



Staff Report Item 15

To:	Ava Community Energy Authority
From:	Marie Fontenot, SVP of Power Resources
Subject:	Approval of RESOLUTION OF THE BOARD OF DIRECTORS OF AVA COMMUNITY ENERGY AUTHORITY ACCEPTING THE RESULTS OF THE IRP ANALYSIS AND AUTHORIZING STAFF TO SUBMIT THE 2026 IRP COMPLIANCE FILING TO THE CPUC (Action Item)
Date:	July 15, 2026

Summary/Recommendation

This Staff Report proposes the Board:

- (1) accept the results of the IRP analysis performed by staff;
- (2) authorizes the CEO and staff to further revise the required document templates to ensure accuracy between the required templates and the compliance portfolio as presented to the Board; and
- (3) authorizes staff to submit the 2026 IRP compliance filing to the CPUC by August 10, 2026.

Financial Impact

N/A

Analysis and Context

The IRP proceeding currently includes two primary components: (1) the study workstream and (2) the mandated procurement workstream. This report refers only to the study workstream.

The IRP is a long-term planning proceeding that evaluates the CPUC's electric procurement policies and programs and estimates the reliability and cost-effectiveness of the CPUC-

jurisdictional entities'¹ electric supply plans, with the goal of reducing the cost of achieving GHG reductions and other CPUC policy goals. The IRP proceeding forecasts and reports on the least-cost resource mix required to meet these goals while maintaining system reliability over a period of at least 10 years. This year, the IRP planning horizon spans from 2026 to 2045.

The IRP also evaluates the contribution of individual load serving entities' (LSE) resource portfolios to the State's greenhouse gas (GHG) emissions. This IRP cycle, the CPUC requires each entity to submit portfolios that achieve emissions levels equal to or less than that entity's proportional share of a statewide electric sector GHG target. Ava will report analysis results and proposed resource portfolios that address the question "what are the desired portfolios of resources based on a statewide electric sector goal of achieving a maximum of 8 MMT of GHG emissions by 2045." The inputs and assumptions used in the analysis must be consistent with certain CPUC directives; the required assumptions are discussed below. Given Ava Community Energy's Board of Directors' approved target of achieving an emission-free portfolio by 2030, Ava staff sought to develop a Preferred Conforming Portfolio that will be emission-free consistent with Ava's goals and the emissions methodology required for use in the annual Power Source Disclosure Report (PSDR).

All CPUC-jurisdictional LSEs are required to file and serve their individual IRPs with the CPUC no later than August 10, 2026. The filings must use three documents provided by the CPUC: a Narrative Template, a Resource Data Template (RDT), and results from the CPUC's Clean System Power (CSP) Calculator.²

Discussion

Compliance with the CPUC's IRP filing requires completion and submittal of three documents by August 10, 2026: the IRP Narrative Template, the Resource Data Template, and the Clean System Power (CSP) Calculator. Each document is described below, followed by a discussion of the CPUC's modeling inputs and assumptions, an overview of Ava's approach to IRP analysis and a discussion of the results of Ava's analysis. Finally, Staff describes the next steps, including portfolio planning work beyond what is required for IRP compliance purposes.

Narrative Template

In this document, each LSE provides a narrative description of its approach in developing a long-term resource portfolio plan, results of supporting analytical work, and its planned actions based on the results of its analysis. LSEs are required to follow the structure and organization of the template.

Resource Data Template (RDT)

In the RDT, Ava is required to report its existing and planned energy and capacity contracts and identify the amount of energy and capacity that are indicated from the analysis as necessary to contribute to the State's collective 8 MMT portfolio of resources. The portfolio of resources must be described in terms of total annual contracted volumes by resource type. The CPUC uses this document to analyze and aggregate individual entities' IRP portfolios.

¹ In the context of IRP requirements, "CPUC-jurisdictional entities" includes Investor-Owned Utilities (IOUs), Energy Service Providers (ESPs), and Community Choice Aggregators (CCAs).

² CPUC rulings establish these filing requirements.

