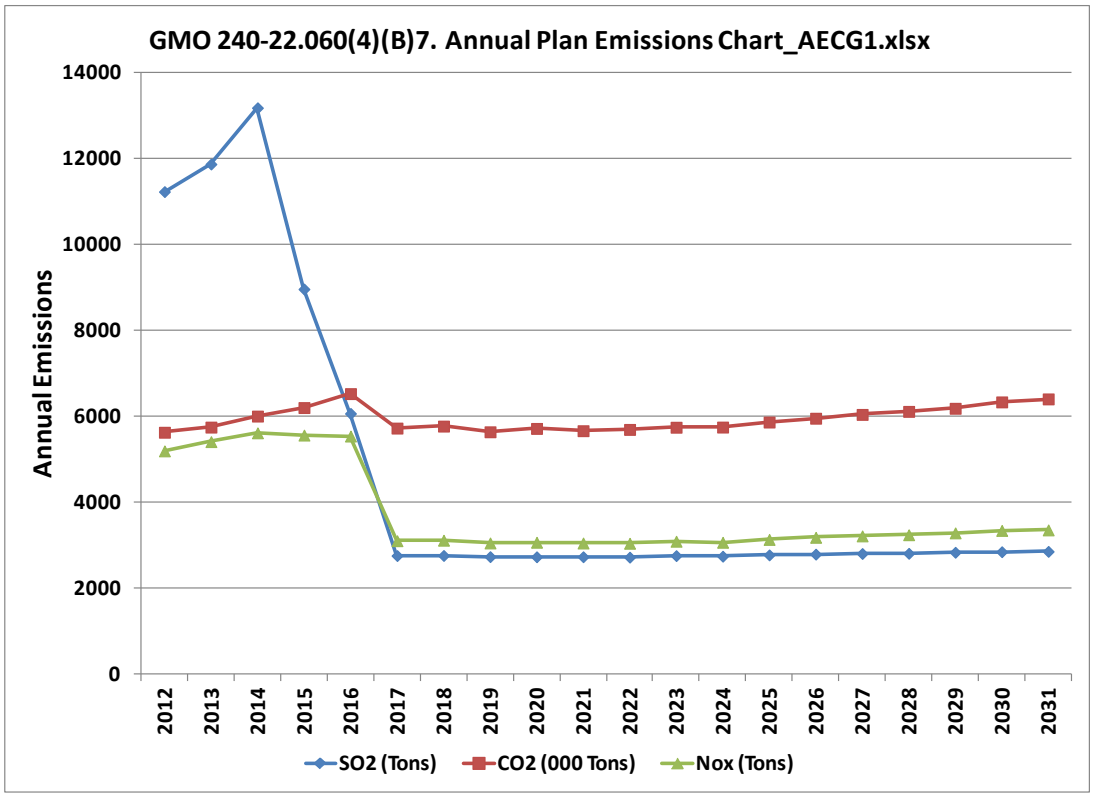
## Chart 137: Annual Emissions ACCG9



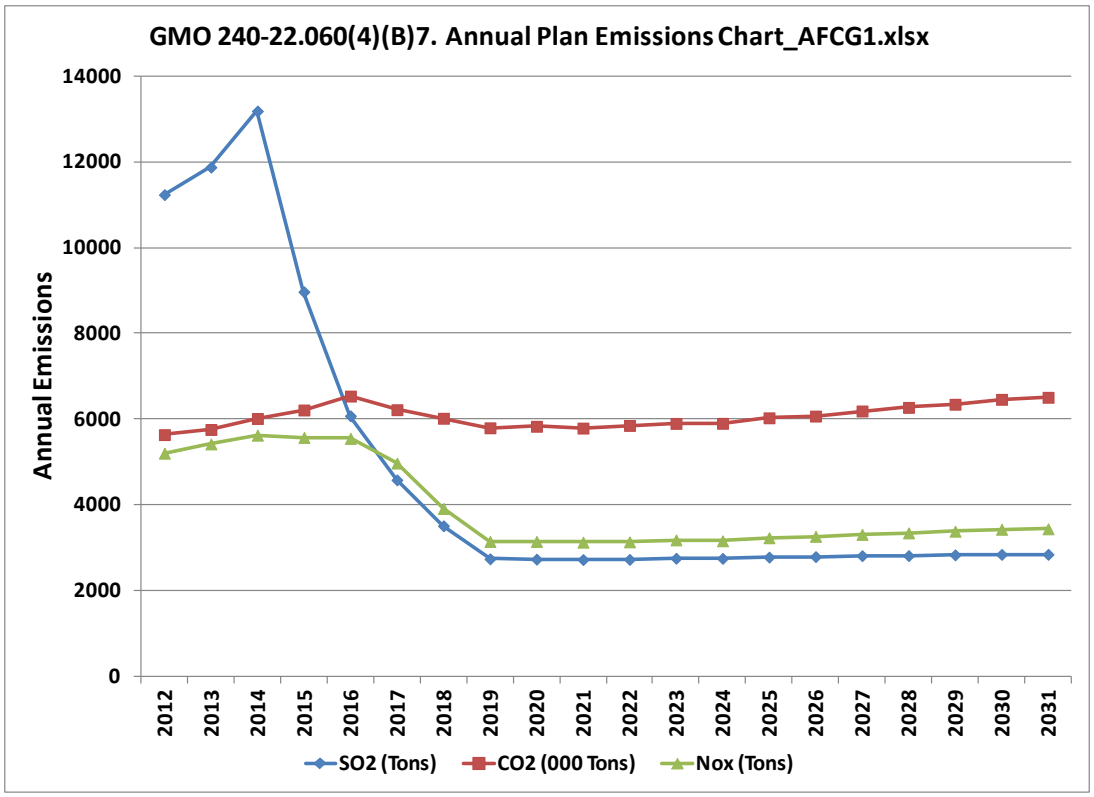

## Chart 138: Annual Emissions ADCG1



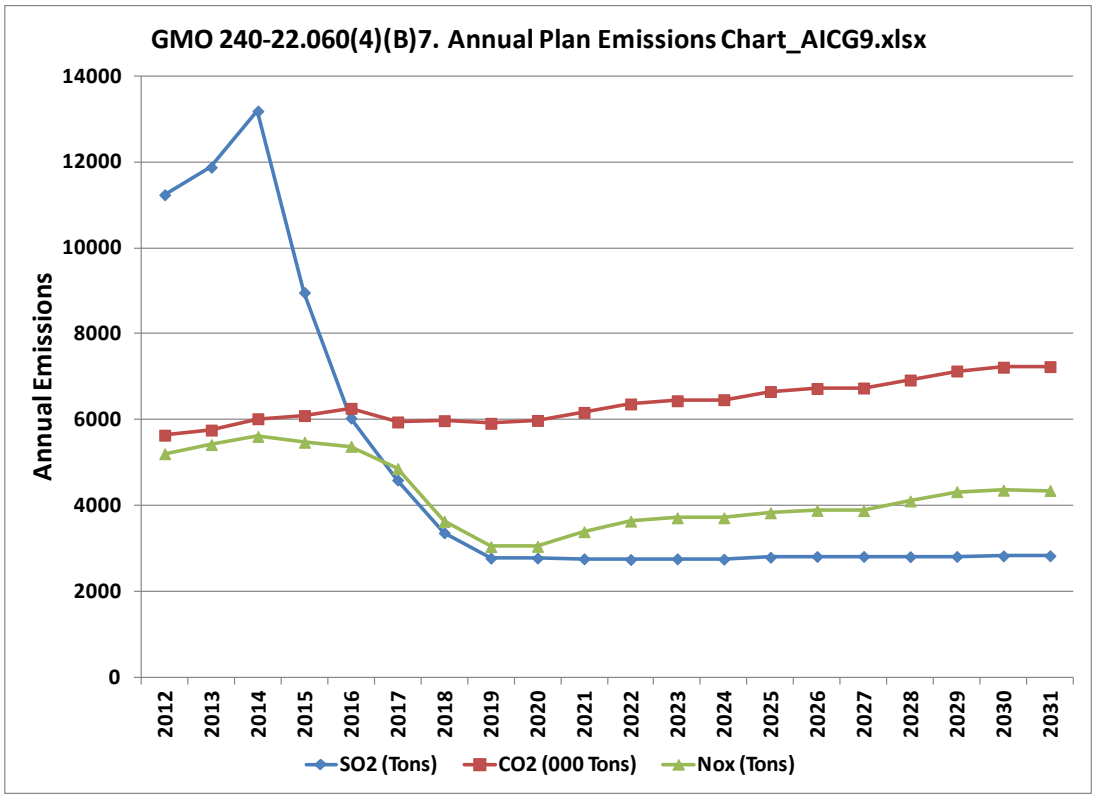
## Chart 139: Annual Emissions AECG1



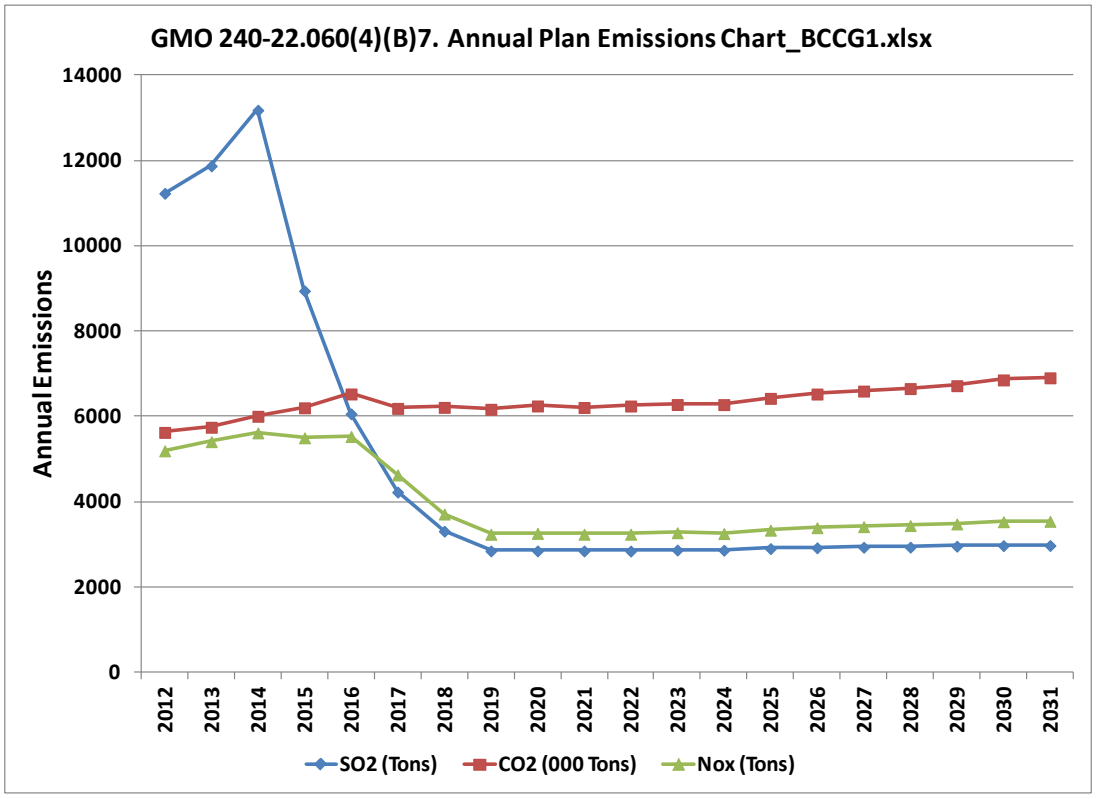

## Chart 140: Annual Emissions AFCG1



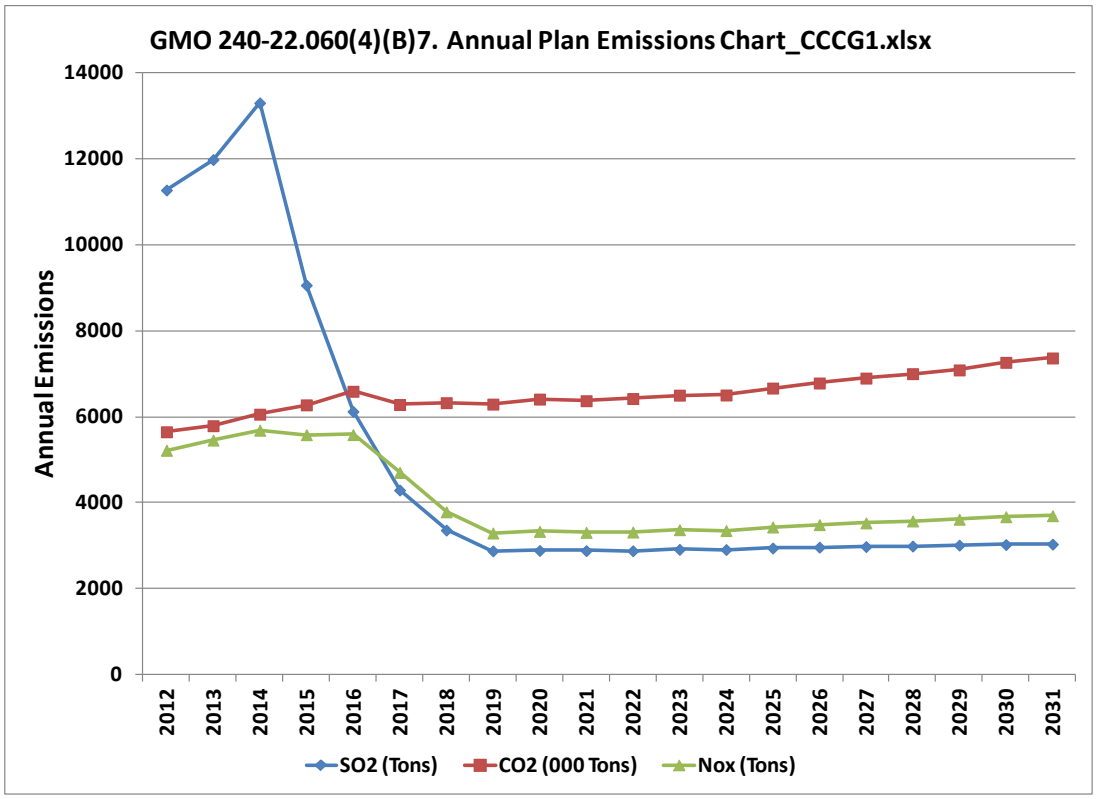
## Chart 141: Annual Emissions AICG9



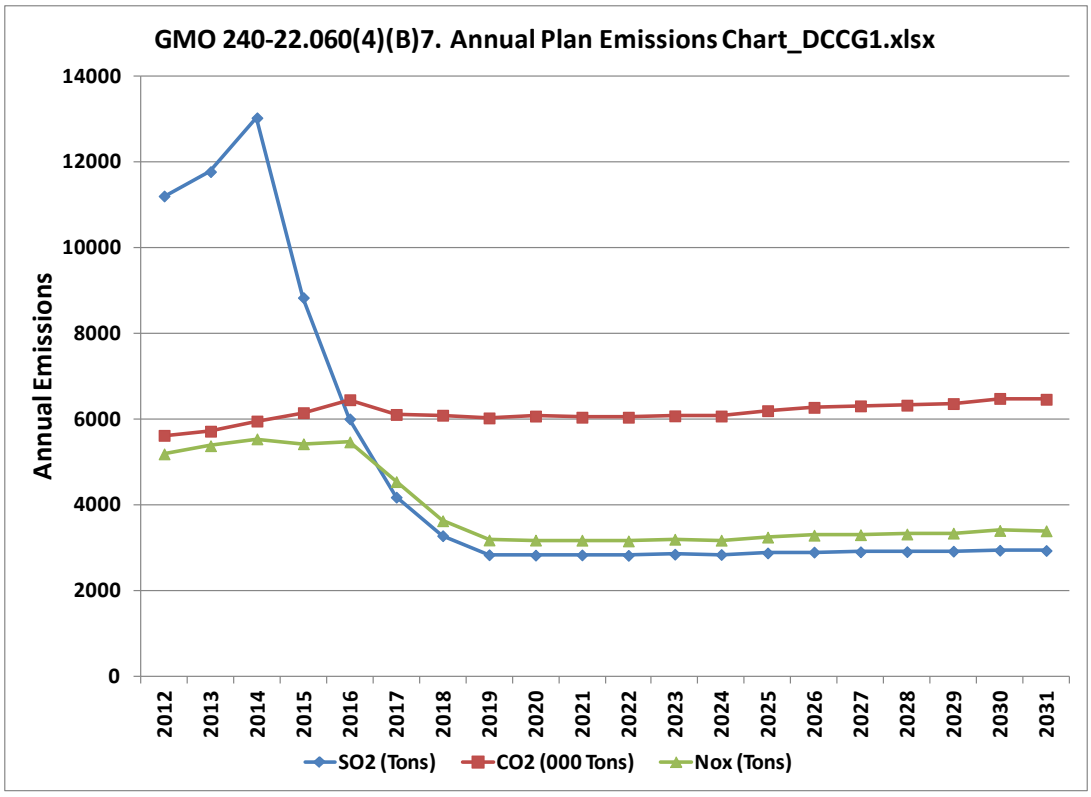

## Chart 142: Annual Emissions BCCG1



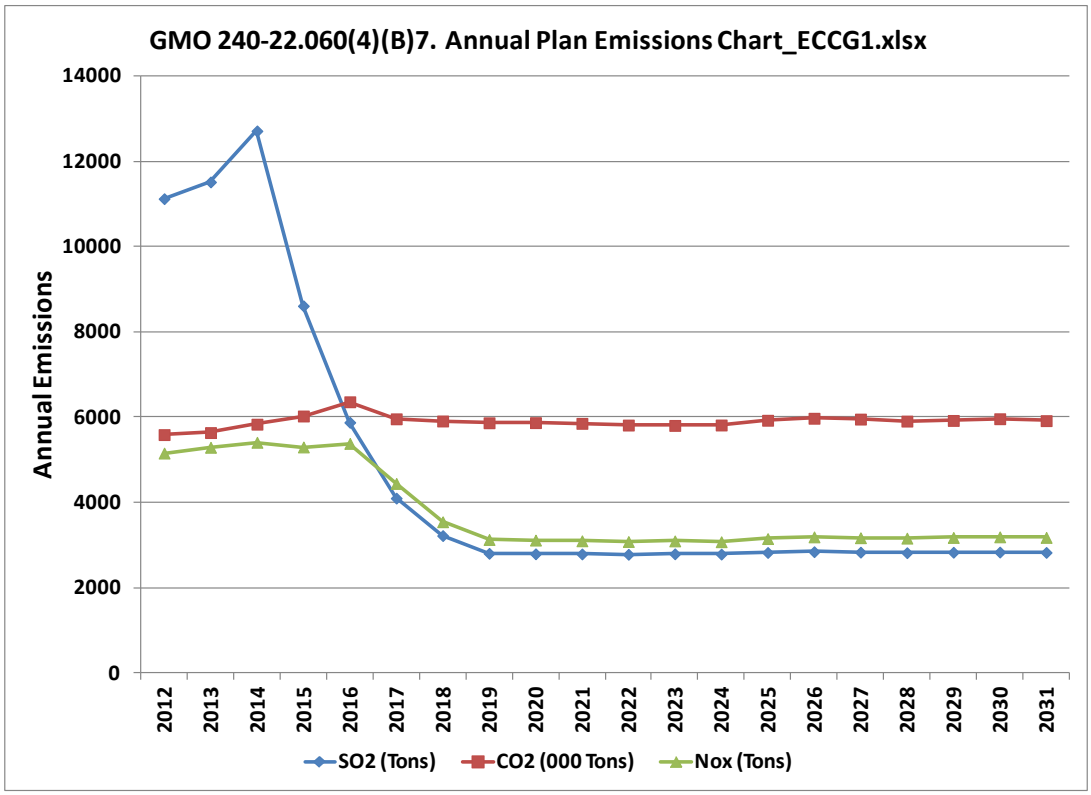
## Chart 143: Annual Emissions CCCG1




## Chart 144: Annual Emissions DCCG1



## Chart 145: Annual Emissions ECCG1




## Chart 146: Annual Emissions FCCG1

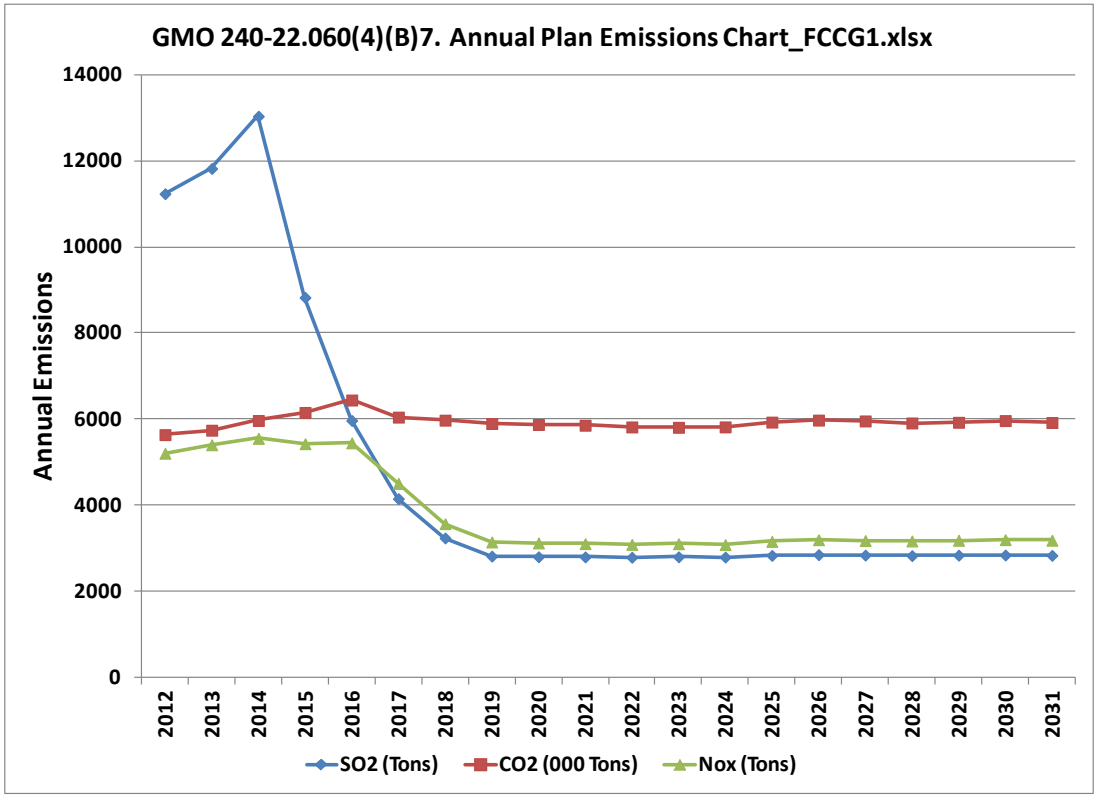
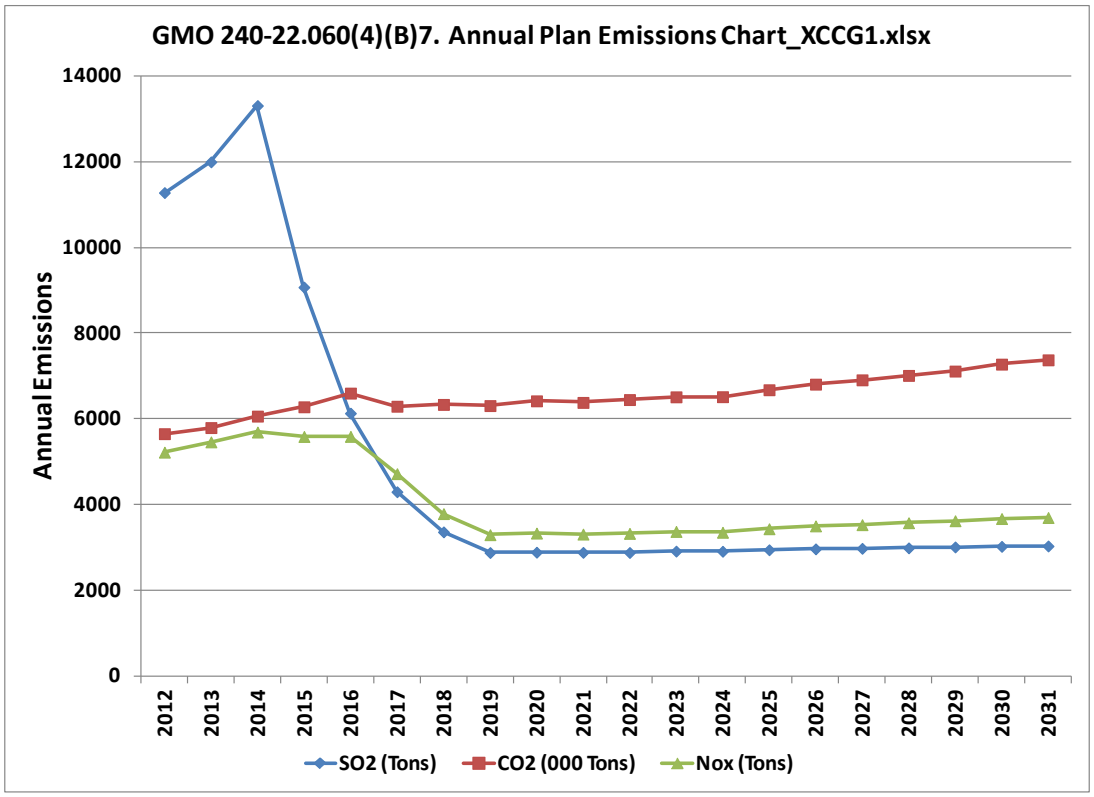


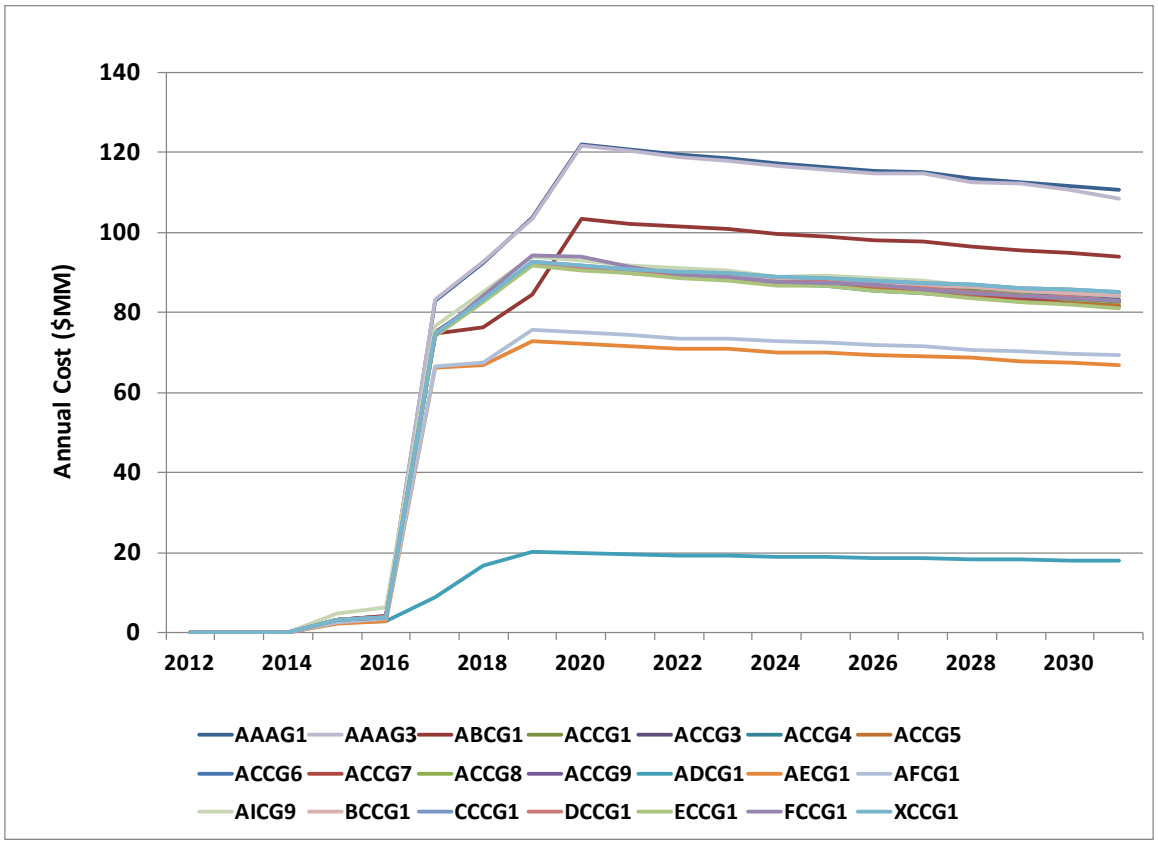
**Chart 147: Annual Emissions XCCG1**




***8. Annual probable environmental costs; and***

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

**Chart 148: Probable Environmental Costs**



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

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

# Table 33: Capacity Forecast - Alternative Resource Plan AAAG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 308 | 308 | 308 | 308 | 308 | 462 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,620 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,333 | 2,343 | 2,355 | 2,355 | 2,369 | 2,369 | 2,372 | 2,380 | 2,380 | 2,534 | 2,534 | 2,534 | 2,534 | 2,534 | 2,688 |

[redacted]

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# Table 34: Capacity Forecast - Alternative Resource Plan AAAG3 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| **A. System Generating Capacity (GMO share)** | | | | | | | | | | | | | | | | | | | | |
| **Base Capacity** | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| **Total Base Capacity** | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 |
| **Intermediate Capacity** | | | | | | | | | | | | | | | | | | | | |
| Combined Cycle Additions | | | | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 600 |
| **Total Intermediate Capacity** | - | - | - | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 600 |
| **Peaking Capacity** | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| **Total Peaking Capacity** | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 |
| **Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Percent Accredited Intermittent Capacity** | | | | | | | | | | | | | | | | | | | | |
| **Total Accredited Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| **Total Intermittent Capacity with Additions** | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| **Total Generation Capacity** | 2,145 | 2,145 | 2,145 | 2,445 | 2,445 | 2,479 | 2,489 | 2,501 | 2,501 | 2,515 | 2,515 | 2,518 | 2,526 | 2,526 | 2,526 | 2,526 | 2,526 | 2,526 | 2,526 | 2,826 |

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# Table 35: Capacity Forecast - Alternative Resource Plan ABCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | | | | | | | | | | | | | | | |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 | 922 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 308 | 308 | 308 | 308 | 308 | 308 | 308 | 462 | 462 | 462 | 462 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,312 | 1,312 | 1,312 | 1,312 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,620 | 1,620 | 1,620 | 1,620 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,234 | 2,244 | 2,256 | 2,256 | 2,424 | 2,424 | 2,427 | 2,436 | 2,436 | 2,436 | 2,436 | 2,589 | 2,589 | 2,589 | 2,589 |

[redacted]

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# Table 36: Capacity Forecast - Alternative Resource Plan ACCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| latan i | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| latan ii | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 308 | 308 | 308 | 308 | 308 | 308 | 308 | 462 | 462 | 462 | 462 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,312 | 1,312 | 1,312 | 1,312 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,620 | 1,620 | 1,620 | 1,620 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,235 | 2,245 | 2,257 | 2,257 | 2,425 | 2,425 | 2,428 | 2,436 | 2,436 | 2,436 | 2,436 | 2,590 | 2,590 | 2,590 | 2,590 |

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# Table 37: Capacity Forecast - Alternative Resource Plan ACCG3 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| **A. System Generating Capacity (GMO share)** | | | | | | | | | | | | | | | | | | | | |
| **Base Capacity** | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| **Total Base Capacity** | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| **Intermediate Capacity** | | | | | | | | | | | | | | | | | | | | |
| Combined Cycle Additions | | | | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 600 | 600 | 600 | 600 |
| **Total Intermediate Capacity** | - | - | - | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 600 | 600 | 600 | 600 |
| **Peaking Capacity** | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| **Total Peaking Capacity** | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 |
| **Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Percent Accredited Intermittent Capacity** | | | | | | | | | | | | | | | | | | | | |
| **Total Accredited Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| **Total Intermittent Capacity with Additions** | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| **Total Generation Capacity** | 2,145 | 2,145 | 2,145 | 2,445 | 2,445 | 2,381 | 2,391 | 2,403 | 2,403 | 2,417 | 2,417 | 2,420 | 2,428 | 2,428 | 2,428 | 2,428 | 2,728 | 2,728 | 2,728 | 2,728 |

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# Table 38: Capacity Forecast - Alternative Resource Plan ACCG4 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Coal additions | | | | | | | | | | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 400 | 400 | 400 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 1,123 | 1,123 | 1,123 | 1,123 | 1,123 | 1,123 | 1,123 | 1,123 | 1,323 | 1,323 | 1,323 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,235 | 2,245 | 2,257 | 2,257 | 2,471 | 2,471 | 2,474 | 2,482 | 2,482 | 2,482 | 2,482 | 2,482 | 2,682 | 2,682 | 2,682 |
| B. Capacity Transactions | | | | | | | | | | | | | | | | | | | | |