Clean System Power (CSP) Calculator

The CSP Calculator is a CPUC-provided tool used to estimate GHG and other local air pollutant emissions associated with the 8 MMT resource portfolio included in the Resource Data Template. This workbook is used to calculate the implied emissions values associated with each type of generating resource using CPUC-determined assumptions. However, the calculator is not intended by the CPUC to be an after-the-fact compliance tool, but rather to provide all LSEs a simple and uniform way of estimating the emissions associated with their IRP portfolios. The CPUC uses this document to check that each LSE has a plan to meet the required GHG targets.

Required Assumptions

In this IRP cycle, the CPUC is requiring its jurisdictional entities use certain standardized inputs and assumptions. The required assumptions include:

- Load forecast: each load serving entity is required to use the CPUC-approved IRP retail load forecast. It is informed by the California Energy Commission (CEC)-developed 2024 Integrated Energy Policy Report (IEPR) demand forecast update. The 2024 IEPR forecast identified annual energy consumption and retail sales for entities out to 2040, then added and subtracted load to reflect the CEC's forecasted load modifiers, including Additional Achievable Energy Efficiency (AAEE), Additional Achievable Fuel Substitution (AAFS), Additional Achievable Transportation Electrification (AATE), behind-the-meter solar PV generation, other self-generation, and data centers.
- Baseline resources: represent generating resources that are currently online or are contracted to come online during the IRP's planning timeframe. This list includes generating resources inside and outside California, but within the Western Electricity Coordinating Council (WECC).
- Candidate resources: represent resources that have not yet been built or contracted. The CPUC provides the types of future generating resources that may be included in entities' portfolios. The eligible resource types are renewables (biomass, geothermal, solar PV, onshore wind, out-of-state wind, offshore wind), energy storage, natural gas generation (Aero Gas Turbines and "Advanced" Combined Cycle Gas Turbines), and demand response. The CPUC identified certain geographic assumptions related to the placement of these potential resources; the resources could be in California or out of state with eligible regions tied to existence or planned expansion of transmission lines. Ava took cost data provided by the CPUC, which used the technology cost curves sourced from NREL's 2024 Annual Technology Baseline (ATB) for distributed solar, offshore wind, geothermal, "location-constrained" (12-hr) storage, and biomass; Ava utilized cost curves provided by a CPUC custom cost analysis for utility-scale solar, fuel costs, variable costs, etc.), onshore wind, lithium-ion batteries, . For electricity and capacity prices, Ava used its internal, proprietary forward curves.
- Proforma Financial Model: used by the CPUC to create levelized fixed costs for each candidate resource type. These costs are then used as inputs to modeling to establish the least-cost portfolio. Ava elected to use cost data supplied by the CPUC (taken from E3's RECost model) which utilized technology cost curves sourced from NREL's 2024 ATB and the CPUC's custom cost analyses in developing its single Preferred Conforming Portfolio.

- **Operating Assumptions:** The operating cost (fixed and variable operations and maintenance costs) of candidate resources were based on the aforementioned custom analysis by the CPUC. Components of the operational costs are aggregated costs for classes of generation resources, unit commitment costs, costs associated with dispatching resources for energy or ancillary services, and transmission costs based on zones (i.e., costs to move electricity over the transmission system in WECC).
- **Resource Adequacy Requirements:** the CPUC assumptions require a planning reserve margin. In this IRP, Ava elected to include planning reserve margins that vary by forecast year ranging from 18% in 2026 to 23% in 2035 and after. The CPUC also incorporates the most recent effective load carrying capability (ELCC) assumptions for resources and differentiates between ELCCs used for resources based on year the resource obtains commercial operation, consistent with the CPUC's most recent ELCC study.³
- **GHG Emissions and Renewable Portfolio Standard:** a least-cost resource portfolio was developed to comply with the State's 8 MMT scenario. The emissions accounting used for the IRP analysis is consistent with the California Air Resource Board's regulation of the electric sector under California's cap and trade program. It is worth noting that Ava uses the emission accounting methodology from the Power Source Disclosure Report (PSDR) to calculate and report its annual emissions to customers and the PSDR method differs from the forward-looking accounting methodology of the IRP. The IRP also assigns a certain volume of emissions to each load serving entity as their allocated share of the state's combined heat and power (CHP) resources.

Preferred System Plan

The CPUC develops a Preferred System Plan (PSP), aggregating individual LSE's plans. This plan represents the total mix of resources at the system-level that the CPUC modeling shows is the most cost-effective way to achieve 8 MMT scenario while maintaining system reliability. Following adoption of the PSP, the CPUC sends the PSP as the 'best case' resource portfolio to the California Independent System Operator (CAISO) for inclusion in the annual Transmission Planning Process.

The PSP includes four important elements. First, it identifies the 2045 statewide electric sector GHG planning target (in this case, 8 MMT). Second, it recommends a portfolio of resources that the CPUC believes represents the least-cost, least risk way to achieve the GHG target and maintain system reliability (these resources are identified based on the CPUC's required inputs and assumptions, described above). Third, a GHG planning price is reported that represents the marginal cost of GHG abatement associated with the PSP; this is intended to provide a consistent way to demonstrate the value of demand and supply resources. Fourth, near-term CPUC policy actions may be incorporated with the stated intention of ensuring results from the IRP modeling to inform other CPUC proceedings.

Ava's Approach to IRP Compliance Analysis

Ava staff developed a Preferred Conforming Resource Portfolio to meet the CPUC's 8 MMT scenario. Ava's recommended portfolio was developed based on the CPUC's system-level

³ [Reliability Filing Requirements for Load Serving Entities' 2024-26 Integrated Resource Plans – Result of Marginal ELCC Studies](#)

candidate resource portfolios and costs, along with constraints imposed by regulatory requirements, board guidance, and risk management policy.

Staff incorporated details of Ava's existing contracts as the baseline for the portfolios. In addition, Staff incorporated long-term assumptions about the market price of energy, RA contracts, and renewable energy credits and allowed the GenX capacity expansion model to select the mix of incremental resources obtained through PPAs, bilateral contracts, and market purchases that allow Ava to achieve all applicable goals (i.e. 100% clean energy by 2030, share of the California emission targets) at the lowest total cost over the lifetime of the analysis.

The baseline list of existing contract resources incorporated into the modeling and the forecasted list of resources to build out the Preferred Resource Portfolio is listed in the Narrative Template, Table 1.

Results of Analyses & Recommended Compliance Portfolios

Using the approach described herein, Ava was able to achieve compliance with its share of the CPUC GHG emissions limits. The forward calculated annual CO₂ emissions from the portfolio are 0.82 million metric tons (MMT) in 2030 and 0.09 MMT in 2045, which are less than Ava's assigned GHG benchmarks of 1.106 MMT in 2030, 0.917 MMT in 2035, 0.767 MMT in 2040, and .391 MMT in 2045. Ava incorporated IRP retail load forecast with a 2030 load of 13,716 GWh and 20,658 GWh in 2045. A summary of results follows; additional details and visual aids are included as Attachment 1, "Integrated Resource Plan Compliance Results" PowerPoint.

- **Forecast Costs of Portfolio:** over the IRP planning horizon, the annual expense of the organization's optimal portfolio is expected to average \$79.02/MWh (2024 USD). Ava's reliance on the market for capacity and energy diminish over time as bundled contracts assume a larger proportions of Ava's portfolio. The portfolio results in an average procurement cost of \$1,281,203,790.05 per year (2024 USD) over the 2026 – 2045 planning horizon under the cost assumptions provided by the CPUC.
- **Resource Mix of Portfolios:** the total long-term contracted nameplate capacity associated with the Preferred Conforming Portfolio is 7,281 MW by 2040, plus an additional 1,764 MW of annual RA purchases. Of the 7,281 MW in long-term contracted resources, 5,191 MW represent new-build resources and 2,090 MW represent resources already under contract to Ava.
- **Portfolio Emissions:** Ava's Preferred Conforming Portfolio as calculated by the Clean System Power (CSP) calculator⁴ meets the obligations of the 8 MMT CPUC scenario. Ava's assigned GHG benchmark for 2030 and 2045 are 1.106 million metric tons (MTT) and 0.391 MMT, respectively. With reported emissions of 0.83 MMT in 2030 and 0.06 MMT in 2045, Ava's Preferred Conforming Portfolio meets both requirements. The primary sources of air pollutants represented in this portfolio are the result of four things: (1) of its reliance on system power to meet some unhedged hours, (2) energy storage charging hours, (3) some additional pollutants arising as a result of the agency's VAMO allocation, and (4) the behind-the-meter combined heat and power (CHP) emissions allocated to all load serving entities.