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# Table 39: Capacity Forecast - Alternative Resource Plan ACCG5 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Nuclear additions | | | | | | | | | | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 400 | 400 | 400 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 1,123 | 1,123 | 1,123 | 1,123 | 1,123 | 1,123 | 1,123 | 1,123 | 1,323 | 1,323 | 1,323 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,235 | 2,245 | 2,257 | 2,257 | 2,471 | 2,471 | 2,474 | 2,482 | 2,482 | 2,482 | 2,482 | 2,482 | 2,682 | 2,682 | 2,682 |
| B. Capacity Transactions | | | | | | | | | | | | | | | | | | | | |
| [redacted] | | | | | | | | | | | | | | | | | | | | |

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# Table 40: Capacity Forecast - Alternative Resource Plan ACCG6 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 308 | 308 | 308 | 308 | 308 | 308 | 308 | 462 | 462 | 462 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,312 | 1,312 | 1,312 | 1,312 | 1,312 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,620 | 1,620 | 1,620 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 24 | 24 | 40 | 40 | 40 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 34 | 34 | 56 | 56 | 59 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Total Generation Capacity | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,235 | 2,245 | 2,269 | 2,269 | 2,291 | 2,445 | 2,448 | 2,464 | 2,464 | 2,464 | 2,464 | 2,464 | 2,618 | 2,618 | 2,618 |

[redacted]

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# Table 41: Capacity Forecast - Alternative Resource Plan ACCG7 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Combined Cycle Additions | | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 610 | 610 | 610 | 610 |
| Total Intermediate Capacity | - | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 310 | 610 | 610 | 610 | 610 |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,455 | 2,455 | 2,455 | 2,455 | 2,391 | 2,401 | 2,413 | 2,413 | 2,427 | 2,427 | 2,430 | 2,438 | 2,438 | 2,438 | 2,438 | 2,738 | 2,738 | 2,738 | 2,738 |
| B. Capacity Transactions | | | | | | | | | | | | | | | | | | | | |

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# Table 42: Capacity Forecast - Alternative Resource Plan ACCG8 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Combined Cycle Additions | | | | | | | | | | | | | 300 | 300 | 300 | 300 | 300 | 600 | 600 | 600 |
| Total Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | 300 | 300 | 300 | 300 | 300 | 600 | 600 | 600 |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,145 | 2,145 | 2,145 | 2,081 | 2,091 | 2,103 | 2,103 | 2,117 | 2,117 | 2,120 | 2,428 | 2,428 | 2,428 | 2,428 | 2,428 | 2,728 | 2,728 | 2,728 |
| B. Capacity Transactions | | | | | | | | | | | | | | | | | | | | |

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# Table 43: Capacity Forecast - Alternative Resource Plan ACCG9 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| latan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| latan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | | | | | | | | | | | | | | | | | | | | |
| Combined Cycle Additions | | | | | | | | | | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 |
| Total Intermediate Capacity | - | - | - | - | - | - | - | - | - | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 22.0 | 22.0 | 36.0 | 36.0 | 39.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 |
| Total Generation Capacity | 2,145 | 2,145 | 2,145 | 2,145 | 2,145 | 2,081 | 2,091 | 2,103 | 2,103 | 2,417 | 2,417 | 2,420 | 2,428 | 2,428 | 2,428 | 2,428 | 2,578 | 2,578 | 2,578 | 2,578 |
| B. Capacity Transactions | | | | | | | | | | | | | | | | | | | | |
| [redacted] | | | | | | | | | | | | | | | | | | | | |

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# Table 44: Capacity Forecast - Alternative Resource Plan ADCG1**Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| latan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| latan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | | | | | | | | | | | | | | | |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 559 | 559 | 559 | 559 | 559 | 559 | 559 | 559 | 559 | 559 | 559 | 559 | 559 | 559 | 559 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 616 | 616 | 616 | 616 | 616 | 616 | 616 | 616 | 616 | 770 | 770 | 770 | 770 | 770 | 924 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,774 | 1,774 | 1,774 | 1,774 | 1,774 | 1,774 | 1,774 | 1,774 | 1,774 | 1,928 | 1,928 | 1,928 | 1,928 | 1,928 | 2,082 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,333 | 2,343 | 2,355 | 2,355 | 2,369 | 2,369 | 2,372 | 2,380 | 2,380 | 2,534 | 2,534 | 2,534 | 2,534 | 2,534 | 2,688 |

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# Table 45: Capacity Forecast - Alternative Resource Plan AECG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| **A. System Generating Capacity (GMO share)** | | | | | | | | | | | | | | | | | | | | |
| **Base Capacity** | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | | | | | | | | | | | | | | | |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| **Total Base Capacity** | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 824 | 824 | 824 | 824 | 824 | 824 | 824 | 824 | 824 | 824 | 824 | 824 | 824 | 824 | 824 |
| **Intermediate Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Peaking Capacity** | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 308 | 308 | 308 | 308 | 308 | 308 | 308 | 462 | 462 | 462 | 462 | 462 | 462 | 616 | 616 |
| **Total Peaking Capacity** | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,486 | 1,486 | 1,486 | 1,486 | 1,486 | 1,486 | 1,486 | 1,620 | 1,620 | 1,620 | 1,620 | 1,620 | 1,620 | 1,774 | 1,774 |
| **Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Percent Accredited Intermittent Capacity** | | | | | | | | | | | | | | | | | | | | |
| **Total Accredited Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| **Total Intermittent Capacity with Additions** | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| **Total Generation Capacity** | 2,146 | 2,146 | 2,299 | 2,299 | 2,299 | 2,290 | 2,300 | 2,312 | 2,312 | 2,326 | 2,326 | 2,329 | 2,491 | 2,491 | 2,491 | 2,491 | 2,491 | 2,491 | 2,645 | 2,645 |

[redacted]

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# Table 46: Capacity Forecast - Alternative Resource Plan AFCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| **A. System Generating Capacity (GMO share)** | | | | | | | | | | | | | | | | | | | | |
| **Base Capacity** | | | | | | | | | | | | | | | | | | | | |
| latan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| latan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| **Total Base Capacity** | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| **Intermediate Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Peaking Capacity** | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 154 | 154 | 154 | 154 | 308 | 308 | 308 | 308 | 308 | 308 | 308 | 462 | 462 | 462 | 462 |
| **Total Peaking Capacity** | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,312 | 1,312 | 1,312 | 1,312 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,620 | 1,620 | 1,620 | 1,620 |
| **Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Percent Accredited Intermittent Capacity** | | | | | | | | | | | | | | | | | | | | |
| **Total Accredited Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| **Total Intermittent Capacity with Additions** | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| **Total Generation Capacity** | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,235 | 2,245 | 2,257 | 2,257 | 2,425 | 2,425 | 2,428 | 2,436 | 2,438 | 2,436 | 2,438 | 2,590 | 2,590 | 2,590 | 2,590 |

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# Table 47: Capacity Forecast - Alternative Resource Plan AICG9 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Combined Cycle Additions | | | | | | | | | | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 |
| Total Intermediate Capacity | - | - | - | - | - | - | - | - | - | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,145 | 2,145 | 2,145 | 2,081 | 2,091 | 2,103 | 2,103 | 2,417 | 2,417 | 2,420 | 2,428 | 2,428 | 2,428 | 2,428 | 2,578 | 2,578 | 2,578 | 2,578 |
| Purchased Transactions | | | | | | | | | | | | | | | | | | | | |

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# Table 48: Capacity Forecast - Alternative Resource Plan BCCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| **A. System Generating Capacity (GMO share)** | | | | | | | | | | | | | | | | | | | | |
| **Base Capacity** | | | | | | | | | | | | | | | | | | | | |
| latan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| latan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| **Total Base Capacity** | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| **Intermediate Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Peaking Capacity** | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 154 | 154 | 154 | 308 | 308 | 308 | 308 | 308 | 308 | 308 | 308 | 308 | 462 | 462 | 462 | 462 | 616 | 616 |
| **Total Peaking Capacity** | 1,124 | 1,124 | 1,278 | 1,278 | 1,278 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,466 | 1,620 | 1,620 | 1,620 | 1,620 | 1,774 | 1,774 |
| **Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Percent Accredited Intermittent Capacity** | | | | | | | | | | | | | | | | | | | | |
| **Total Accredited Intermittent Capacity** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 18 | 18 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| **Total Intermittent Capacity with Additions** | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 38 | 38 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| **Total Generation Capacity** | 2,145 | 2,145 | 2,299 | 2,299 | 2,299 | 2,389 | 2,399 | 2,411 | 2,411 | 2,425 | 2,425 | 2,428 | 2,436 | 2,436 | 2,590 | 2,590 | 2,590 | 2,590 | 2,744 | 2,744 |

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# Table 49: Capacity Forecast - Alternative Resource Plan CCCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| latan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| latan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 66 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 231 | 231 | 231 | 231 | 385 | 385 | 385 | 385 | 385 | 539 | 539 | 539 | 539 | 693 | 693 | 693 | 847 | 847 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,355 | 1,355 | 1,355 | 1,389 | 1,543 | 1,543 | 1,543 | 1,543 | 1,543 | 1,697 | 1,697 | 1,697 | 1,697 | 1,851 | 1,851 | 1,851 | 2,005 | 2,005 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,376 | 2,376 | 2,376 | 2,312 | 2,476 | 2,488 | 2,488 | 2,502 | 2,502 | 2,659 | 2,667 | 2,667 | 2,667 | 2,821 | 2,821 | 2,821 | 2,976 | 2,975 |
| B. Capacity Transactions | | | | | | | | | | | | | | | | | | | | |

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# Table 50: Capacity Forecast - Alternative Resource Plan DCCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| latan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| latan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | | | | | | | | | | | | | | | | | 154 | 154 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,312 | 1,312 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,145 | 2,145 | 2,145 | 2,081 | 2,091 | 2,103 | 2,103 | 2,117 | 2,117 | 2,120 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,282 | 2,282 |

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# Table 51: Capacity Forecast - Alternative Resource Plan ECCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,145 | 2,145 | 2,145 | 2,081 | 2,091 | 2,103 | 2,103 | 2,117 | 2,117 | 2,120 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 |
| B. Capacity Transactions | | | | | | | | | | | | | | | | | | | | |

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# Table 52: Capacity Forecast - Alternative Resource Plan FCCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,124 | 1,124 | 1,124 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 | 1,158 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,145 | 2,145 | 2,145 | 2,081 | 2,091 | 2,103 | 2,103 | 2,117 | 2,117 | 2,120 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 |

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# Table 53: Capacity Forecast - Alternative Resource Plan XCCG1 **Highly Confidential**

| Name of Utility | KCP&L Greater Missouri Operations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Electric Utility Resource Planning Filing | 1-Apr-12 | | | | | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
| A. System Generating Capacity (GMO share) | | | | | | | | | | | | | | | | | | | | |
| Base Capacity | | | | | | | | | | | | | | | | | | | | |
| Iatan I | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Iatan II | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 | 159 |
| Jeffrey Energy Center 1 | 58 | 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 | 58 |
| Jeffrey Energy Center 3 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Lake Road 4 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Sibley 1 | 48 | 48 | 48 | 48 | 48 | | | | | | | | | | | | | | | |
| Sibley 2 | 51 | 51 | 51 | 51 | 51 | | | | | | | | | | | | | | | |
| Sibley 3 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 | 364 |
| Total Base Capacity | 1,021 | 1,021 | 1,021 | 1,021 | 1,021 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 | 923 |
| Intermediate Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Peaking Capacity | | | | | | | | | | | | | | | | | | | | |
| Greenwood 1 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 2 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Greenwood 3 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| Greenwood 4 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 |
| KCI 1 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| KCI 2 | - | - | - | - | - | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Lake Road 1 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Lake Road 2 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Lake Road 3 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Lake Road 5 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| 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 |
| Nevada | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Ralph Green 3 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| South Harper 1 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 2 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 |
| South Harper 3 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Cross Roads Unit 1 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 2 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 |
| Cross Roads Unit 3 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Cross Roads Unit 4 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 |
| SJLP Landfill Gas Project | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Combustion Turbine Additions | | | 231 | 231 | 231 | 385 | 385 | 385 | 385 | 385 | 539 | 539 | 539 | 693 | 693 | 693 | 693 | 847 | 847 | 847 |
| Total Peaking Capacity | 1,124 | 1,124 | 1,355 | 1,355 | 1,355 | 1,543 | 1,543 | 1,543 | 1,543 | 1,543 | 1,697 | 1,697 | 1,697 | 1,851 | 1,851 | 1,851 | 1,851 | 2,005 | 2,005 | 2,005 |
| Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Percent Accredited Intermittent Capacity | | | | | | | | | | | | | | | | | | | | |
| Total Accredited Intermittent Capacity | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Wind Additions | | | | | | | | 12 | 12 | 20 | 20 | 20 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Solar Additions | | | | | | | 10 | 10 | 10 | 16 | 16 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| Total Intermittent Capacity with Additions | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 22 | 22 | 36 | 36 | 39 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Total Generation Capacity | 2,145 | 2,145 | 2,376 | 2,376 | 2,376 | 2,466 | 2,476 | 2,488 | 2,488 | 2,502 | 2,656 | 2,659 | 2,667 | 2,821 | 2,821 | 2,821 | 2,821 | 2,975 | 2,975 | 2,975 |

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***(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 as opposed to being capitalized with a six year amortization. This method of calculation is in compliance with rule 22.060(2)(A)1. Summary results for this analysis are provided in the following Sections.

***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, both with and without rate of return and incentive payments for DSM expenditures on an expected value basis.

## Table 54: Economic Impact of Alternative Resource Plan AAAG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.59% | 2.88% | 2.74 | 2.75 | 49.74 | 49.74 | 0.41 | 0.38 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.21 | 0.19 |
| 2015 | 946 | 943 | 0.11 | 0.11 | -0.67% | -0.35% | 2.18 | 2.19 | 50.00 | 50.00 | 0.24 | 0.23 |
| 2016 | 964 | 962 | 0.11 | 0.11 | 0.48% | 0.59% | 2.12 | 2.13 | 50.00 | 50.00 | 0.16 | 0.16 |
| 2017 | 1,062 | 1,062 | 0.12 | 0.12 | 9.37% | 9.60% | 2.36 | 2.37 | 50.00 | 50.00 | 0.15 | 0.14 |
| 2018 | 1,206 | 1,208 | 0.13 | 0.13 | 12.21% | 12.40% | 2.48 | 2.49 | 50.00 | 50.00 | 0.54 | 0.54 |
| 2019 | 1,220 | 1,222 | 0.13 | 0.13 | -0.15% | -0.15% | 2.39 | 2.40 | 50.00 | 50.00 | 0.57 | 0.57 |
| 2020 | 1,294 | 1,296 | 0.14 | 0.14 | 4.45% | 4.44% | 2.42 | 2.43 | 50.00 | 50.00 | 0.43 | 0.43 |
| 2021 | 1,355 | 1,357 | 0.14 | 0.14 | 3.68% | 3.67% | 2.45 | 2.46 | 50.00 | 50.00 | 0.85 | 0.85 |
| 2022 | 1,401 | 1,403 | 0.14 | 0.14 | 2.08% | 2.08% | 2.46 | 2.47 | 50.00 | 50.00 | 0.65 | 0.65 |
| 2023 | 1,482 | 1,484 | 0.15 | 0.15 | 4.45% | 4.44% | 2.62 | 2.62 | 50.00 | 50.00 | 1.40 | 1.40 |
| 2024 | 1,501 | 1,503 | 0.15 | 0.15 | -0.35% | -0.35% | 3.06 | 3.07 | 50.00 | 50.00 | 1.73 | 1.72 |
| 2025 | 1,521 | 1,523 | 0.15 | 0.15 | 0.22% | 0.22% | 2.74 | 2.75 | 50.00 | 50.00 | 1.08 | 1.08 |
| 2026 | 1,608 | 1,610 | 0.16 | 0.16 | 4.16% | 4.16% | 2.88 | 2.89 | 50.00 | 50.00 | 0.74 | 0.74 |
| 2027 | 1,647 | 1,649 | 0.16 | 0.16 | 0.73% | 0.73% | 2.74 | 2.75 | 50.00 | 50.00 | 1.60 | 1.59 |
| 2028 | 1,690 | 1,692 | 0.16 | 0.16 | 0.61% | 0.61% | 2.70 | 2.71 | 50.00 | 50.00 | 1.57 | 1.57 |
| 2029 | 1,747 | 1,749 | 0.16 | 0.16 | 1.91% | 1.91% | 2.69 | 2.70 | 50.00 | 50.00 | 1.38 | 1.37 |
| 2030 | 1,806 | 1,809 | 0.16 | 0.16 | 1.55% | 1.60% | 2.66 | 2.67 | 50.00 | 50.00 | 1.00 | 0.99 |
| 2031 | 1,909 | 1,912 | 0.17 | 0.17 | 3.95% | 3.94% | 2.81 | 2.82 | 50.00 | 50.00 | 0.71 | 0.71 |

## Table 55: Economic Impact of Alternative Resource Plan AAAG3

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.56 | 2.57 | 49.47 | 49.47 | 0.13 | 0.09 |
| 2013 | 851 | 842 | 0.10 | 0.10 | 2.56% | 2.72% | 2.67 | 2.68 | 49.75 | 49.75 | 0.24 | 0.22 |
| 2014 | 910 | 904 | 0.10 | 0.10 | 5.63% | 6.06% | 1.99 | 2.00 | 50.00 | 50.00 | 0.11 | 0.09 |
| 2015 | 978 | 974 | 0.11 | 0.11 | 6.32% | 6.59% | 2.37 | 2.37 | 50.00 | 50.00 | 0.22 | 0.21 |
| 2016 | 1,003 | 1,002 | 0.11 | 0.11 | 1.25% | 1.57% | 2.19 | 2.20 | 50.00 | 50.00 | 0.2 | 0.19 |
| 2017 | 1,101 | 1,102 | 0.12 | 0.12 | 8.91% | 9.12% | 2.41 | 2.42 | 50.00 | 50.00 | 0.18 | 0.17 |
| 2018 | 1,241 | 1,243 | 0.13 | 0.13 | 11.38% | 11.46% | 2.52 | 2.52 | 50.00 | 50.00 | 0.58 | 0.57 |
| 2019 | 1,256 | 1,258 | 0.13 | 0.13 | -0.12% | -0.12% | 2.43 | 2.44 | 50.00 | 50.00 | 0.61 | 0.61 |
| 2020 | 1,325 | 1,327 | 0.14 | 0.14 | 3.94% | 3.93% | 2.46 | 2.47 | 50.00 | 50.00 | 0.47 | 0.47 |
| 2021 | 1,385 | 1,387 | 0.14 | 0.14 | 3.47% | 3.46% | 2.48 | 2.49 | 50.00 | 50.00 | 0.9 | 0.90 |
| 2022 | 1,428 | 1,430 | 0.15 | 0.15 | 1.80% | 1.80% | 2.49 | 2.50 | 50.00 | 50.00 | 0.69 | 0.69 |
| 2023 | 1,507 | 1,509 | 0.15 | 0.15 | 4.21% | 4.20% | 2.65 | 2.66 | 50.00 | 50.00 | 1.45 | 1.45 |
| 2024 | 1,522 | 1,524 | 0.15 | 0.15 | -0.60% | -0.60% | 3.07 | 3.07 | 50.00 | 50.00 | 1.78 | 1.77 |
| 2025 | 1,542 | 1,544 | 0.15 | 0.15 | 0.13% | 0.13% | 2.77 | 2.78 | 50.00 | 50.00 | 1.5 | 1.50 |
| 2026 | 1,584 | 1,586 | 0.15 | 0.15 | 1.19% | 1.18% | 2.76 | 2.77 | 50.00 | 50.00 | 1.41 | 1.41 |
| 2027 | 1,621 | 1,623 | 0.15 | 0.16 | 0.73% | 0.72% | 2.72 | 2.73 | 50.00 | 50.00 | 1.54 | 1.53 |
| 2028 | 1,663 | 1,666 | 0.16 | 0.16 | 0.59% | 0.65% | 2.67 | 2.68 | 50.00 | 50.00 | 0.9 | 0.90 |
| 2029 | 1,717 | 1,720 | 0.16 | 0.16 | 1.77% | 1.76% | 2.62 | 2.63 | 50.00 | 50.00 | 0.57 | 0.57 |
| 2030 | 1,773 | 1,775 | 0.16 | 0.16 | 1.45% | 1.39% | 2.56 | 2.57 | 50.00 | 50.00 | 0.67 | 0.67 |
| 2031 | 1,900 | 1,902 | 0.17 | 0.17 | 5.38% | 5.37% | 2.89 | 2.89 | 50.00 | 50.00 | 1.04 | 1.03 |

## Table 56: Economic Impact of Alternative Resource Plan ABCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.59% | 2.88% | 2.74 | 2.75 | 49.74 | 49.74 | 0.41 | 0.38 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.21 | 0.19 |
| 2015 | 946 | 943 | 0.11 | 0.11 | -0.73% | -0.41% | 2.18 | 2.19 | 50.00 | 50.00 | 0.25 | 0.23 |
| 2016 | 963 | 962 | 0.11 | 0.11 | 0.47% | 0.68% | 2.12 | 2.13 | 50.00 | 50.00 | 0.17 | 0.16 |
| 2017 | 1,061 | 1,062 | 0.12 | 0.12 | 9.29% | 9.51% | 2.34 | 2.35 | 50.00 | 50.00 | 0.16 | 0.16 |
| 2018 | 1,195 | 1,197 | 0.13 | 0.13 | 11.30% | 11.38% | 2.43 | 2.43 | 50.00 | 50.00 | 0.58 | 0.58 |
| 2019 | 1,204 | 1,206 | 0.13 | 0.13 | -0.51% | -0.51% | 2.35 | 2.36 | 50.00 | 50.00 | 0.59 | 0.59 |
| 2020 | 1,279 | 1,281 | 0.13 | 0.13 | 4.62% | 4.61% | 2.39 | 2.40 | 50.00 | 50.00 | 0.36 | 0.36 |
| 2021 | 1,380 | 1,382 | 0.14 | 0.14 | 6.82% | 6.81% | 2.53 | 2.54 | 50.00 | 50.00 | 0.54 | 0.54 |
| 2022 | 1,424 | 1,427 | 0.15 | 0.15 | 1.91% | 1.98% | 2.47 | 2.48 | 50.00 | 50.00 | 0.68 | 0.68 |
| 2023 | 1,504 | 1,506 | 0.15 | 0.15 | 4.29% | 4.21% | 2.63 | 2.64 | 50.00 | 50.00 | 1.51 | 1.51 |
| 2024 | 1,523 | 1,525 | 0.15 | 0.15 | -0.42% | -0.42% | 3.06 | 3.07 | 50.00 | 50.00 | 1.86 | 1.85 |
| 2025 | 1,544 | 1,546 | 0.15 | 0.15 | 0.25% | 0.25% | 2.75 | 2.76 | 50.00 | 50.00 | 1.49 | 1.48 |
| 2026 | 1,588 | 1,590 | 0.15 | 0.15 | 1.36% | 1.35% | 2.74 | 2.75 | 50.00 | 50.00 | 1.40 | 1.40 |
| 2027 | 1,631 | 1,633 | 0.16 | 0.16 | 1.00% | 0.99% | 2.69 | 2.70 | 50.00 | 50.00 | 1.10 | 1.10 |
| 2028 | 1,721 | 1,723 | 0.16 | 0.16 | 3.50% | 3.50% | 2.81 | 2.82 | 50.00 | 50.00 | 0.74 | 0.74 |
| 2029 | 1,776 | 1,778 | 0.16 | 0.16 | 1.72% | 1.72% | 2.69 | 2.70 | 50.00 | 50.00 | 1.44 | 1.43 |
| 2030 | 1,836 | 1,838 | 0.17 | 0.17 | 1.58% | 1.57% | 2.67 | 2.68 | 50.00 | 50.00 | 1.46 | 1.45 |
| 2031 | 1,892 | 1,895 | 0.17 | 0.17 | 1.30% | 1.35% | 2.65 | 2.66 | 50.00 | 50.00 | 1.50 | 1.50 |