⁴ The Clean System Power (CSP) tool is an excel-based workbook provided the CPUC that estimates emissions from CAISO system's dispatchable thermal generation and unspecified imports and allocates them to LSEs based on their planned IRP portfolios.

- Risk Management associated with Portfolios
 - Overall: The Preferred Conforming Portfolio seeks to fill an energy need of approximately 17,748 GWh in 2035 and 19,658 GWh in 2040.
 - This IRP analysis does not incorporate short-term transactions which comprise a portion of Ava's hedging strategy. Ava does not enter into long-term contracts to cover 100% of its forecast demand; rather Ava incorporates short-term transactions and a limited amount of exposure to the CAISO spot market, representative of Ava's customer's share of PCIA resources, into its risk management strategy. Because this version of the IRP analysis does not include short-term transactions, the portfolio covers some portion of what Staff would likely hedge through short-term deals into the long-term resource portfolio and the remainder into what the model regards as purchases made in the CAISO market.
 - Similar and related to the lack of short-term transactions in the IRP model, neither are the short-term renewable and carbon free energy transactions Ava engages in to ensure it meets compliance obligations and customer commitments in a cost-effective manner incorporated, though in reality these transactions play a valuable role in Ava's portfolio management strategy.
 - Summary of Portfolios: Over the 2026-2045 study timeframe, the long-term resources that comprise the Preferred Conforming Portfolio are forecasted to provide approximately 19,931 GWh of delivered emissions-free energy in 2045 that can be used to meet demand. This provides coverage of 96.5% of Ava's forecast retail demand and leaves a forecasted open position in 2045 of 727 GWh per year that are assumed to be covered in the CAISO spot market but in actuality can be covered through short-term carbon-free energy transactions.

- Reliability of Portfolios
 - Staff evaluated portfolio reliability in relation to Ava's ability to meet its CPUC-designated Resource Adequacy obligations on an annual basis and in the month of September for every year during the study period. The results indicate that RA obligations can be achieved through a combination of existing RA contracts, long-term generation contracts (i.e. the resources described in the portfolios of Scenarios 1 and 2) and with additional RA purchases, similar to those Ava engages in today. The analyses also evaluated the number of "forced" & "simulated" hours of portfolio market exposure. In this case, "forced exposure" represents the number of hours where generating resources and energy storage are insufficient to meet demand. "Simulated exposure" represents the number of hours with net market purchases including energy storage charging.
 - Resource Adequacy: The long-term contracts anticipated in this portfolio represent sufficient capacity to meet annual RA obligations. It is important to note that the actual RA paradigm underwent a comprehensive redesign; having changed from a one target per month program to 24 different RA targets for each month. The RA program redesign went into effect for compliance purposes in 2025 but has not been incorporated into the IRP compliance study process as of this time.
 - Market Exposure: The computer-optimized portfolio initially resulted in a portfolio that would require significant curtailment under the constraints of the CSP, as the CSP required that "non-displaceable resources" be present. As a result of this finding, Ava modified its portfolio, eliminating some solar and in-state wind and replacing those resources with additional out of state wind and geothermal. These changes resulted in less energy curtailment in the middle of the day.

Additional contracted resources would result in an increase in the number of hours in which Ava was selling excess generation back into the market, often at times when solar production across the state is high and CAISO energy market prices are correspondingly low.

Next Steps

Ava must submit its 2026 IRP Compliance filing and all required materials to the CPUC by August 10, 2026. Following timely submission, Staff will undertake supplemental analysis utilizing the GenX model. The supplemental analysis will incorporate revised assumptions that better reflect the cost of resources offered to Ava in the current marketplace. Staff will also evaluate costs associated with expediting Ava's emission reduction objectives and related analyses.