## Table 57: Economic Impact of Alternative Resource Plan ACCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.59% | 2.88% | 2.74 | 2.75 | 49.74 | 49.74 | 0.41 | 0.38 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.21 | 0.19 |
| 2015 | 946 | 943 | 0.11 | 0.11 | -0.67% | -0.35% | 2.18 | 2.19 | 50.00 | 50.00 | 0.24 | 0.23 |
| 2016 | 964 | 962 | 0.11 | 0.11 | 0.48% | 0.59% | 2.12 | 2.13 | 50.00 | 50.00 | 0.16 | 0.15 |
| 2017 | 1,057 | 1,058 | 0.12 | 0.12 | 8.82% | 9.15% | 2.33 | 2.34 | 50.00 | 50.00 | 0.16 | 0.16 |
| 2018 | 1,199 | 1,201 | 0.13 | 0.13 | 12.09% | 12.17% | 2.47 | 2.48 | 50.00 | 50.00 | 0.65 | 0.65 |
| 2019 | 1,210 | 1,212 | 0.13 | 0.13 | -0.35% | -0.35% | 2.37 | 2.38 | 50.00 | 50.00 | 0.72 | 0.72 |
| 2020 | 1,264 | 1,267 | 0.13 | 0.13 | 2.88% | 2.95% | 2.34 | 2.35 | 50.00 | 50.00 | 0.38 | 0.38 |
| 2021 | 1,362 | 1,365 | 0.14 | 0.14 | 6.69% | 6.67% | 2.51 | 2.51 | 50.00 | 50.00 | 0.54 | 0.54 |
| 2022 | 1,407 | 1,409 | 0.14 | 0.14 | 1.97% | 1.89% | 2.46 | 2.47 | 50.00 | 50.00 | 0.68 | 0.68 |
| 2023 | 1,486 | 1,488 | 0.15 | 0.15 | 4.32% | 4.31% | 2.62 | 2.63 | 50.00 | 50.00 | 1.43 | 1.42 |
| 2024 | 1,507 | 1,509 | 0.15 | 0.15 | -0.23% | -0.23% | 3.05 | 3.05 | 50.00 | 50.00 | 1.75 | 1.74 |
| 2025 | 1,526 | 1,528 | 0.15 | 0.15 | 0.12% | 0.12% | 2.74 | 2.74 | 50.00 | 50.00 | 1.46 | 1.45 |
| 2026 | 1,568 | 1,570 | 0.15 | 0.15 | 1.22% | 1.21% | 2.71 | 2.72 | 50.00 | 50.00 | 1.66 | 1.66 |
| 2027 | 1,610 | 1,612 | 0.15 | 0.15 | 1.03% | 1.02% | 2.68 | 2.69 | 50.00 | 50.00 | 1.07 | 1.07 |
| 2028 | 1,701 | 1,703 | 0.16 | 0.16 | 3.58% | 3.57% | 2.80 | 2.81 | 50.00 | 50.00 | 0.72 | 0.71 |
| 2029 | 1,755 | 1,757 | 0.16 | 0.16 | 1.72% | 1.72% | 2.68 | 2.69 | 50.00 | 50.00 | 1.43 | 1.42 |
| 2030 | 1,813 | 1,815 | 0.16 | 0.16 | 1.52% | 1.52% | 2.66 | 2.67 | 50.00 | 50.00 | 1.44 | 1.44 |
| 2031 | 1,870 | 1,873 | 0.17 | 0.17 | 1.38% | 1.43% | 2.64 | 2.65 | 50.00 | 50.00 | 1.45 | 1.44 |

## Table 58: Economic Impact of Alternative Resource Plan ACCG3

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.56 | 2.57 | 49.47 | 49.47 | 0.13 | 0.09 |
| 2013 | 851 | 842 | 0.10 | 0.10 | 2.56% | 2.72% | 2.67 | 2.68 | 49.75 | 49.75 | 0.24 | 0.22 |
| 2014 | 910 | 904 | 0.10 | 0.10 | 5.63% | 6.06% | 1.99 | 2.00 | 50.00 | 50.00 | 0.11 | 0.09 |
| 2015 | 978 | 974 | 0.11 | 0.11 | 6.32% | 6.59% | 2.37 | 2.37 | 50.00 | 50.00 | 0.22 | 0.21 |
| 2016 | 1,003 | 1,002 | 0.11 | 0.11 | 1.25% | 1.56% | 2.19 | 2.20 | 50.00 | 50.00 | 0.21 | 0.21 |
| 2017 | 1,093 | 1,094 | 0.12 | 0.12 | 8.11% | 8.32% | 2.38 | 2.39 | 50.00 | 50.00 | 0.19 | 0.19 |
| 2018 | 1,233 | 1,235 | 0.13 | 0.13 | 11.45% | 11.53% | 2.51 | 2.52 | 50.00 | 50.00 | 0.71 | 0.71 |
| 2019 | 1,244 | 1,246 | 0.13 | 0.13 | -0.41% | -0.41% | 2.42 | 2.43 | 50.00 | 50.00 | 0.78 | 0.78 |
| 2020 | 1,294 | 1,296 | 0.14 | 0.14 | 2.47% | 2.46% | 2.38 | 2.39 | 50.00 | 50.00 | 0.47 | 0.47 |
| 2021 | 1,354 | 1,357 | 0.14 | 0.14 | 3.60% | 3.67% | 2.44 | 2.45 | 50.00 | 50.00 | 0.88 | 0.88 |
| 2022 | 1,396 | 1,398 | 0.14 | 0.14 | 1.81% | 1.73% | 2.45 | 2.46 | 50.00 | 50.00 | 0.66 | 0.65 |
| 2023 | 1,474 | 1,476 | 0.15 | 0.15 | 4.27% | 4.26% | 2.62 | 2.63 | 50.00 | 50.00 | 1.40 | 1.40 |
| 2024 | 1,496 | 1,497 | 0.15 | 0.15 | -0.15% | -0.21% | 3.05 | 3.05 | 50.00 | 50.00 | 1.72 | 1.72 |
| 2025 | 1,512 | 1,514 | 0.15 | 0.15 | -0.10% | -0.03% | 2.73 | 2.74 | 50.00 | 50.00 | 0.92 | 0.92 |
| 2026 | 1,552 | 1,554 | 0.15 | 0.15 | 1.14% | 1.13% | 2.66 | 2.67 | 50.00 | 50.00 | 0.67 | 0.67 |
| 2027 | 1,594 | 1,596 | 0.15 | 0.15 | 1.05% | 1.05% | 2.60 | 2.61 | 50.00 | 50.00 | 0.74 | 0.74 |
| 2028 | 1,710 | 1,712 | 0.16 | 0.16 | 5.21% | 5.20% | 2.89 | 2.90 | 50.00 | 50.00 | 1.09 | 1.08 |
| 2029 | 1,766 | 1,768 | 0.16 | 0.16 | 1.84% | 1.83% | 2.72 | 2.72 | 50.00 | 50.00 | 1.53 | 1.53 |
| 2030 | 1,817 | 1,819 | 0.16 | 0.17 | 1.07% | 1.06% | 2.71 | 2.72 | 50.00 | 50.00 | 1.51 | 1.50 |
| 2031 | 1,868 | 1,871 | 0.17 | 0.17 | 1.08% | 1.13% | 2.69 | 2.70 | 50.00 | 50.00 | 1.50 | 1.50 |

## Table 59: Economic Impact of Alternative Resource Plan ACCG4

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.59% | 2.88% | 2.74 | 2.75 | 49.74 | 49.74 | 0.41 | 0.38 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.21 | 0.19 |
| 2015 | 946 | 943 | 0.11 | 0.11 | -0.67% | -0.35% | 2.18 | 2.19 | 50.00 | 50.00 | 0.24 | 0.23 |
| 2016 | 964 | 962 | 0.11 | 0.11 | 0.48% | 0.59% | 2.12 | 2.13 | 50.00 | 50.00 | 0.16 | 0.15 |
| 2017 | 1,057 | 1,058 | 0.12 | 0.12 | 8.82% | 9.15% | 2.33 | 2.34 | 50.00 | 50.00 | 0.14 | 0.13 |
| 2018 | 1,199 | 1,201 | 0.13 | 0.13 | 12.13% | 12.21% | 2.45 | 2.46 | 50.00 | 50.00 | 0.37 | 0.37 |
| 2019 | 1,211 | 1,213 | 0.13 | 0.13 | -0.30% | -0.30% | 2.33 | 2.34 | 50.00 | 50.00 | 0.29 | 0.29 |
| 2020 | 1,266 | 1,268 | 0.13 | 0.13 | 2.92% | 2.91% | 2.26 | 2.26 | 50.00 | 50.00 | 0.21 | 0.21 |
| 2021 | 1,409 | 1,412 | 0.15 | 0.15 | 10.27% | 10.33% | 2.69 | 2.69 | 50.00 | 50.00 | 0.79 | 0.79 |
| 2022 | 1,442 | 1,444 | 0.15 | 0.15 | 1.04% | 0.96% | 2.57 | 2.58 | 50.00 | 50.00 | 0.77 | 0.77 |
| 2023 | 1,517 | 1,519 | 0.15 | 0.15 | 3.86% | 3.86% | 2.71 | 2.71 | 50.00 | 50.00 | 1.60 | 1.60 |
| 2024 | 1,535 | 1,537 | 0.15 | 0.15 | -0.45% | -0.45% | 3.12 | 3.13 | 50.00 | 50.00 | 1.92 | 1.91 |
| 2025 | 1,524 | 1,526 | 0.15 | 0.15 | -1.81% | -1.81% | 2.83 | 2.84 | 50.00 | 50.00 | 1.25 | 1.25 |
| 2026 | 1,547 | 1,549 | 0.15 | 0.15 | -0.01% | -0.01% | 2.77 | 2.78 | 50.00 | 50.00 | 0.76 | 0.76 |
| 2027 | 1,586 | 1,588 | 0.15 | 0.15 | 0.85% | 0.85% | 2.69 | 2.70 | 50.00 | 50.00 | 0.49 | 0.49 |
| 2028 | 1,627 | 1,629 | 0.15 | 0.15 | 0.54% | 0.54% | 2.59 | 2.60 | 50.00 | 50.00 | 0.52 | 0.52 |
| 2029 | 1,795 | 1,798 | 0.17 | 0.17 | 8.78% | 8.83% | 3.05 | 3.06 | 50.00 | 50.00 | 1.20 | 1.20 |
| 2030 | 1,840 | 1,842 | 0.17 | 0.17 | 0.74% | 0.68% | 2.85 | 2.86 | 50.00 | 50.00 | 1.81 | 1.81 |
| 2031 | 1,885 | 1,887 | 0.17 | 0.17 | 0.74% | 0.74% | 2.83 | 2.84 | 50.00 | 50.00 | 1.82 | 1.82 |

## Table 60: Economic Impact of Alternative Resource Plan ACCG5

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 811 | 0.09 | 0.09 | 0.00% | 0.00% | 2.58 | 2.59 | 49.46 | 49.46 | 0.20 | 0.15 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.65% | 3.06% | 2.73 | 2.74 | 49.74 | 49.74 | 0.37 | 0.34 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.19 | 0.18 |
| 2015 | 947 | 944 | 0.11 | 0.11 | -0.58% | -0.26% | 2.17 | 2.18 | 50.00 | 50.00 | 0.16 | 0.15 |
| 2016 | 965 | 963 | 0.11 | 0.11 | 0.50% | 0.61% | 2.11 | 2.12 | 50.00 | 50.00 | 0.08 | 0.07 |
| 2017 | 1,058 | 1,058 | 0.12 | 0.12 | 8.85% | 9.08% | 2.27 | 2.28 | 50.00 | 50.00 | 0.07 | 0.07 |
| 2018 | 1,201 | 1,202 | 0.13 | 0.13 | 12.13% | 12.22% | 2.36 | 2.37 | 50.00 | 50.00 | 0.23 | 0.23 |
| 2019 | 1,213 | 1,215 | 0.13 | 0.13 | -0.28% | -0.20% | 2.23 | 2.23 | 50.00 | 50.00 | 0.20 | 0.20 |
| 2020 | 1,267 | 1,270 | 0.13 | 0.13 | 2.88% | 2.95% | 2.17 | 2.18 | 50.00 | 50.00 | 0.12 | 0.12 |
| 2021 | 1,470 | 1,472 | 0.15 | 0.15 | 14.89% | 14.77% | 2.89 | 2.90 | 50.00 | 50.00 | 0.80 | 0.80 |
| 2022 | 1,501 | 1,503 | 0.15 | 0.15 | 0.83% | 0.82% | 2.67 | 2.67 | 50.00 | 50.00 | 0.82 | 0.82 |
| 2023 | 1,571 | 1,573 | 0.16 | 0.16 | 3.32% | 3.31% | 2.79 | 2.79 | 50.00 | 50.00 | 1.06 | 1.06 |
| 2024 | 1,583 | 1,585 | 0.16 | 0.16 | -0.85% | -0.85% | 3.10 | 3.10 | 50.00 | 50.00 | 0.96 | 0.96 |
| 2025 | 1,590 | 1,592 | 0.16 | 0.16 | -0.67% | -0.67% | 2.81 | 2.82 | 50.00 | 50.00 | 0.61 | 0.61 |
| 2026 | 1,621 | 1,623 | 0.16 | 0.16 | 0.44% | 0.44% | 2.72 | 2.73 | 50.00 | 50.00 | 0.56 | 0.55 |
| 2027 | 1,656 | 1,658 | 0.16 | 0.16 | 0.45% | 0.45% | 2.63 | 2.63 | 50.00 | 50.00 | 0.44 | 0.44 |
| 2028 | 1,692 | 1,694 | 0.16 | 0.16 | 0.21% | 0.20% | 2.54 | 2.55 | 50.00 | 50.00 | 0.43 | 0.43 |
| 2029 | 1,872 | 1,874 | 0.17 | 0.17 | 9.10% | 9.09% | 3.28 | 3.28 | 50.00 | 50.00 | 1.41 | 1.41 |
| 2030 | 1,905 | 1,907 | 0.17 | 0.17 | 0.00% | 0.00% | 3.01 | 3.01 | 50.00 | 50.00 | 2.30 | 2.30 |
| 2031 | 1,938 | 1,940 | 0.17 | 0.17 | 0.02% | 0.02% | 2.99 | 2.99 | 50.00 | 50.00 | 2.29 | 2.29 |

## Table 61: Economic Impact of Alternative Resource Plan ACCG6

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.59% | 2.88% | 2.74 | 2.75 | 49.74 | 49.74 | 0.41 | 0.38 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.21 | 0.19 |
| 2015 | 946 | 943 | 0.11 | 0.11 | -0.67% | -0.35% | 2.18 | 2.19 | 50.00 | 50.00 | 0.24 | 0.23 |
| 2016 | 964 | 962 | 0.11 | 0.11 | 0.48% | 0.59% | 2.12 | 2.13 | 50.00 | 50.00 | 0.12 | 0.11 |
| 2017 | 1,058 | 1,059 | 0.12 | 0.12 | 8.91% | 9.24% | 2.30 | 2.31 | 50.00 | 50.00 | 0.09 | 0.09 |
| 2018 | 1,257 | 1,259 | 0.14 | 0.14 | 17.40% | 17.47% | 2.57 | 2.57 | 50.00 | 50.00 | 0.82 | 0.82 |
| 2019 | 1,240 | 1,242 | 0.13 | 0.13 | -2.59% | -2.58% | 2.42 | 2.42 | 50.00 | 50.00 | 0.74 | 0.74 |
| 2020 | 1,287 | 1,289 | 0.14 | 0.14 | 2.21% | 2.21% | 2.37 | 2.38 | 50.00 | 50.00 | 0.34 | 0.34 |
| 2021 | 1,366 | 1,369 | 0.14 | 0.14 | 5.14% | 5.21% | 2.50 | 2.50 | 50.00 | 50.00 | 0.73 | 0.73 |
| 2022 | 1,434 | 1,436 | 0.15 | 0.15 | 3.60% | 3.52% | 2.57 | 2.58 | 50.00 | 50.00 | 0.41 | 0.40 |
| 2023 | 1,547 | 1,549 | 0.16 | 0.16 | 6.53% | 6.52% | 2.74 | 2.75 | 50.00 | 50.00 | 1.92 | 1.92 |
| 2024 | 1,534 | 1,535 | 0.15 | 0.15 | -2.44% | -2.50% | 3.10 | 3.11 | 50.00 | 50.00 | 2.23 | 2.22 |
| 2025 | 1,540 | 1,542 | 0.15 | 0.15 | -0.77% | -0.70% | 2.81 | 2.82 | 50.00 | 50.00 | 1.87 | 1.87 |
| 2026 | 1,570 | 1,572 | 0.15 | 0.15 | 0.45% | 0.44% | 2.77 | 2.77 | 50.00 | 50.00 | 2.07 | 2.07 |
| 2027 | 1,603 | 1,605 | 0.15 | 0.15 | 0.44% | 0.44% | 2.75 | 2.76 | 50.00 | 50.00 | 1.81 | 1.80 |
| 2028 | 1,639 | 1,641 | 0.15 | 0.15 | 0.30% | 0.30% | 2.70 | 2.71 | 50.00 | 50.00 | 1.24 | 1.24 |
| 2029 | 1,733 | 1,735 | 0.16 | 0.16 | 4.21% | 4.20% | 2.84 | 2.85 | 50.00 | 50.00 | 0.77 | 0.77 |
| 2030 | 1,780 | 1,783 | 0.16 | 0.16 | 0.91% | 0.96% | 2.71 | 2.72 | 50.00 | 50.00 | 1.65 | 1.65 |
| 2031 | 1,826 | 1,828 | 0.16 | 0.16 | 0.88% | 0.82% | 2.69 | 2.70 | 50.00 | 50.00 | 1.66 | 1.65 |

## Table 62: Economic Impact of Alternative Resource Plan ACCG7

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 898 | 890 | 0.10 | 0.10 | 8.13% | 8.49% | 2.99 | 3.00 | 49.75 | 49.75 | 0.24 | 0.22 |
| 2014 | 964 | 958 | 0.11 | 0.11 | 6.01% | 6.29% | 2.10 | 2.11 | 50.00 | 50.00 | 0.44 | 0.41 |
| 2015 | 967 | 964 | 0.11 | 0.11 | -0.63% | -0.32% | 2.20 | 2.21 | 50.00 | 50.00 | 0.26 | 0.25 |
| 2016 | 983 | 982 | 0.11 | 0.11 | 0.30% | 0.51% | 2.15 | 2.16 | 50.00 | 50.00 | 0.18 | 0.18 |
| 2017 | 1,074 | 1,075 | 0.12 | 0.12 | 8.41% | 8.62% | 2.35 | 2.36 | 50.00 | 50.00 | 0.17 | 0.17 |
| 2018 | 1,215 | 1,216 | 0.13 | 0.13 | 11.76% | 11.74% | 2.48 | 2.49 | 50.00 | 50.00 | 0.67 | 0.67 |
| 2019 | 1,227 | 1,229 | 0.13 | 0.13 | -0.31% | -0.23% | 2.39 | 2.40 | 50.00 | 50.00 | 0.74 | 0.74 |
| 2020 | 1,278 | 1,281 | 0.13 | 0.13 | 2.57% | 2.64% | 2.35 | 2.35 | 50.00 | 50.00 | 0.45 | 0.45 |
| 2021 | 1,338 | 1,340 | 0.14 | 0.14 | 3.71% | 3.62% | 2.41 | 2.42 | 50.00 | 50.00 | 0.85 | 0.85 |
| 2022 | 1,380 | 1,382 | 0.14 | 0.14 | 1.89% | 1.88% | 2.42 | 2.42 | 50.00 | 50.00 | 0.64 | 0.64 |
| 2023 | 1,459 | 1,461 | 0.15 | 0.15 | 4.33% | 4.33% | 2.60 | 2.61 | 50.00 | 50.00 | 1.36 | 1.36 |
| 2024 | 1,481 | 1,483 | 0.15 | 0.15 | -0.08% | -0.09% | 3.04 | 3.05 | 50.00 | 50.00 | 1.67 | 1.66 |
| 2025 | 1,498 | 1,500 | 0.15 | 0.15 | -0.02% | -0.02% | 2.71 | 2.72 | 50.00 | 50.00 | 0.89 | 0.89 |
| 2026 | 1,539 | 1,541 | 0.15 | 0.15 | 1.21% | 1.21% | 2.64 | 2.64 | 50.00 | 50.00 | 0.65 | 0.65 |
| 2027 | 1,581 | 1,583 | 0.15 | 0.15 | 1.07% | 1.07% | 2.58 | 2.59 | 50.00 | 50.00 | 0.71 | 0.70 |
| 2028 | 1,699 | 1,701 | 0.16 | 0.16 | 5.34% | 5.33% | 2.88 | 2.89 | 50.00 | 50.00 | 1.05 | 1.04 |
| 2029 | 1,757 | 1,759 | 0.16 | 0.16 | 1.96% | 1.96% | 2.72 | 2.73 | 50.00 | 50.00 | 1.46 | 1.46 |
| 2030 | 1,808 | 1,811 | 0.16 | 0.16 | 1.09% | 1.14% | 2.70 | 2.71 | 50.00 | 50.00 | 1.47 | 1.47 |
| 2031 | 1,859 | 1,862 | 0.17 | 0.17 | 1.14% | 1.13% | 2.68 | 2.69 | 50.00 | 50.00 | 1.48 | 1.48 |

## Table 63: Economic Impact of Alternative Resource Plan ACCG8

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 823 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 853 | 845 | 0.10 | 0.10 | 2.60% | 3.02% | 2.75 | 2.76 | 49.73 | 49.73 | 0.54 | 0.50 |
| 2014 | 910 | 904 | 0.10 | 0.10 | 5.36% | 5.66% | 2.01 | 2.02 | 50.00 | 50.00 | 0.31 | 0.28 |
| 2015 | 915 | 912 | 0.10 | 0.10 | -0.42% | -0.09% | 2.12 | 2.13 | 50.00 | 50.00 | 0.19 | 0.18 |
| 2016 | 933 | 932 | 0.10 | 0.10 | 0.63% | 0.85% | 2.07 | 2.08 | 50.00 | 50.00 | 0.12 | 0.11 |
| 2017 | 1,027 | 1,028 | 0.11 | 0.11 | 9.24% | 9.46% | 2.29 | 2.30 | 50.00 | 50.00 | 0.14 | 0.14 |
| 2018 | 1,170 | 1,172 | 0.13 | 0.13 | 12.56% | 12.64% | 2.44 | 2.45 | 50.00 | 50.00 | 0.61 | 0.61 |
| 2019 | 1,183 | 1,185 | 0.13 | 0.13 | -0.21% | -0.21% | 2.34 | 2.35 | 50.00 | 50.00 | 0.68 | 0.68 |
| 2020 | 1,237 | 1,239 | 0.13 | 0.13 | 2.98% | 2.97% | 2.31 | 2.32 | 50.00 | 50.00 | 0.41 | 0.41 |
| 2021 | 1,298 | 1,300 | 0.13 | 0.14 | 3.93% | 3.93% | 2.37 | 2.38 | 50.00 | 50.00 | 0.56 | 0.56 |
| 2022 | 1,346 | 1,348 | 0.14 | 0.14 | 2.38% | 2.38% | 2.36 | 2.36 | 50.00 | 50.00 | 0.36 | 0.36 |
| 2023 | 1,427 | 1,429 | 0.14 | 0.14 | 4.70% | 4.69% | 2.51 | 2.52 | 50.00 | 50.00 | 0.70 | 0.70 |
| 2024 | 1,517 | 1,519 | 0.15 | 0.15 | 4.61% | 4.60% | 3.23 | 3.24 | 50.00 | 50.00 | 1.24 | 1.24 |
| 2025 | 1,541 | 1,543 | 0.15 | 0.15 | 0.39% | 0.38% | 2.78 | 2.78 | 50.00 | 50.00 | 1.52 | 1.52 |
| 2026 | 1,580 | 1,582 | 0.15 | 0.15 | 1.01% | 1.01% | 2.74 | 2.75 | 50.00 | 50.00 | 1.02 | 1.02 |
| 2027 | 1,621 | 1,623 | 0.15 | 0.16 | 0.95% | 0.95% | 2.68 | 2.68 | 50.00 | 50.00 | 0.65 | 0.65 |
| 2028 | 1,664 | 1,666 | 0.16 | 0.16 | 0.66% | 0.66% | 2.61 | 2.62 | 50.00 | 50.00 | 0.74 | 0.74 |
| 2029 | 1,788 | 1,791 | 0.17 | 0.17 | 5.95% | 6.00% | 2.92 | 2.93 | 50.00 | 50.00 | 1.05 | 1.05 |
| 2030 | 1,847 | 1,849 | 0.17 | 0.17 | 1.50% | 1.44% | 2.75 | 2.76 | 50.00 | 50.00 | 1.60 | 1.60 |
| 2031 | 1,897 | 1,899 | 0.17 | 0.17 | 0.96% | 0.96% | 2.73 | 2.74 | 50.00 | 50.00 | 1.61 | 1.61 |

## Table 64: Economic Impact of Alternative Resource Plan ACCG9

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 823 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 853 | 845 | 0.10 | 0.10 | 2.60% | 3.02% | 2.75 | 2.76 | 49.73 | 49.73 | 0.54 | 0.50 |
| 2014 | 910 | 904 | 0.10 | 0.10 | 5.36% | 5.66% | 2.01 | 2.02 | 50.00 | 50.00 | 0.31 | 0.28 |
| 2015 | 915 | 912 | 0.10 | 0.10 | -0.42% | -0.09% | 2.12 | 2.13 | 50.00 | 50.00 | 0.19 | 0.18 |
| 2016 | 933 | 932 | 0.10 | 0.10 | 0.63% | 0.85% | 2.07 | 2.08 | 50.00 | 50.00 | 0.12 | 0.11 |
| 2017 | 1,027 | 1,028 | 0.11 | 0.11 | 9.24% | 9.46% | 2.29 | 2.30 | 50.00 | 50.00 | 0.14 | 0.14 |
| 2018 | 1,170 | 1,172 | 0.13 | 0.13 | 12.56% | 12.64% | 2.43 | 2.44 | 50.00 | 50.00 | 0.45 | 0.45 |
| 2019 | 1,183 | 1,185 | 0.13 | 0.13 | -0.19% | -0.19% | 2.32 | 2.33 | 50.00 | 50.00 | 0.37 | 0.37 |
| 2020 | 1,238 | 1,240 | 0.13 | 0.13 | 3.04% | 3.03% | 2.27 | 2.28 | 50.00 | 50.00 | 0.27 | 0.27 |
| 2021 | 1,364 | 1,366 | 0.14 | 0.14 | 9.15% | 9.14% | 2.58 | 2.59 | 50.00 | 50.00 | 0.70 | 0.70 |
| 2022 | 1,415 | 1,417 | 0.15 | 0.15 | 2.43% | 2.43% | 2.48 | 2.48 | 50.00 | 50.00 | 0.70 | 0.70 |
| 2023 | 1,492 | 1,494 | 0.15 | 0.15 | 4.15% | 4.14% | 2.65 | 2.66 | 50.00 | 50.00 | 1.46 | 1.46 |
| 2024 | 1,514 | 1,516 | 0.15 | 0.15 | -0.19% | -0.19% | 3.07 | 3.07 | 50.00 | 50.00 | 1.77 | 1.77 |
| 2025 | 1,529 | 1,531 | 0.15 | 0.15 | -0.14% | -0.15% | 2.76 | 2.77 | 50.00 | 50.00 | 1.15 | 1.14 |
| 2026 | 1,569 | 1,571 | 0.15 | 0.15 | 1.08% | 1.07% | 2.71 | 2.72 | 50.00 | 50.00 | 0.98 | 0.98 |
| 2027 | 1,611 | 1,614 | 0.15 | 0.15 | 0.99% | 1.05% | 2.67 | 2.68 | 50.00 | 50.00 | 1.02 | 1.01 |
| 2028 | 1,689 | 1,691 | 0.16 | 0.16 | 2.85% | 2.78% | 2.80 | 2.81 | 50.00 | 50.00 | 1.26 | 1.25 |
| 2029 | 1,744 | 1,746 | 0.16 | 0.16 | 1.78% | 1.78% | 2.71 | 2.72 | 50.00 | 50.00 | 1.45 | 1.45 |
| 2030 | 1,797 | 1,800 | 0.16 | 0.16 | 1.23% | 1.28% | 2.69 | 2.70 | 50.00 | 50.00 | 1.46 | 1.45 |
| 2031 | 1,849 | 1,852 | 0.16 | 0.17 | 1.14% | 1.13% | 2.67 | 2.68 | 50.00 | 50.00 | 1.48 | 1.47 |

## Table 65: Economic Impact of Alternative Resource Plan ADCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.59% | 2.88% | 2.74 | 2.75 | 49.74 | 49.74 | 0.41 | 0.38 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.21 | 0.19 |
| 2015 | 950 | 947 | 0.11 | 0.11 | -0.25% | 0.07% | 2.18 | 2.19 | 50.00 | 50.00 | 0.42 | 0.40 |
| 2016 | 966 | 965 | 0.11 | 0.11 | 0.30% | 0.51% | 2.13 | 2.14 | 50.00 | 50.00 | 0.18 | 0.17 |
| 2017 | 1,142 | 1,143 | 0.12 | 0.12 | 17.28% | 17.50% | 2.47 | 2.47 | 50.00 | 50.00 | 0.13 | 0.13 |
| 2018 | 1,280 | 1,282 | 0.14 | 0.14 | 10.79% | 10.86% | 2.49 | 2.50 | 50.00 | 50.00 | 0.91 | 0.91 |
| 2019 | 1,273 | 1,275 | 0.14 | 0.14 | -1.86% | -1.86% | 2.37 | 2.38 | 50.00 | 50.00 | 0.91 | 0.91 |
| 2020 | 1,325 | 1,327 | 0.14 | 0.14 | 2.54% | 2.54% | 2.32 | 2.33 | 50.00 | 50.00 | 0.54 | 0.54 |
| 2021 | 1,380 | 1,382 | 0.14 | 0.14 | 3.15% | 3.14% | 2.39 | 2.40 | 50.00 | 50.00 | 0.92 | 0.92 |
| 2022 | 1,429 | 1,431 | 0.15 | 0.15 | 2.20% | 2.20% | 2.40 | 2.41 | 50.00 | 50.00 | 0.66 | 0.66 |
| 2023 | 1,511 | 1,513 | 0.15 | 0.15 | 4.46% | 4.45% | 2.56 | 2.56 | 50.00 | 50.00 | 1.58 | 1.58 |
| 2024 | 1,532 | 1,533 | 0.15 | 0.15 | -0.31% | -0.37% | 3.00 | 3.00 | 50.00 | 50.00 | 2.00 | 1.99 |
| 2025 | 1,553 | 1,555 | 0.15 | 0.15 | 0.25% | 0.32% | 2.66 | 2.67 | 50.00 | 50.00 | 1.24 | 1.24 |
| 2026 | 1,646 | 1,648 | 0.16 | 0.16 | 4.40% | 4.39% | 2.79 | 2.80 | 50.00 | 50.00 | 0.80 | 0.80 |
| 2027 | 1,690 | 1,692 | 0.16 | 0.16 | 1.02% | 1.02% | 2.66 | 2.67 | 50.00 | 50.00 | 1.71 | 1.71 |
| 2028 | 1,741 | 1,743 | 0.16 | 0.16 | 0.96% | 0.96% | 2.61 | 2.62 | 50.00 | 50.00 | 1.59 | 1.59 |
| 2029 | 1,803 | 1,805 | 0.17 | 0.17 | 2.11% | 2.11% | 2.60 | 2.61 | 50.00 | 50.00 | 1.50 | 1.50 |
| 2030 | 1,870 | 1,872 | 0.17 | 0.17 | 1.91% | 1.90% | 2.57 | 2.58 | 50.00 | 50.00 | 1.02 | 1.02 |
| 2031 | 1,985 | 1,987 | 0.18 | 0.18 | 4.36% | 4.36% | 2.74 | 2.76 | 50.00 | 50.00 | 0.70 | 0.70 |

## Table 66: Economic Impact of Alternative Resource Plan AECG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.59% | 2.88% | 2.74 | 2.75 | 49.74 | 49.74 | 0.41 | 0.38 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.21 | 0.19 |
| 2015 | 945 | 942 | 0.11 | 0.11 | -0.77% | -0.46% | 2.17 | 2.18 | 50.00 | 50.00 | 0.26 | 0.25 |
| 2016 | 963 | 961 | 0.11 | 0.11 | 0.48% | 0.59% | 2.12 | 2.13 | 50.00 | 50.00 | 0.15 | 0.14 |
| 2017 | 1,092 | 1,092 | 0.12 | 0.12 | 12.58% | 12.81% | 2.42 | 2.42 | 50.00 | 50.00 | 0.15 | 0.15 |
| 2018 | 1,222 | 1,223 | 0.13 | 0.13 | 10.57% | 10.66% | 2.46 | 2.47 | 50.00 | 50.00 | 0.79 | 0.78 |
| 2019 | 1,226 | 1,228 | 0.13 | 0.13 | -0.95% | -0.87% | 2.37 | 2.38 | 50.00 | 50.00 | 0.84 | 0.84 |
| 2020 | 1,282 | 1,285 | 0.13 | 0.13 | 2.96% | 3.03% | 2.34 | 2.34 | 50.00 | 50.00 | 0.45 | 0.45 |
| 2021 | 1,339 | 1,341 | 0.14 | 0.14 | 3.47% | 3.38% | 2.40 | 2.41 | 50.00 | 50.00 | 0.85 | 0.84 |
| 2022 | 1,387 | 1,389 | 0.14 | 0.14 | 2.27% | 2.26% | 2.41 | 2.41 | 50.00 | 50.00 | 0.64 | 0.64 |
| 2023 | 1,467 | 1,469 | 0.15 | 0.15 | 4.42% | 4.41% | 2.58 | 2.59 | 50.00 | 50.00 | 1.07 | 1.07 |
| 2024 | 1,530 | 1,531 | 0.15 | 0.15 | 2.59% | 2.52% | 3.16 | 3.16 | 50.00 | 50.00 | 0.91 | 0.91 |
| 2025 | 1,549 | 1,551 | 0.15 | 0.15 | 0.09% | 0.15% | 2.75 | 2.76 | 50.00 | 50.00 | 1.52 | 1.52 |
| 2026 | 1,592 | 1,594 | 0.15 | 0.15 | 1.28% | 1.28% | 2.71 | 2.72 | 50.00 | 50.00 | 1.72 | 1.72 |
| 2027 | 1,635 | 1,637 | 0.16 | 0.16 | 1.01% | 1.00% | 2.69 | 2.70 | 50.00 | 50.00 | 1.54 | 1.53 |
| 2028 | 1,681 | 1,683 | 0.16 | 0.16 | 0.81% | 0.80% | 2.64 | 2.65 | 50.00 | 50.00 | 1.52 | 1.51 |
| 2029 | 1,739 | 1,741 | 0.16 | 0.16 | 1.97% | 1.96% | 2.62 | 2.63 | 50.00 | 50.00 | 0.97 | 0.97 |
| 2030 | 1,848 | 1,850 | 0.17 | 0.17 | 4.45% | 4.44% | 2.78 | 2.79 | 50.00 | 50.00 | 0.68 | 0.68 |
| 2031 | 1,903 | 1,906 | 0.17 | 0.17 | 1.21% | 1.26% | 2.64 | 2.65 | 50.00 | 50.00 | 1.51 | 1.50 |

## Table 67: Economic Impact of Alternative Resource Plan AFCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 852 | 844 | 0.10 | 0.10 | 2.59% | 2.88% | 2.74 | 2.75 | 49.74 | 49.74 | 0.41 | 0.38 |
| 2014 | 943 | 937 | 0.11 | 0.11 | 9.37% | 9.70% | 2.14 | 2.15 | 50.00 | 50.00 | 0.21 | 0.19 |
| 2015 | 946 | 943 | 0.11 | 0.11 | -0.73% | -0.41% | 2.18 | 2.19 | 50.00 | 50.00 | 0.25 | 0.23 |
| 2016 | 963 | 962 | 0.11 | 0.11 | 0.47% | 0.68% | 2.13 | 2.15 | 50.00 | 50.00 | 0.18 | 0.17 |
| 2017 | 1,050 | 1,051 | 0.11 | 0.11 | 8.16% | 8.38% | 2.31 | 2.32 | 50.00 | 50.00 | 0.17 | 0.17 |
| 2018 | 1,197 | 1,199 | 0.13 | 0.13 | 12.69% | 12.77% | 2.43 | 2.43 | 50.00 | 50.00 | 0.66 | 0.66 |
| 2019 | 1,215 | 1,217 | 0.13 | 0.13 | 0.15% | 0.15% | 2.35 | 2.36 | 50.00 | 50.00 | 0.71 | 0.71 |
| 2020 | 1,270 | 1,273 | 0.13 | 0.13 | 2.99% | 3.06% | 2.32 | 2.33 | 50.00 | 50.00 | 0.36 | 0.36 |
| 2021 | 1,369 | 1,372 | 0.14 | 0.14 | 6.71% | 6.69% | 2.50 | 2.51 | 50.00 | 50.00 | 0.53 | 0.53 |
| 2022 | 1,414 | 1,416 | 0.15 | 0.15 | 2.02% | 1.94% | 2.44 | 2.45 | 50.00 | 50.00 | 0.66 | 0.66 |
| 2023 | 1,496 | 1,498 | 0.15 | 0.15 | 4.44% | 4.44% | 2.61 | 2.62 | 50.00 | 50.00 | 1.41 | 1.41 |
| 2024 | 1,517 | 1,519 | 0.15 | 0.15 | -0.24% | -0.24% | 3.05 | 3.06 | 50.00 | 50.00 | 1.73 | 1.73 |
| 2025 | 1,538 | 1,540 | 0.15 | 0.15 | 0.28% | 0.28% | 2.73 | 2.74 | 50.00 | 50.00 | 1.44 | 1.44 |
| 2026 | 1,583 | 1,585 | 0.15 | 0.15 | 1.38% | 1.37% | 2.70 | 2.71 | 50.00 | 50.00 | 1.63 | 1.63 |
| 2027 | 1,626 | 1,628 | 0.16 | 0.16 | 1.07% | 1.07% | 2.67 | 2.68 | 50.00 | 50.00 | 1.05 | 1.04 |
| 2028 | 1,720 | 1,722 | 0.16 | 0.16 | 3.70% | 3.70% | 2.79 | 2.80 | 50.00 | 50.00 | 0.71 | 0.70 |
| 2029 | 1,777 | 1,780 | 0.16 | 0.16 | 1.86% | 1.92% | 2.67 | 2.68 | 50.00 | 50.00 | 1.41 | 1.40 |
| 2030 | 1,836 | 1,838 | 0.17 | 0.17 | 1.48% | 1.42% | 2.65 | 2.66 | 50.00 | 50.00 | 1.42 | 1.42 |
| 2031 | 1,895 | 1,898 | 0.17 | 0.17 | 1.48% | 1.53% | 2.63 | 2.64 | 50.00 | 50.00 | 1.43 | 1.42 |