Conclusion

Staff intends to file all IRP compliance materials with the CPUC by the August 10, 2026 deadline. Following submission, staff will agendize and seek Board consent of the final compliance materials in the September 2026 Board meeting. Later in 2026, staff will present a supplemental analysis to the Board describing costs and trade-offs associated with expediting portfolio emission reduction.

Committee Recommendation

Staff presented overviews of the IRP and the purpose of the compliance study process in January, 2026 and May, 2026 Board meetings; and preliminary IRP results in the July Executive Committee meeting. No recommendation was provided as this is a required compliance workstream.

Attachments

- A. Board Resolution
- B. Powerpoint Board presentation
- C. IRP Narrative Template draft – format is required by CPUC
- D. Resource Data Template – format is required by CPUC (Excel workbook available for download at https://avaenergy.org/wp-content/uploads/2026/07/15D._Resource_Data_Template_Redacted-4.xlsx)
- E. Clean System Power Calculator template - format is required by CPUC (Excel workbook available for download at https://avaenergy.org/wp-content/uploads/2026/07/15E._Clean_System_Power_Calculator_template_Redacted-4.xlsx)

RESOLUTION NO. R-2026-xx

A RESOLUTION OF THE BOARD OF DIRECTORS

**OF AVA COMMUNITY ENERGY AUTHORITY ACCEPTING THE RESULTS
OF THE IRP ANALYSIS AND AUTHORIZING STAFF TO SUBMIT THE 2026
IRP COMPLIANCE FILING TO THE CPUC**

WHEREAS Ava Community Energy Authority (“Ava”) was formed as a community choice aggregation agency (“CCA”) on December 1, 2016, under the Joint Exercise of Powers Act, California Government Code sections 6500 *et seq.*, among the County of Alameda, and the Cities of Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Piedmont, Oakland, San Leandro, and Union City to study, promote, develop, conduct, operate, and manage energy-related climate change programs in all of the member jurisdictions. The cities of Newark and Pleasanton, located in Alameda County, along with the City of Tracy, located in San Joaquin County, were added as members of Ava and parties to the Joint Powers Agreement (“JPA”) in March of 2020. The city of Stockton was added as a member to Ava in September of 2022. The city of Lathrop was added as a member to Ava in October of 2023. San Joaquin County was added as a member to Ava in July 2024. On October 24, 2023, Ava legally adopted the name Ava Community Energy Authority, where it had previously used the name East Bay Community Energy Authority since its inception.

WHEREAS the California Public Utilities Commission (CPUC) issued several rulings in CPUC Rulemaking 25-06-019, namely an *Assigned Commissioner’s Scoping Memo and Ruling* on October 28, 2025; an *Administrative Law Judge’s Ruling Setting Requirements for Individual Integrated Resource Plans Due June 1, 2026* on January 16, 2026; an *Email Ruling Granting Joint Request for Extension of Load Serving Entity (‘LSE’) Integrated Resource Plan (‘IRP’) Filings* on March 9, 2026; and an *Administrative Law Judge’s Ruling Correcting Table in January 16, 2026 Filing Requirements Ruling and Confirming August 10, 2026 Integrated Resource Plan Due Date* on March 20, 2026, collectively defining IRP filing requirements and requiring jurisdictional load serving entities to file 2026 Integrated Resource Plans (IRP) with the CPUC on or before August 10, 2026; and

WHEREAS the CPUC further requires entities utilize three document templates to complete their filings: the Narrative Template, the Resource Data Template, and the Clean System Power (CSP) Calculator; and

WHEREAS Ava staff has presented the IRP analysis performed by staff to the Board.

**NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE AVA
COMMUNITY ENERGY AUTHORITY DOES HEREBY RESOLVE AS FOLLOWS:**

Section 1. The Board hereby accepts the results of the IRP analysis performed by staff.

Section 2. The Board authorizes the CEO and staff to further revise the required document templates to ensure accuracy between the required templates and the compliance portfolio as presented to the Board.

Section 3. The Board hereby authorizes staff to submit the 2026 IRP compliance filing to the CPUC by August 10, 2026.

ADOPTED AND APPROVED this 15th day of July, 2026.

Betsy Andersen, Chair

ATTEST:

Adrian Bankhead, Clerk of the Board

Integrated Resource Planning - 2026

Marie Fontenot & John Newton | July 15,
2026



Agenda

- **Introduction & Overview**
- **Required Materials**
- **Timeline & Process**
- **Description of Modeling**
- **Compliance Requirements**
- **Overview of Modeling Inputs**
- **Overview of Modeling Results – the “Preferred Conforming Portfolio”**
- **Next Steps & Conclusion**

Overview of Integrated Resource Planning (IRP)

- This presentation discusses the Integrated Resource Planning (IRP) analysis performed by Staff, as is required by the CPUC prior to the compliance filing to the CPUC on August 10, 2026.
 - Staff have reviewed the details of the current IRP process and analysis in 2026 at the January and May Board and CAC meetings; and the July Executive Committee.
- The California Public Utility Commission's (CPUC) IRP program is a long-term planning process to ensure enough generation capacity is built to:
 1. Reliably meet customer demand;
 2. Meet greenhouse gas reduction targets.
- CPUC staff use capacity expansion modeling to determine the optimal mix of resources needed to meet requirements 1 and 2.
- To inform their modeling, the CPUC requires Load Serving Entities (LSEs) to submit our own IRP portfolios identifying least-cost, GHG-compliant resource mix to meet our customer demand.
- Ava's IRP Portfolio submission is both a compliance requirement *and* an opportunity to express our procurement preferences .

Submission of Ava's IRP

- On a schedule defined by the CPUC, Ava is required to submit an IRP LSE Plan that meets CPUC-determined reliability and decarbonization metrics
 - Previous Ava (or EBCE) IRP Plans: 2018, 2020, 2022.
 - 2024 IRP delayed; functionally evolved into 2026 IRP. Due August 10.
- Specifically, Ava must submit:
 - Resource Data Template (RDT): Summary of current and planned procurement;
 - Clean System Power (CSP) Calculator: Evaluation of portfolio emissions;
 - Narrative Template (NT): Description of portfolio and modeling process.
- GenX modeling *informs*, but does not directly translate into, these deliverables.
- Per CA statute, Ava must submit its IRP Plan to its governing board for approval.
- Ava will complete additional IRP modeling utilizing different market assumptions, constraints, and modeling parameters purely for internal analysis following this exercise.

The Filing – Required Materials & Examples

Narrative Template (NT)

- Executive Summary
- Study Design
- Study Results
- Action Plan
- Lessons Learned
- Note: each section has required, defined subsections
- Ava's 2026 IRP Narrative Template is attached.

Resource Data Template (RDT)

- Excel workbook; many, many tabs
- Contract list w/ details
- Confirm contracts / resources are assumed to have “right” capacity factors based on when they come online & other details
- Summarize capacity value of resource
- Summarize types of resources in portfolio
- Ava's 2026 IRP RDT for 8 MMT portfolio is attached.

Clean System Power Calculator (CSP)

- Tool to estimate GHG & criteria pollutant emissions in portfolios
- Requirement to use this tool & method for emission accounting in IRP filing
- Only relevant to forecasting emissions, not calculating actual emissions
- Excel workbook; many, many tabs
- Ava's 2026 IRP CSP for 8 MMT portfolio is attached.

Above links as well as Ava's 2018, 2020, 2022 IRPs can be found online at: <https://avaenergy.org/about-ava/key-documents/integrated-resource-plan/>; the 2026 IRP will be added to Ava's website following submission to the CPUC.