## Table 68: Economic Impact of Alternative Resource Plan AICG9

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 823 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 853 | 845 | 0.10 | 0.10 | 2.60% | 3.02% | 2.75 | 2.76 | 49.73 | 49.73 | 0.54 | 0.50 |
| 2014 | 910 | 904 | 0.10 | 0.10 | 5.36% | 5.66% | 2.01 | 2.02 | 50.00 | 50.00 | 0.31 | 0.28 |
| 2015 | 925 | 921 | 0.10 | 0.10 | 0.64% | 0.87% | 2.15 | 2.16 | 50.00 | 50.00 | 0.18 | 0.17 |
| 2016 | 949 | 947 | 0.10 | 0.10 | 1.25% | 1.47% | 2.08 | 2.09 | 50.00 | 50.00 | 0.13 | 0.12 |
| 2017 | 1,043 | 1,044 | 0.11 | 0.11 | 9.13% | 9.46% | 2.30 | 2.31 | 50.00 | 50.00 | 0.14 | 0.14 |
| 2018 | 1,185 | 1,186 | 0.13 | 0.13 | 12.24% | 12.23% | 2.43 | 2.43 | 50.00 | 50.00 | 0.45 | 0.45 |
| 2019 | 1,198 | 1,200 | 0.13 | 0.13 | -0.19% | -0.11% | 2.32 | 2.32 | 50.00 | 50.00 | 0.37 | 0.37 |
| 2020 | 1,252 | 1,255 | 0.13 | 0.13 | 2.91% | 2.99% | 2.28 | 2.29 | 50.00 | 50.00 | 0.27 | 0.27 |
| 2021 | 1,379 | 1,381 | 0.14 | 0.14 | 9.03% | 8.93% | 2.58 | 2.59 | 50.00 | 50.00 | 0.70 | 0.70 |
| 2022 | 1,429 | 1,431 | 0.15 | 0.15 | 2.37% | 2.36% | 2.49 | 2.50 | 50.00 | 50.00 | 0.70 | 0.70 |
| 2023 | 1,507 | 1,509 | 0.15 | 0.15 | 4.10% | 4.09% | 2.65 | 2.66 | 50.00 | 50.00 | 1.46 | 1.45 |
| 2024 | 1,528 | 1,530 | 0.15 | 0.15 | -0.22% | -0.22% | 3.07 | 3.07 | 50.00 | 50.00 | 1.77 | 1.76 |
| 2025 | 1,544 | 1,546 | 0.15 | 0.15 | -0.14% | -0.14% | 2.77 | 2.78 | 50.00 | 50.00 | 1.16 | 1.16 |
| 2026 | 1,584 | 1,586 | 0.15 | 0.15 | 1.07% | 1.07% | 2.72 | 2.73 | 50.00 | 50.00 | 0.98 | 0.97 |
| 2027 | 1,625 | 1,627 | 0.16 | 0.16 | 0.97% | 0.97% | 2.67 | 2.68 | 50.00 | 50.00 | 1.03 | 1.03 |
| 2028 | 1,704 | 1,706 | 0.16 | 0.16 | 2.78% | 2.77% | 2.80 | 2.81 | 50.00 | 50.00 | 1.27 | 1.27 |
| 2029 | 1,758 | 1,761 | 0.16 | 0.16 | 1.75% | 1.81% | 2.71 | 2.72 | 50.00 | 50.00 | 1.46 | 1.46 |
| 2030 | 1,811 | 1,814 | 0.16 | 0.16 | 1.21% | 1.21% | 2.69 | 2.70 | 50.00 | 50.00 | 1.47 | 1.47 |
| 2031 | 1,863 | 1,866 | 0.17 | 0.17 | 1.12% | 1.12% | 2.67 | 2.68 | 50.00 | 50.00 | 1.49 | 1.49 |

## Table 69: Economic Impact of Alternative Resource Plan BCCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 813 | 0.09 | 0.09 | 0.00% | 0.00% | 2.58 | 2.58 | 49.46 | 49.46 | 0.20 | 0.15 |
| 2013 | 852 | 846 | 0.10 | 0.10 | 2.65% | 3.05% | 2.74 | 2.75 | 49.74 | 49.74 | 0.40 | 0.38 |
| 2014 | 943 | 938 | 0.11 | 0.11 | 9.30% | 9.49% | 2.14 | 2.15 | 50.00 | 50.00 | 0.20 | 0.18 |
| 2015 | 945 | 942 | 0.11 | 0.11 | -0.71% | -0.50% | 2.18 | 2.19 | 50.00 | 50.00 | 0.23 | 0.22 |
| 2016 | 962 | 961 | 0.11 | 0.11 | 0.46% | 0.67% | 2.12 | 2.13 | 50.00 | 50.00 | 0.13 | 0.13 |
| 2017 | 1,091 | 1,091 | 0.12 | 0.12 | 12.50% | 12.61% | 2.44 | 2.44 | 50.00 | 50.00 | 0.14 | 0.14 |
| 2018 | 1,231 | 1,232 | 0.13 | 0.13 | 11.43% | 11.52% | 2.50 | 2.50 | 50.00 | 50.00 | 0.70 | 0.70 |
| 2019 | 1,240 | 1,241 | 0.13 | 0.13 | -0.51% | -0.51% | 2.41 | 2.42 | 50.00 | 50.00 | 0.76 | 0.76 |
| 2020 | 1,293 | 1,294 | 0.14 | 0.14 | 2.70% | 2.70% | 2.38 | 2.39 | 50.00 | 50.00 | 0.46 | 0.46 |
| 2021 | 1,352 | 1,353 | 0.14 | 0.14 | 3.49% | 3.48% | 2.43 | 2.44 | 50.00 | 50.00 | 0.87 | 0.87 |
| 2022 | 1,398 | 1,400 | 0.14 | 0.14 | 2.14% | 2.21% | 2.44 | 2.45 | 50.00 | 50.00 | 0.65 | 0.65 |
| 2023 | 1,478 | 1,480 | 0.15 | 0.15 | 4.37% | 4.36% | 2.61 | 2.62 | 50.00 | 50.00 | 1.39 | 1.39 |
| 2024 | 1,499 | 1,501 | 0.15 | 0.15 | -0.18% | -0.18% | 3.05 | 3.06 | 50.00 | 50.00 | 1.71 | 1.71 |
| 2025 | 1,519 | 1,521 | 0.15 | 0.15 | 0.16% | 0.16% | 2.73 | 2.74 | 50.00 | 50.00 | 1.06 | 1.06 |
| 2026 | 1,604 | 1,606 | 0.16 | 0.16 | 4.06% | 4.05% | 2.84 | 2.85 | 50.00 | 50.00 | 0.79 | 0.79 |
| 2027 | 1,644 | 1,646 | 0.16 | 0.16 | 0.80% | 0.79% | 2.72 | 2.73 | 50.00 | 50.00 | 1.56 | 1.55 |
| 2028 | 1,688 | 1,690 | 0.16 | 0.16 | 0.65% | 0.65% | 2.67 | 2.67 | 50.00 | 50.00 | 1.54 | 1.54 |
| 2029 | 1,744 | 1,745 | 0.16 | 0.16 | 1.85% | 1.79% | 2.65 | 2.66 | 50.00 | 50.00 | 0.98 | 0.97 |
| 2030 | 1,850 | 1,852 | 0.17 | 0.17 | 4.27% | 4.32% | 2.80 | 2.81 | 50.00 | 50.00 | 0.69 | 0.69 |
| 2031 | 1,904 | 1,906 | 0.17 | 0.17 | 1.14% | 1.14% | 2.67 | 2.68 | 50.00 | 50.00 | 1.52 | 1.52 |

## Table 70: Economic Impact of Alternative Resource Plan CCCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 822 | 820 | 0.09 | 0.09 | 0.00% | 0.00% | 2.58 | 2.58 | 49.46 | 49.46 | 0.18 | 0.17 |
| 2013 | 851 | 849 | 0.10 | 0.10 | 2.02% | 2.03% | 2.73 | 2.74 | 49.74 | 49.74 | 0.33 | 0.32 |
| 2014 | 960 | 959 | 0.11 | 0.11 | 10.82% | 10.97% | 2.20 | 2.20 | 50.00 | 50.00 | 0.17 | 0.17 |
| 2015 | 961 | 960 | 0.11 | 0.11 | -1.27% | -1.27% | 2.20 | 2.21 | 50.00 | 50.00 | 0.23 | 0.23 |
| 2016 | 979 | 978 | 0.11 | 0.11 | 0.08% | 0.08% | 2.14 | 2.14 | 50.00 | 50.00 | 0.15 | 0.15 |
| 2017 | 1,074 | 1,074 | 0.11 | 0.11 | 8.34% | 8.45% | 2.34 | 2.34 | 50.00 | 50.00 | 0.13 | 0.13 |
| 2018 | 1,256 | 1,256 | 0.13 | 0.13 | 14.95% | 14.95% | 2.59 | 2.59 | 50.00 | 50.00 | 0.43 | 0.43 |
| 2019 | 1,266 | 1,266 | 0.13 | 0.13 | -0.86% | -0.86% | 2.42 | 2.42 | 50.00 | 50.00 | 0.75 | 0.75 |
| 2020 | 1,324 | 1,325 | 0.13 | 0.13 | 2.55% | 2.63% | 2.39 | 2.39 | 50.00 | 50.00 | 0.45 | 0.45 |
| 2021 | 1,386 | 1,387 | 0.14 | 0.14 | 3.18% | 3.17% | 2.44 | 2.44 | 50.00 | 50.00 | 0.85 | 0.85 |
| 2022 | 1,438 | 1,439 | 0.14 | 0.14 | 2.03% | 2.03% | 2.45 | 2.46 | 50.00 | 50.00 | 0.54 | 0.54 |
| 2023 | 1,563 | 1,564 | 0.15 | 0.15 | 6.86% | 6.85% | 2.73 | 2.73 | 50.00 | 50.00 | 0.75 | 0.75 |
| 2024 | 1,588 | 1,588 | 0.15 | 0.15 | -0.44% | -0.50% | 3.07 | 3.07 | 50.00 | 50.00 | 1.77 | 1.77 |
| 2025 | 1,614 | 1,614 | 0.15 | 0.15 | 0.08% | 0.08% | 2.77 | 2.77 | 50.00 | 50.00 | 1.47 | 1.46 |
| 2026 | 1,662 | 1,663 | 0.15 | 0.15 | 1.09% | 1.15% | 2.73 | 2.73 | 50.00 | 50.00 | 1.18 | 1.18 |
| 2027 | 1,756 | 1,756 | 0.16 | 0.16 | 3.55% | 3.49% | 2.85 | 2.85 | 50.00 | 50.00 | 0.75 | 0.75 |
| 2028 | 1,806 | 1,807 | 0.16 | 0.16 | 0.50% | 0.56% | 2.71 | 2.71 | 50.00 | 50.00 | 1.58 | 1.58 |
| 2029 | 1,871 | 1,871 | 0.16 | 0.16 | 1.76% | 1.70% | 2.68 | 2.68 | 50.00 | 50.00 | 1.00 | 1.00 |
| 2030 | 1,988 | 1,988 | 0.17 | 0.17 | 4.07% | 4.07% | 2.82 | 2.82 | 50.00 | 50.00 | 0.70 | 0.70 |
| 2031 | 2,052 | 2,052 | 0.17 | 0.17 | 1.15% | 1.15% | 2.70 | 2.71 | 50.00 | 50.00 | 1.52 | 1.51 |

## Table 71: Economic Impact of Alternative Resource Plan DCCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 825 | 794 | 0.10 | 0.09 | 0.00% | 0.00% | 2.60 | 2.62 | 49.46 | 49.46 | 0.30 | 0.15 |
| 2013 | 858 | 834 | 0.10 | 0.10 | 3.56% | 4.60% | 2.77 | 2.80 | 49.74 | 49.75 | 0.64 | 0.51 |
| 2014 | 919 | 901 | 0.10 | 0.10 | 6.26% | 7.18% | 2.03 | 2.06 | 50.00 | 50.00 | 0.44 | 0.34 |
| 2015 | 927 | 917 | 0.11 | 0.10 | 0.41% | 1.31% | 2.14 | 2.17 | 50.00 | 50.00 | 0.27 | 0.23 |
| 2016 | 947 | 942 | 0.11 | 0.11 | 1.33% | 1.90% | 2.09 | 2.12 | 50.00 | 50.00 | 0.20 | 0.18 |
| 2017 | 1,043 | 1,044 | 0.12 | 0.12 | 9.79% | 10.47% | 2.31 | 2.34 | 50.00 | 50.00 | 0.20 | 0.20 |
| 2018 | 1,185 | 1,189 | 0.13 | 0.13 | 12.77% | 13.05% | 2.45 | 2.47 | 50.00 | 50.00 | 0.74 | 0.73 |
| 2019 | 1,196 | 1,202 | 0.13 | 0.13 | 0.08% | 0.24% | 2.36 | 2.39 | 50.00 | 50.00 | 0.82 | 0.81 |
| 2020 | 1,246 | 1,253 | 0.14 | 0.14 | 3.05% | 3.11% | 2.33 | 2.36 | 50.00 | 50.00 | 0.51 | 0.51 |
| 2021 | 1,303 | 1,309 | 0.14 | 0.14 | 4.09% | 3.98% | 2.39 | 2.42 | 50.00 | 50.00 | 0.95 | 0.95 |
| 2022 | 1,345 | 1,351 | 0.15 | 0.15 | 2.42% | 2.41% | 2.41 | 2.44 | 50.00 | 50.00 | 0.72 | 0.72 |
| 2023 | 1,422 | 1,428 | 0.15 | 0.15 | 4.85% | 4.83% | 2.59 | 2.62 | 50.00 | 50.00 | 1.52 | 1.51 |
| 2024 | 1,440 | 1,446 | 0.15 | 0.15 | 0.08% | 0.08% | 3.04 | 3.06 | 50.00 | 50.00 | 1.86 | 1.85 |
| 2025 | 1,454 | 1,460 | 0.15 | 0.15 | 0.30% | 0.29% | 2.72 | 2.75 | 50.00 | 50.00 | 1.58 | 1.57 |
| 2026 | 1,490 | 1,496 | 0.16 | 0.16 | 1.40% | 1.39% | 2.69 | 2.72 | 50.00 | 50.00 | 1.81 | 1.79 |
| 2027 | 1,528 | 1,534 | 0.16 | 0.16 | 1.28% | 1.27% | 2.67 | 2.70 | 50.00 | 50.00 | 1.65 | 1.63 |
| 2028 | 1,567 | 1,574 | 0.16 | 0.16 | 0.96% | 1.01% | 2.63 | 2.67 | 50.00 | 50.00 | 1.66 | 1.65 |
| 2029 | 1,617 | 1,624 | 0.16 | 0.16 | 2.15% | 2.14% | 2.61 | 2.64 | 50.00 | 50.00 | 1.09 | 1.08 |
| 2030 | 1,716 | 1,724 | 0.17 | 0.17 | 4.67% | 4.70% | 2.77 | 2.80 | 50.00 | 50.00 | 0.77 | 0.76 |
| 2031 | 1,762 | 1,770 | 0.17 | 0.17 | 1.39% | 1.37% | 2.64 | 2.67 | 50.00 | 50.00 | 1.71 | 1.70 |

## Table 72: Economic Impact of Alternative Resource Plan ECCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 830 | 759 | 0.10 | 0.09 | 0.00% | 0.00% | 2.62 | 2.66 | 49.47 | 49.48 | 0.46 | 0.10 |
| 2013 | 870 | 813 | 0.10 | 0.10 | 5.47% | 7.78% | 2.80 | 2.86 | 49.74 | 49.75 | 0.86 | 0.57 |
| 2014 | 936 | 895 | 0.11 | 0.11 | 7.93% | 10.44% | 2.06 | 2.12 | 50.00 | 50.00 | 0.70 | 0.46 |
| 2015 | 951 | 925 | 0.11 | 0.11 | 2.07% | 3.83% | 2.18 | 2.25 | 50.00 | 50.00 | 0.43 | 0.33 |
| 2016 | 976 | 965 | 0.12 | 0.11 | 2.79% | 4.49% | 2.14 | 2.22 | 50.00 | 50.00 | 0.35 | 0.30 |
| 2017 | 1,076 | 1,079 | 0.13 | 0.13 | 11.07% | 12.65% | 2.35 | 2.42 | 50.00 | 50.00 | 0.32 | 0.30 |
| 2018 | 1,216 | 1,227 | 0.15 | 0.15 | 13.36% | 14.06% | 2.48 | 2.53 | 50.00 | 50.00 | 1.02 | 1.01 |
| 2019 | 1,222 | 1,234 | 0.15 | 0.15 | 0.71% | 0.79% | 2.39 | 2.45 | 50.00 | 50.00 | 1.12 | 1.11 |
| 2020 | 1,264 | 1,278 | 0.15 | 0.15 | 3.44% | 3.57% | 2.36 | 2.42 | 50.00 | 50.00 | 0.71 | 0.70 |
| 2021 | 1,316 | 1,331 | 0.16 | 0.16 | 4.74% | 4.77% | 2.42 | 2.48 | 50.00 | 50.00 | 1.27 | 1.26 |
| 2022 | 1,349 | 1,363 | 0.16 | 0.16 | 2.80% | 2.70% | 2.44 | 2.50 | 50.00 | 50.00 | 0.96 | 0.96 |
| 2023 | 1,418 | 1,432 | 0.17 | 0.17 | 5.42% | 5.36% | 2.62 | 2.68 | 50.00 | 50.00 | 1.98 | 1.96 |
| 2024 | 1,429 | 1,443 | 0.17 | 0.17 | 0.56% | 0.55% | 3.06 | 3.10 | 50.00 | 50.00 | 2.37 | 2.34 |
| 2025 | 1,432 | 1,446 | 0.17 | 0.18 | 0.68% | 0.68% | 2.75 | 2.81 | 50.00 | 50.00 | 2.09 | 2.06 |
| 2026 | 1,457 | 1,472 | 0.18 | 0.18 | 1.77% | 1.83% | 2.73 | 2.80 | 50.00 | 50.00 | 2.43 | 2.40 |
| 2027 | 1,484 | 1,499 | 0.18 | 0.18 | 1.73% | 1.71% | 2.71 | 2.78 | 50.00 | 50.00 | 2.25 | 2.22 |
| 2028 | 1,512 | 1,528 | 0.18 | 0.18 | 1.29% | 1.34% | 2.67 | 2.75 | 50.00 | 50.00 | 2.30 | 2.26 |
| 2029 | 1,545 | 1,562 | 0.19 | 0.19 | 2.32% | 2.36% | 2.67 | 2.76 | 50.00 | 50.00 | 2.13 | 2.10 |
| 2030 | 1,579 | 1,597 | 0.19 | 0.19 | 1.91% | 1.95% | 2.65 | 2.73 | 50.00 | 50.00 | 2.19 | 2.16 |
| 2031 | 1,612 | 1,630 | 0.19 | 0.20 | 1.82% | 1.80% | 2.64 | 2.73 | 50.00 | 50.00 | 2.26 | 2.23 |