Timeline & Process

Date	Event
February 10, 2026	Final IRP modeling & filing requirements provided by CPUC
March 10, 2026	IRP filing deadline of Aug 10 was set by CPUC
April – May, 2026	Preliminary GenX modeling
May – July, 2026	Final GenX modeling & document preparation
July 15, 2026	Ava Board July meeting seeking board approval
July 16 – Aug 5, 2026	Final updates & edits to formal submissions
Aug 5-10, 2026	Regulatory team works with outside counsel on redactions and final submission
August 10, 2026	IRP filing deadline to CPUC
September 16, 2026	Officially filed IRP materials will be added to the Consent agenda in Board meeting and later posted on Ava website

- **GenX model**

- Open-source tool to support investment planning
- Developed by the MIT Energy Initiative and Princeton University's Zero-carbon Energy systems Research and Optimization (ZERO) Lab¹
- A least-cost optimization model, acts as central planner to determine cost-optimal generation portfolio, energy storage, and transmission investment needed to meet defined system demand while adhering to various grid constraints and market design constraints
- Contains thousands of lines of data, each “successful” model runs takes ~3-4 hours

- **Need for compliance between GenX and filing materials...**

- Calculations are slightly different btw GenX and the CSP calculator. “Translation” is tricky.
- GenX could appear compliant with CPUC requirements, then calculation in CSP could demonstrate different emissions or RDT calculation could demonstrate an RA-lack of compliance. Results in need for re-runs and corrections.
- Materials that Ava Board approves in July may require slight revision to align different modeling calculations, to accurately represent the GenX modeled portfolio in required CPUC templates, and to remove “errors” in cells.

¹ <https://energy.mit.edu/genx/>

IRP Approval & Compliance

Ava must submit its IRP Plan to its governing board for approval and provide its IRP Plan to the CPUC for certification per Public Utilities Code Section 454.52(b)(3)

Ava's IRP Plan must meet Reliability and Renewable Procurement Requirements with a diverse resource mix, avoid energy shortfalls, minimize ratepayer costs, minimize GHG and local air pollutants

Required Areas	Where / how it appears
Economic, reliability, security & other benefits	NT, RDT, CSP describe RPS content, forecast annual emissions; estimate portfolio costs under different market conditions
Diverse resource portfolio	- Compliance portfolio will include short- & long-term procurement; variety of generation resources (not all solar!) - NT describes Ava's customer programs (e.g. Resilient Home and VPP products)
Resource adequacy requirements	NT, RDT will describe how portfolio satisfies near-term and forecasted long-term RA requirements

IRP Approval & Compliance

Pursuant to California State Law, Ava must submit its IRP Plan to its governing board and provide its IRP Plan to the CPUC for certification.

Per Public Utilities Code Section 454.52(b)(3), Ava's IRP Plan must achieve the following statutory requirements:

(A) Economic, reliability, security, and other benefits and performance characteristics that are consistent with these goals:

- Meets GHG reduction targets established by CARB and CEC
- Procured with at least 60% RPS resources by 2030
- Minimizes impacts on ratepayer bills
- Ensures grid reliability on the short, mid, and long term, including
 - Meet near-term and forecasted long-term RA requirements
 - Requires sufficient, predictable resource procurement and development to avoid unplanned energy shortfalls after accounting for climate change, forecasted building and transportation electrification, and other factors causing unplanned energy shortfalls
- At least 65% of an LSE's RPS procurement in any compliance period must be from contracts of at least a 10-year term
- Strengthens the diversity, sustainability, and resilience of the bulk transmission and distribution systems, and local communities
- Enhances distribution systems and demand-side energy management
- Minimizes GHG and local air pollutants, with early priority for disadvantaged communities
- Maintains a diverse portfolio of resources

Translation: Ava's IRP Plan must meet Reliability and Renewable Procurement Requirements with a diverse resource mix, avoid energy shortfalls, minimize ratepayer costs, minimize GHG and local air pollutants.

IRP Approval & Compliance

Attachment Staff Report Item 15B

Requirement	Where / how it appears
Meets GHG reduction targets established by CARB and CEC	CSP & NT-Section III. C.
Procured with at least 60% RPS resources	RDT & NT-Section III. A., B., C.
Minimizes impacts on ratepayer bills	NT-Section III. E.
Ensures grid reliability on the short-, mid-, and long-term, including: • Meet near-term and forecasted long-term RA requirements • Requires sufficient, predictable resource procurement ... to avoid unplanned energy shortfalls after accounting for climate change ... and other factors causing unplanned energy shortfalls	NT-Section III. F. & Section IV. A
At least 65% of an LSE's RPS procurement in any compliance period must be from contracts of at least a 10-year term	RDT & NT-Section III. B. & C.
Strengthens the diversity, sustainability, and resilience of the bulk transmission and distribution systems, and local communities	NT-Section IV. A. & B.
Enhances distribution systems and demand-side energy management	NT-Section IV. A.
Minimizes GHG and local air pollutants, temporally prioritizing disadvantaged communities	CSP & NT-Section IV. B.
Maintains a diverse portfolio of resources	RDT & NT-Section III. B.