## Table 73: Economic Impact of Alternative Resource Plan FCCG1

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 823 | 812 | 0.09 | 0.09 | 0.00% | 0.00% | 2.59 | 2.60 | 49.46 | 49.46 | 0.21 | 0.16 |
| 2013 | 854 | 837 | 0.10 | 0.10 | 2.86% | 2.17% | 2.76 | 2.78 | 49.74 | 49.75 | 0.57 | 0.49 |
| 2014 | 914 | 892 | 0.10 | 0.10 | 5.88% | 5.43% | 2.02 | 2.04 | 50.00 | 50.00 | 0.39 | 0.28 |
| 2015 | 922 | 902 | 0.10 | 0.10 | 0.26% | 0.51% | 2.14 | 2.17 | 50.00 | 50.00 | 0.25 | 0.19 |
| 2016 | 946 | 923 | 0.11 | 0.10 | 1.58% | 1.31% | 2.10 | 2.14 | 50.00 | 50.00 | 0.20 | 0.14 |
| 2017 | 1,046 | 1,021 | 0.12 | 0.11 | 10.39% | 10.43% | 2.32 | 2.36 | 50.00 | 50.00 | 0.21 | 0.16 |
| 2018 | 1,197 | 1,173 | 0.13 | 0.13 | 13.73% | 14.18% | 2.47 | 2.51 | 50.00 | 50.00 | 0.82 | 0.72 |
| 2019 | 1,218 | 1,195 | 0.13 | 0.13 | 1.28% | 1.40% | 2.38 | 2.43 | 50.00 | 50.00 | 0.97 | 0.87 |
| 2020 | 1,279 | 1,257 | 0.14 | 0.14 | 4.31% | 4.48% | 2.36 | 2.42 | 50.00 | 50.00 | 0.65 | 0.58 |
| 2021 | 1,348 | 1,337 | 0.15 | 0.15 | 5.31% | 6.28% | 2.42 | 2.48 | 50.00 | 50.00 | 1.20 | 1.12 |
| 2022 | 1,399 | 1,396 | 0.15 | 0.15 | 3.37% | 4.00% | 2.44 | 2.50 | 50.00 | 50.00 | 0.92 | 0.88 |
| 2023 | 1,482 | 1,486 | 0.16 | 0.16 | 5.52% | 6.03% | 2.62 | 2.68 | 50.00 | 50.00 | 1.95 | 1.90 |
| 2024 | 1,505 | 1,515 | 0.16 | 0.16 | 0.76% | 1.16% | 3.06 | 3.10 | 50.00 | 50.00 | 2.36 | 2.32 |
| 2025 | 1,522 | 1,535 | 0.16 | 0.16 | 0.84% | 1.03% | 2.75 | 2.81 | 50.00 | 50.00 | 2.08 | 2.04 |
| 2026 | 1,557 | 1,571 | 0.17 | 0.17 | 1.63% | 1.67% | 2.73 | 2.80 | 50.00 | 50.00 | 2.43 | 2.40 |
| 2027 | 1,594 | 1,609 | 0.17 | 0.17 | 1.53% | 1.57% | 2.71 | 2.78 | 50.00 | 50.00 | 2.25 | 2.22 |
| 2028 | 1,632 | 1,648 | 0.17 | 0.17 | 1.14% | 1.18% | 2.67 | 2.75 | 50.00 | 50.00 | 2.30 | 2.26 |
| 2029 | 1,678 | 1,695 | 0.17 | 0.18 | 2.19% | 2.22% | 2.67 | 2.76 | 50.00 | 50.00 | 2.13 | 2.10 |
| 2030 | 1,728 | 1,746 | 0.18 | 0.18 | 1.93% | 1.96% | 2.65 | 2.73 | 50.00 | 50.00 | 2.19 | 2.16 |
| 2031 | 1,774 | 1,792 | 0.18 | 0.18 | 1.69% | 1.66% | 2.64 | 2.73 | 50.00 | 50.00 | 2.26 | 2.23 |

**Table 74: Economic Impact of Alternative Resource Plan XCCG1**

| Year | Revenue Requirement ($MM) | Revenue Requirement ($MM) No DSM | Levelized Annual Rates ($/kw-hr) | Levelized Annual Rates ($/kw-hr) No DSM | Rate Increase | Rate Increase No DSM | Times Interest Earned | Times Interest Earned No DSM | Debt to Capital | Debt to Capital No DSM | Internal Cash to Construction Expense | Internal Cash to Construction Expense No DSM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2012 | 821 | 821 | 0.09 | 0.09 | 0.00% | 0.00% | 2.58 | 2.58 | 49.46 | 49.46 | 0.17 | 0.17 |
| 2013 | 850 | 850 | 0.10 | 0.10 | 1.97% | 1.97% | 2.72 | 2.72 | 49.74 | 49.74 | 0.32 | 0.32 |
| 2014 | 958 | 958 | 0.11 | 0.11 | 10.77% | 10.77% | 2.20 | 2.20 | 50.00 | 50.00 | 0.16 | 0.16 |
| 2015 | 960 | 960 | 0.11 | 0.11 | -1.26% | -1.26% | 2.19 | 2.19 | 50.00 | 50.00 | 0.22 | 0.22 |
| 2016 | 978 | 978 | 0.11 | 0.11 | 0.02% | 0.02% | 2.14 | 2.14 | 50.00 | 50.00 | 0.12 | 0.12 |
| 2017 | 1,107 | 1,107 | 0.12 | 0.12 | 11.88% | 11.88% | 2.46 | 2.46 | 50.00 | 50.00 | 0.13 | 0.13 |
| 2018 | 1,250 | 1,250 | 0.13 | 0.13 | 11.00% | 11.00% | 2.51 | 2.51 | 50.00 | 50.00 | 0.67 | 0.67 |
| 2019 | 1,262 | 1,262 | 0.13 | 0.13 | -0.73% | -0.73% | 2.42 | 2.42 | 50.00 | 50.00 | 0.73 | 0.73 |
| 2020 | 1,320 | 1,320 | 0.13 | 0.13 | 2.58% | 2.58% | 2.38 | 2.38 | 50.00 | 50.00 | 0.44 | 0.44 |
| 2021 | 1,382 | 1,382 | 0.14 | 0.14 | 3.20% | 3.20% | 2.43 | 2.43 | 50.00 | 50.00 | 0.67 | 0.67 |
| 2022 | 1,474 | 1,474 | 0.14 | 0.14 | 4.88% | 4.88% | 2.56 | 2.56 | 50.00 | 50.00 | 0.45 | 0.45 |
| 2023 | 1,556 | 1,556 | 0.15 | 0.15 | 3.79% | 3.79% | 2.65 | 2.65 | 50.00 | 50.00 | 1.42 | 1.42 |
| 2024 | 1,582 | 1,582 | 0.15 | 0.15 | -0.32% | -0.32% | 3.07 | 3.07 | 50.00 | 50.00 | 1.73 | 1.73 |
| 2025 | 1,608 | 1,608 | 0.15 | 0.15 | 0.08% | 0.08% | 2.76 | 2.76 | 50.00 | 50.00 | 1.07 | 1.07 |
| 2026 | 1,700 | 1,700 | 0.15 | 0.15 | 3.76% | 3.76% | 2.86 | 2.86 | 50.00 | 50.00 | 0.79 | 0.79 |
| 2027 | 1,747 | 1,747 | 0.16 | 0.16 | 0.72% | 0.72% | 2.74 | 2.74 | 50.00 | 50.00 | 1.56 | 1.56 |
| 2028 | 1,799 | 1,799 | 0.16 | 0.16 | 0.60% | 0.60% | 2.69 | 2.69 | 50.00 | 50.00 | 1.08 | 1.08 |
| 2029 | 1,911 | 1,911 | 0.16 | 0.16 | 4.35% | 4.35% | 2.83 | 2.83 | 50.00 | 50.00 | 0.69 | 0.69 |
| 2030 | 1,977 | 1,977 | 0.17 | 0.17 | 1.33% | 1.33% | 2.70 | 2.70 | 50.00 | 50.00 | 1.46 | 1.46 |
| 2031 | 2,044 | 2,044 | 0.17 | 0.17 | 1.27% | 1.27% | 2.68 | 2.68 | 50.00 | 50.00 | 1.47 | 1.47 |

***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. and Contemporary Issue Order 1 b. require the company to study a larger build of renewable resources beyond the current Missouri RPS standard requirement. To meet both of the above mentioned items and to review the potential impact of a proposal to increase RPS requirements in Missouri, the company included a plan which doubled the renewable portfolio for the company and his described in detail in Section 3 of this Volume.

The results of this study are detailed throughout this Volume and in Volume 7. A summary review shows that increasing the amount of wind in the current company portfolio generally increases the NPVRR of the alternative resource 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. They constitute an aggressive plan with a 1% target and a very aggressive plan with a 2% target. 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. The level of purchases or sales can also be limited to any range desired. For this IRP, the Company has limited the ability to purchase firm sales to a level consistent with the company's current operating methods and market conditions.

This model met all conditions of previous rule 22.070 (7) (B), and was used for all previous IRP integrated analysis filings.

## 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 the analysis of uncertain factors by compiling a list of factors and issues to address from four sources. The first source is Rule 4 CSR 240-22.060(5) which details the uncertain factors must be included in a analysis of potential risks. The second source is the stipulations and agreements from previously filed IRPs. The third source is company management concerns. The final source is the resulting order from the Contemporary Issues process in Case EO-2012-0042 dated October 19, 2011

**Table 75: Uncertain Factors**

| UNCERTAIN FACTOR | RULE | DEFAULT STATE | TEST STATES |
|---|---|---|---|
| Load growth | 060(5)(A) | MID | HIGH, LOW |
| Interest rates/Credit market conditions | 060(5)(B) | MID | HIGH, LOW |
| Changes in legal mandates | 060(5)(C) | | |
| Federal Renewable Standard | | NO STANDARD | STANDARD |
| Federal EE Standard | | NO STANDARD | STANDARD |
| Relative fuel prices | 060(5)(D) | | |
| Natural Gas | | MID | HIGH, LOW |
| PRB Coal | | MID | HIGH, LOW |
| Siting and permitting costs | 060(5)(E) | MID | HIGH, LOW |
| Construction costs | 060(5)(F) | MID | HIGH, LOW |
| Purchased power availability | 060(5)(G) | MID | HIGH, LOW |
| Emission allowances | 060(5)(H) | | |
| $CO_2$ | | MID | HIGH, LOW |
| $SO_2$ | | MID | HIGH, LOW |
| $NO_X$ | | MID | HIGH, LOW |
| Fixed O&M | 060(5)(I) | MID | HIGH, LOW |
| EFOR | 060(5)(J) | MID | HIGH, LOW |
| DSM load impacts | 060(5)(K) | MID | HIGH, LOW |
| DSM Utility marketing and delivery costs | 060(5)(L) | MID | HIGH, LOW |
| Other factors | 060(5)(M) | | |
| Smart Grid | | NO IMPACT | HIGH IMPACT |

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. The mid, high and low scenarios were also assigned a subjective probability by the subject matter experts.

This information was collected and presented to management to solicit management input into the drivers of the eventual model process.

The company utilized ABB-Ventyx's System Optimizer Model™[CapEx™] to provide a preliminary test of each sensitivity listed in 22.060 (5) along with additional sensitivities chosen by the Company to complete its risk assessment.

CapEx™ is a linear program based model that chooses a lowest-cost expansion plan given a known load growth and other fixed market factors. Once a load growth forecast and market is defined, the model is allowed to pick from among all supply, DSM and retirement options available to arrive at the lowest possible cost expansion plan.

The company executed test runs for each sensitivity to determine if the resulting lowest cost expansion plan constituted different choices of DSM, supply or retirements. If the model did not materially change its expansion plan by changing sensitivity, that factor was not deemed to be a Critical Uncertain Factor. However, if the model chose different options, such as different technologies or foregoing DSM programs, then that factor would be deemed a Critical Uncertain Factor and was incorporated within the Risk Analysis Decision Tree.

The results of the CapEx™ studies are included in detail in the working papers attached to this filing.

***(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)&(8)were used in the CapEx™ model. The CapEx™ 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 compiled a family of interest rate impacted model determinants, such as cost of capital, AFUDC, etc. Three scenarios of these determinants were calculated assuming a high and low long term interest rate risk.

This information was used to model the sensitivity of CapEx™ plan to changes in these factors. The company discovered that the plans were sensitive to the high case but insensitive to the low case. The results of this sensitivity run were identical to the results for the high construction cost risk detailed below. Therefore these two risks were modeled as correlated risks and the preferred plan was subjected to these risks to test its response to this combined risk.

***(C) Future changes in legal mandates;***

FEDERAL RENEWABLE PORTFOLIO STANDARD

The Federal Renewable Standard was modeled using the Bingaman bill. The requirements of the proposed bill were similar to the Missouri standard requirements except that they were on a national level and not on a state only level. The Federal standard would not require the Company to acquire additional renewable resources beyond the requirements of the Missouri rules. However, the entire country will be required to acquire additional renewable resources causing an adjustment to power market prices. When adjusted market prices were input into the CapEx™ model, no change to the optimal expansion plan occurred. Therefore the Federal renewable standard was not deemed to be a critical uncertain factor and not included in the integrated analysis.

FEDERAL ENERGY EFFICIENCY STANDARD

At the June, 2010 Stakeholder Meeting, Staff proposed using the Save American Energy Act, HR 889 bill to use as a basis for analysis. The bill proposes to amend Title VI of the Public Utility Regulatory Policies Act of 1978 to establish a Federal energy efficiency resource standard for retail electricity and natural gas distributors.

The Company agreed to use H.R.889 and its energy efficiency targets and alternative payment structure to simulate the effect of a Federal Energy Standard on the IRP alternative plan selection.

Due to the large upheavals this law makes to the power markets, a separate Integrated Analysis was built to analyze the best plan under this risk. The separate analysis assumes the same Risk Tree, yet the wholesale market prices and system load forecasts are adjusted to accommodate the reductions in native load that would accompany the new law. The results of those runs are detailed in Section 7 of Volume 6.

***(D) Relative real fuel prices;***

NATURAL GAS PRICES

High and low natural gas price forecast scenarios were developed as inputs into the CapEx™ model. The optimized expansion plans for the high and low cases are sufficiently different to require adding natural gas price risk as a critical uncertain factor. Natural gas price forecast development is detailed in Volume 4, Supply-Side Analysis.

COAL PRICES

High and low delivered coal price forecast scenario was modeled in CapEx™. No material changes were identified in the model's optimal expansion plans. Purchased power availability was not identified as a critical uncertain factor. 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 evaluated. The supply options forwarded from the preliminary screen conducted in compliance with Rule 22.040 (2). High and low construction costs scenarios were modeled in CapEx™. The resulting optimal expansion plans displayed material changes only in the presence of high construction costs. The results were identical to the risk exhibited from high financing costs. Therefore, construction cost risk and high financing cost risks were combined and tested against the preferred plan.

Construction costs 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 CapEx™. No material changes were identified in the model's optimal expansion plans. 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 CapEx™ model. Resulting optimal expansion plans did not 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 CapEx™ model. Resulting optimal expansion plans 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.

The company assumed a market for $CO_2$ emission credits will form. The costs of this market were not planned to be included as a part of the integrated analysis probable environmental costs but instead handled as a sensitivity which may of may not become a critical uncertain factor.

High, mid and low $CO_2$ credit price forecasts were developed, and their effects modeled in CapEx™. The resulting optimal expansion plans showed sensitivity to $CO_2$ prices. Therefore, $CO_2$ credit prices were included in the integrated analysis as a critical uncertain factor. $CO_2$ credit price forecast development is detailed in Volume 4, Supply-Side Analysis.

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

High and low Fixed O&M costs were simulated in the CapEx™ model. Resulting optimal expansion plans did not 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 CapEx™ model. Resulting optimal expansion plans did not 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 CapEx™ model. Resulting optimal expansion plans did not 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 CapEx™ model. Resulting optimal expansion plans 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.***

SMART GRID

The Company referred to the July 2009 “Smart Grid System Report” published by the U.S. Department of Energy. The study appendix lists 20 metrics that are used to determine the effectiveness of Smart Grid activities.

Many of these metrics do not lend themselves to production cost based analysis. Others have no direct cost but provide indirect benefit such as consumer acceptance, data sharing measures or reductions in customer complaints. Only one metric can be modeled in such a way to demonstrate an impact on system production costs. Dynamic line rating improvement has a direct impact on the assumptions used to develop national market clearing prices for wholesale power. The MIDAS ™ Model assumes interregional transfers of power are possible and power is allowed to flow in the model to help lower overall system costs and reduce the resultant market clearing price for wholesale power.

Dynamic line rating improvement was simulated in the CapEx™ model. Resulting optimal expansion plans 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.

## 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 determined three risks to be critical uncertain factors that would be used in the risk sensitivities of the integrated analysis; load growth, natural gas prices and CO2 credit prices.

In order to assess the full range of risks, each possible combination of covariant risk is simulated. Subject matter experts within the company have assigned risk distributions to each of the three drivers. 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. The results of the regression studies are conclusive. Even if strong correlations existed in the long run [either positive or negative], they have no statistically significant impact on plan performance results.

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

## Table 76: Regression Study Results

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.94 |
| R Square | 0.89 |
| Adjusted R Square | 0.89 |
| Standard Error | 262.12 |
| Observations | 567.00 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 8.00 | 306,570,235.59 | 38,321,279.45 | 557.74 | 0.00 |
| Residual | 558.00 | 38,339,141.62 | 68,708.14 | | |
| Total | 566.00 | 344,909,377.21 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* |
|---|---|---|---|---|
| Intercept | 12,567.19 | 36.51 | 344.21 | - |
| HCO2 | 1,021.79 | 42.63 | 23.97 | 0.00 |
| LCO2 | (564.43) | 42.63 | (13.24) | 0.00 |
| HGas | 257.01 | 42.63 | 6.03 | 0.00 |
| LGas | (254.70) | 42.63 | (5.97) | 0.00 |
| HLoad | 317.95 | 26.96 | 11.79 | 0.00 |
| LLoad | (315.02) | 26.96 | (11.68) | 0.00 |
| NG-CO2 (+Cor) | 1.65 | 52.22 | 0.03 | 0.97 |
| NG-CO2 (-Cor) | (25.62) | 52.22 | (0.49) | 0.62 |

## 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.***

Each risk factor has a probability distribution developed by the company subject matter expert. These 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.***

A table of the expected value of each performance measure is provided below.

**Table 77: Expected Value Plan Performance Measures**

| Plan | NPVRR ($MM) | Probable Environmenal Costs ($MM) | DSM Costs ($MM) | Levelized Annual Rates ($/kw-hr) | Maximum Rate Increase | Times Interest Earned | Total Debt to Capital | Cap Ex to FFO |
|---|---|---|---|---|---|---|---|---|
| AAAG1 | 12,673 | 698 | 169 | 0.136 | 12.21% | 2.56 | 49.96 | 0.78 |
| AAAG3 | 12,790 | 696 | 169 | 0.137 | 11.38% | 2.56 | 49.96 | 0.76 |
| ABCG1 | 12,706 | 593 | 169 | 0.137 | 11.30% | 2.55 | 49.96 | 0.83 |
| ACCG1 | 12,627 | 552 | 169 | 0.136 | 12.09% | 2.54 | 49.96 | 0.84 |
| ACCG3 | 12,702 | 550 | 169 | 0.136 | 11.45% | 2.55 | 49.96 | 0.78 |
| ACCG4 | 12,678 | 546 | 169 | 0.136 | 12.12% | 2.59 | 49.96 | 0.76 |
| ACCG5 | 12,927 | 547 | 169 | 0.140 | 14.95% | 2.61 | 49.96 | 0.67 |
| ACCG6 | 12,703 | 549 | 169 | 0.136 | 17.39% | 2.58 | 49.96 | 0.98 |
| ACCG7 | 12,671 | 550 | 169 | 0.136 | 11.75% | 2.55 | 49.96 | 0.78 |
| ACCG8 | 12,434 | 550 | 169 | 0.134 | 12.55% | 2.53 | 49.96 | 0.71 |
| ACCG9 | 12,485 | 550 | 169 | 0.134 | 12.55% | 2.53 | 49.96 | 0.80 |
| ADCG1 | 12,979 | 116 | 169 | 0.140 | 17.28% | 2.52 | 49.96 | 0.88 |
| AECG1 | 12,695 | 443 | 169 | 0.136 | 12.57% | 2.54 | 49.96 | 0.82 |
| AFCG1 | 12,680 | 457 | 169 | 0.136 | 12.68% | 2.53 | 49.96 | 0.83 |
| AICG9 | 12,597 | 563 | 169 | 0.136 | 12.24% | 2.54 | 49.96 | 0.80 |
| BCCG1 | 12,716 | 552 | 133 | 0.137 | 12.49% | 2.56 | 49.96 | 0.80 |
| CCCG1 | 13,133 | 555 | 37 | 0.135 | 14.95% | 2.58 | 49.96 | 0.75 |
| DCCG1 | 12,229 | 549 | 517 | 0.137 | 12.77% | 2.51 | 49.96 | 0.97 |
| ECCG1 | 12,220 | 544 | 1,213 | 0.153 | 13.35% | 2.54 | 49.96 | 1.41 |
| FCCG1 | 12,467 | 553 | 919 | 0.142 | 13.73% | 2.53 | 49.96 | 1.32 |
| XCCG1 | 13,164 | 555 | - | 0.136 | 11.88% | 2.58 | 49.96 | 0.77 |

***(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.***

The standard deviation of each performance measure by plan is detailed in the table below.

**Table 78: Standard Deviation Plan Performance Measures**

| Plan | NPVRR ($MM) | Probable Environmenal Costs ($MM) | DSM Costs ($MM) | Levelized Annual Rates ($/kw-hr) | Maximum Rate Increase | Times Interest Earned | Total Debt to Capital | Cap Ex to FFO |
|---|---|---|---|---|---|---|---|---|
| AAAG1 | 309 | 17 | - | 0.024 | 3.61% | - | - | - |
| AAAG3 | 313 | 17 | - | 0.023 | 3.21% | - | - | - |
| ABCG1 | 310 | 15 | - | 0.025 | 3.59% | - | - | - |
| ACCG1 | 308 | 14 | - | 0.024 | 3.61% | - | - | - |
| ACCG3 | 310 | 14 | - | 0.023 | 3.12% | - | - | - |
| ACCG4 | 309 | 14 | - | 0.024 | 4.33% | - | - | - |
| ACCG5 | 315 | 14 | - | 0.027 | 4.88% | - | - | - |
| ACCG6 | 310 | 14 | - | 0.023 | 4.79% | - | - | - |
| ACCG7 | 310 | 14 | - | 0.022 | 3.45% | - | - | - |
| ACCG8 | 304 | 14 | - | 0.025 | 3.37% | - | - | - |
| ACCG9 | 305 | 14 | - | 0.024 | 3.62% | - | - | - |
| ADCG1 | 317 | 3 | - | 0.026 | 4.54% | - | - | - |
| AECG1 | 310 | 11 | - | 0.024 | 3.74% | - | - | - |
| AFCG1 | 309 | 11 | - | 0.025 | 3.61% | - | - | - |
| AICG9 | 308 | 14 | - | 0.025 | 3.50% | - | - | - |
| BCCG1 | 310 | 14 | - | 0.024 | 3.86% | - | - | - |
| CCCG1 | 320 | 14 | - | 0.024 | 4.22% | - | - | - |
| DCCG1 | 298 | 14 | - | 0.025 | 3.38% | - | - | - |
| ECCG1 | 298 | 13 | - | 0.032 | 3.57% | - | - | - |
| FCCG1 | 304 | 14 | - | 0.029 | 3.50% | - | - | - |
| XCCG1 | 321 | 14 | - | 0.024 | 3.97% | - | - | - |

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***

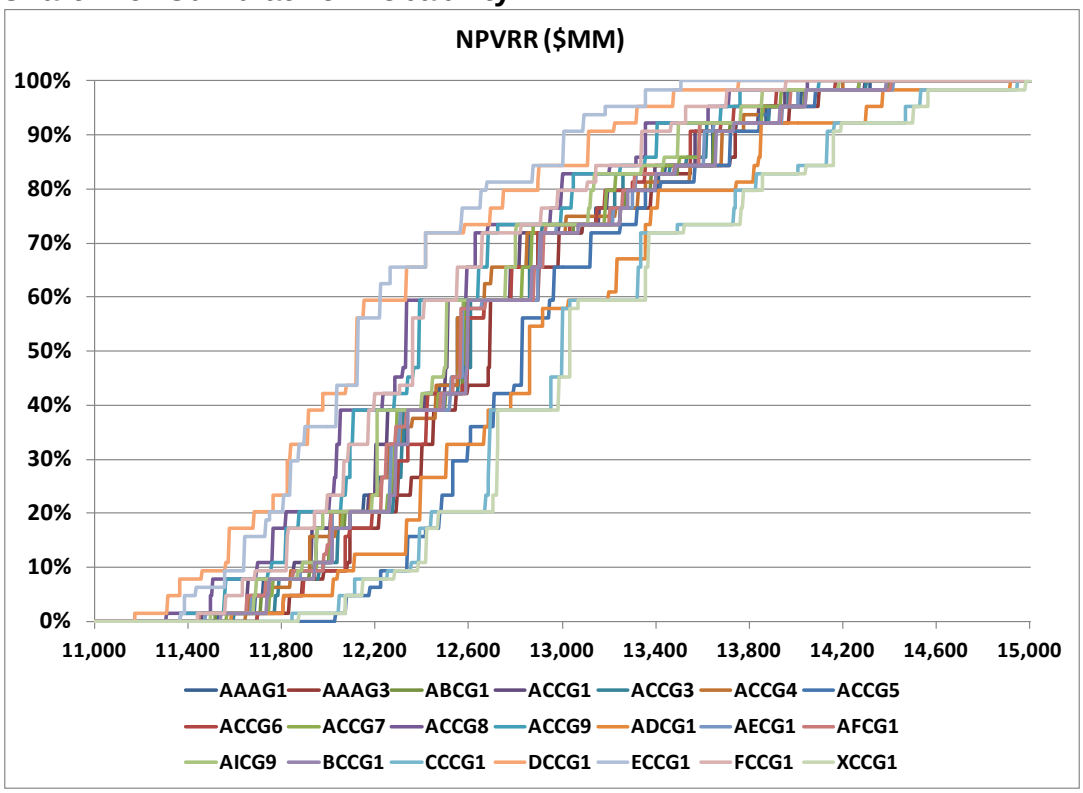
The method for determining whether or not a risk was an uncertain factor is detailed in Section 5 of this Volume. The risk distribution of each driver was determined by the company subject matter expert.

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

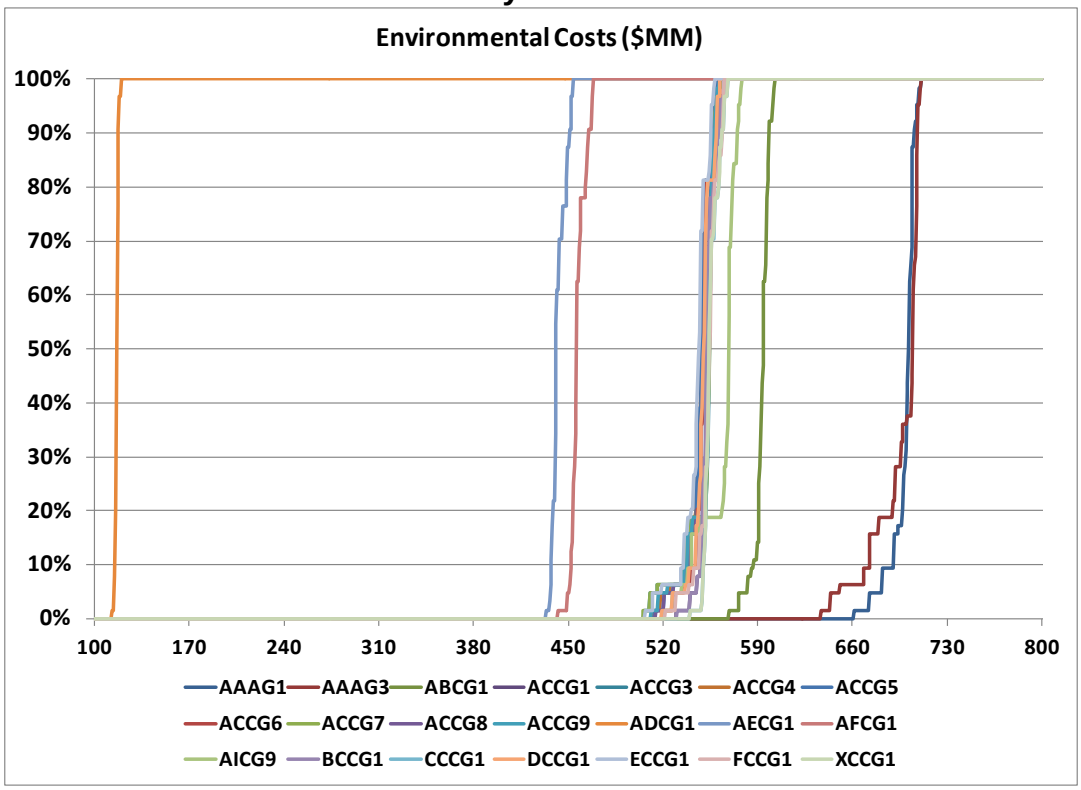
Supporting documentation for the choice of probabilistic range is in Volume 3 for the load growth risk and Volume 4 for Natural Gas and CO2 credit price risk.

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

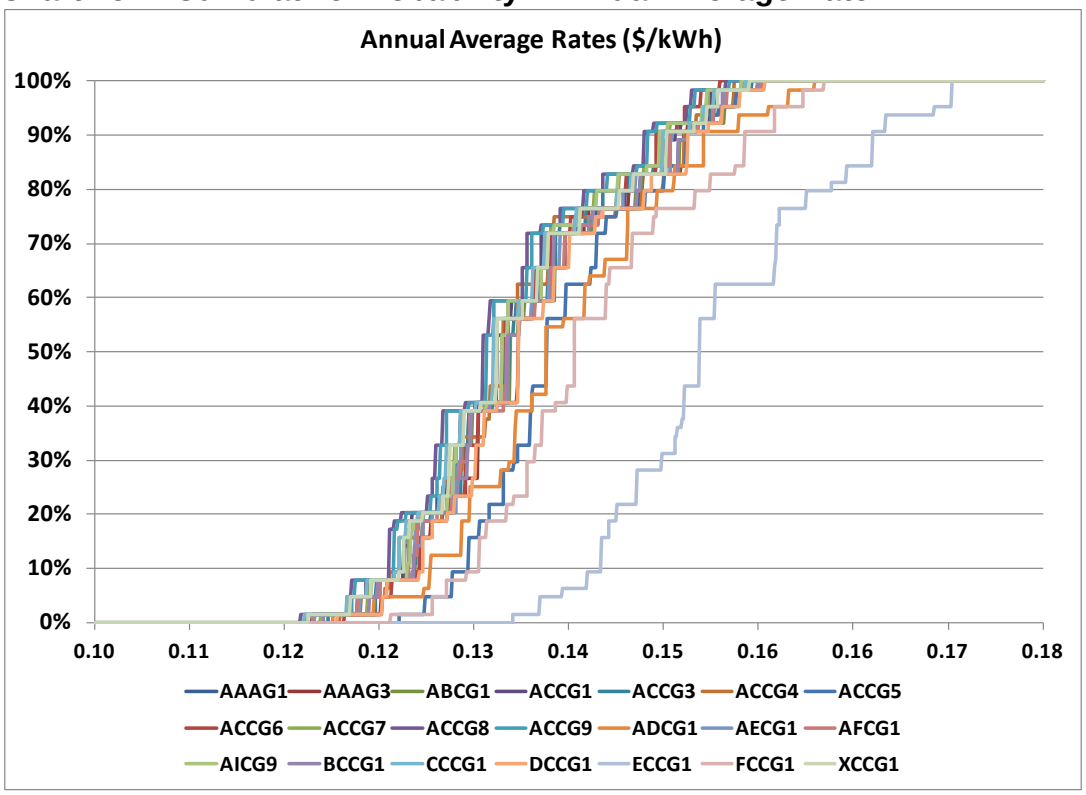
## Chart 149: Cumulative Probability - NPVRR



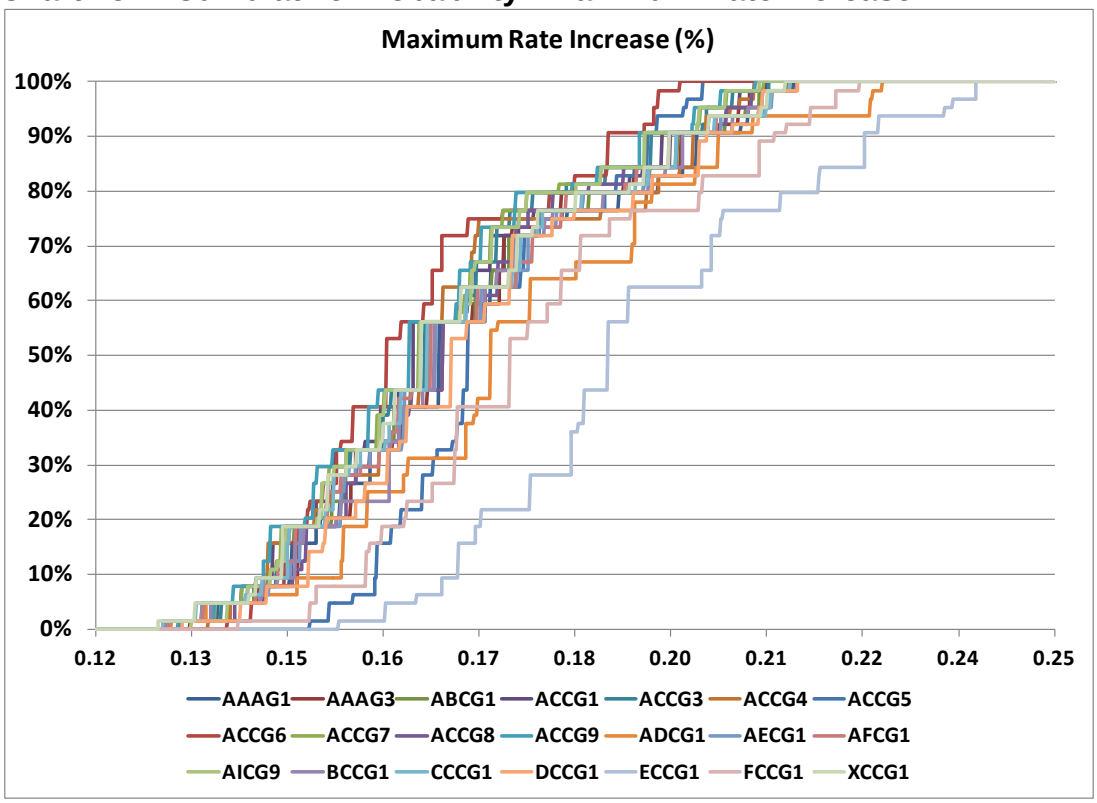

## Chart 150: Cumulative Probability - PEC



## Chart 151: Cumulative Probability - Annual Average Rate




## Chart 152: 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***

**Table 79: Expected Value Plan Performance Measures**

| Plan | NPVRR ($MM) | Probable Environmenal Costs ($MM) | DSM Costs ($MM) | Levelized Annual Rates ($/kw-hr) | Maximum Rate Increase | Times Interest Earned | Total Debt to Capital | Cap Ex to FFO |
|---|---|---|---|---|---|---|---|---|
| AAAG1 | 12,673 | 698 | 169 | 0.136 | 12.21% | 2.56 | 49.96 | 0.78 |
| AAAG3 | 12,790 | 696 | 169 | 0.137 | 11.38% | 2.56 | 49.96 | 0.76 |
| ABCG1 | 12,706 | 593 | 169 | 0.137 | 11.30% | 2.55 | 49.96 | 0.83 |
| ACCG1 | 12,627 | 552 | 169 | 0.136 | 12.09% | 2.54 | 49.96 | 0.84 |
| ACCG3 | 12,702 | 550 | 169 | 0.136 | 11.45% | 2.55 | 49.96 | 0.78 |
| ACCG4 | 12,678 | 546 | 169 | 0.136 | 12.12% | 2.59 | 49.96 | 0.76 |
| ACCG5 | 12,927 | 547 | 169 | 0.140 | 14.95% | 2.61 | 49.96 | 0.67 |
| ACCG6 | 12,703 | 549 | 169 | 0.136 | 17.39% | 2.58 | 49.96 | 0.98 |
| ACCG7 | 12,671 | 550 | 169 | 0.136 | 11.75% | 2.55 | 49.96 | 0.78 |
| ACCG8 | 12,434 | 550 | 169 | 0.134 | 12.55% | 2.53 | 49.96 | 0.71 |
| ACCG9 | 12,485 | 550 | 169 | 0.134 | 12.55% | 2.53 | 49.96 | 0.80 |
| ADCG1 | 12,979 | 116 | 169 | 0.140 | 17.28% | 2.52 | 49.96 | 0.88 |
| AECG1 | 12,695 | 443 | 169 | 0.136 | 12.57% | 2.54 | 49.96 | 0.82 |
| AFCG1 | 12,680 | 457 | 169 | 0.136 | 12.68% | 2.53 | 49.96 | 0.83 |
| AICG9 | 12,597 | 563 | 169 | 0.136 | 12.24% | 2.54 | 49.96 | 0.80 |
| BCCG1 | 12,716 | 552 | 133 | 0.137 | 12.49% | 2.56 | 49.96 | 0.80 |
| CCCG1 | 13,133 | 555 | 37 | 0.135 | 14.95% | 2.58 | 49.96 | 0.75 |
| DCCG1 | 12,229 | 549 | 517 | 0.137 | 12.77% | 2.51 | 49.96 | 0.97 |
| ECCG1 | 12,220 | 544 | 1,213 | 0.153 | 13.35% | 2.54 | 49.96 | 1.41 |
| FCCG1 | 12,467 | 553 | 919 | 0.142 | 13.73% | 2.53 | 49.96 | 1.32 |
| XCCG1 | 13,164 | 555 | - | 0.136 | 11.88% | 2.58 | 49.96 | 0.77 |

**Table 80: Standard Deviation Plan performance Measures**

| Plan | NPVRR ($MM) | Probable Environmenal Costs ($MM) | DSM Costs ($MM) | Levelized Annual Rates ($/kw-hr) | Maximum Rate Increase | Times Interest Earned | Total Debt to Capital | Cap Ex to FFO |
|---|---|---|---|---|---|---|---|---|
| AAAG1 | 309 | 17 | - | 0.024 | 3.61% | - | - | - |
| AAAG3 | 313 | 17 | - | 0.023 | 3.21% | - | - | - |
| ABCG1 | 310 | 15 | - | 0.025 | 3.59% | - | - | - |
| ACCG1 | 308 | 14 | - | 0.024 | 3.61% | - | - | - |
| ACCG3 | 310 | 14 | - | 0.023 | 3.12% | - | - | - |
| ACCG4 | 309 | 14 | - | 0.024 | 4.33% | - | - | - |
| ACCG5 | 315 | 14 | - | 0.027 | 4.88% | - | - | - |
| ACCG6 | 310 | 14 | - | 0.023 | 4.79% | - | - | - |
| ACCG7 | 310 | 14 | - | 0.022 | 3.45% | - | - | - |
| ACCG8 | 304 | 14 | - | 0.025 | 3.37% | - | - | - |
| ACCG9 | 305 | 14 | - | 0.024 | 3.62% | - | - | - |
| ADCG1 | 317 | 3 | - | 0.026 | 4.54% | - | - | - |
| AECG1 | 310 | 11 | - | 0.024 | 3.74% | - | - | - |
| AFCG1 | 309 | 11 | - | 0.025 | 3.61% | - | - | - |
| AICG9 | 308 | 14 | - | 0.025 | 3.50% | - | - | - |
| BCCG1 | 310 | 14 | - | 0.024 | 3.86% | - | - | - |
| CCCG1 | 320 | 14 | - | 0.024 | 4.22% | - | - | - |
| DCCG1 | 298 | 14 | - | 0.025 | 3.38% | - | - | - |
| ECCG1 | 298 | 13 | - | 0.032 | 3.57% | - | - | - |
| FCCG1 | 304 | 14 | - | 0.029 | 3.50% | - | - | - |
| XCCG1 | 321 | 14 | - | 0.024 | 3.97% | - | - | - |

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

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

## Chart 153: Unserved Energy