Underlying Model Assumptions



CPUC Requirements

Required Inputs

- Load forecast & GHG benchmark for each LSE
- CAISO zonal topology
- Resource regions align with CAISO study areas
- Rules on candidate resources; i.e. **x** much natural gas for whole system, **x** much geothermal, **x** much in-state wind, **x** much out-of-state wind, etc)
 - Includes rules for different resource capacity factors
 - Resource cost assumptions
 - Restrictions on how much of a resource type can be developed in different areas
 - Resource generation profiles
- Planning reserve margin and resource capacity factors using effective load carrying capability (ELCC) methodology
- 2024 dollar year – nominal \$ referenced throughout

CPUC Candidate Resources (2030)

Resource	Levelized Cost of Energy (\$/MWh)	Levelized Fixed Cost (2024 \$/MW-yr) <i>nominal</i>
Geothermal_-_CA	\$97.13	\$680.70
NF_EGS_-_NV_to_SCE_-_Control	\$142.34	\$997.48
NF_EGS_-_NV_to_SCE_-_Eldorado	\$138.40	\$969.88
NF_EGS_-_OR_to_PGE_-_Malin	\$134.77	\$944.48
Onshore_Wind_-_NE_CA_to_PGE_-_Malin	\$102.76	\$234.42
Onshore_Wind_-_NM_to_SCE_-_Lugo_-_Tranche_5	\$77.52	\$255.56
Onshore_Wind_-_NM_to_SCE_-_Palo_Verde_-_Tranche_1	\$69.64	\$229.59
Onshore_Wind_-_NM_to_SCE_-_Palo_Verde_-_Tranche_2	\$79.65	\$262.58
Onshore_Wind_-_NM_to_SCE_-_Palo_Verde_-_Tranche_3	\$84.37	\$278.15
Onshore_Wind_-_NM_to_SCE_-_Palo_Verde_-_Tranche_4	\$87.77	\$289.36

Resource	Levelized Cost of Energy (\$/MWh)	Levelized Fixed Cost (2024 \$/MW-yr) <i>nominal</i>
Onshore_Wind_-_WY_to_PGE_-_Tesla_-_Tranche_1	\$102.93	\$360.70
Onshore_Wind_-_WY_to_PGE_-_Tesla_-_Tranche_2	\$102.93	\$360.70
PGE_Fresno_Solar	\$51.89	\$139.03
PGE_GBA_Solar	\$52.01	\$139.03
PGE_GBA_Wind	\$68.99	\$174.16
PGE_Kern_Solar	\$49.49	\$139.03
PGE_Kern_Wind	\$68.99	\$174.16
PGE_NGBA_Solar	\$52.56	\$139.03
PGE_NGBA_Wind	\$76.35	\$174.16
SCE_Arizona_Solar	\$42.71	\$119.84

CPUC Candidate Resources (2030)

Resource	Levelized Cost of Energy (\$/MWh)	Levelized Fixed Cost (2024 \$/MW-yr) <i>nominal</i>
SCE_Eastern_Solar	\$47.60	\$139.03
SCE_Eastern_Wind	\$61.87	\$174.16
SCE_EOP_Wind	\$59.78	\$159.44
SCE_Metro_Solar	\$49.58	\$139.03
SCE_NOL_Solar	\$45.56	\$139.03
SCE_NOL_Wind	\$79.28	\$174.16
SCE_Northern_Solar	\$45.91	\$139.03
SCE_Northern_Wind	\$79.28	\$174.16
SDGE_Arizona_Solar	\$42.71	\$119.84
SDGE_Baja_California_Wind	\$61.87	\$174.16
LDES_-_Generic_100-hr	\$3,166.62	\$569.99

Resource	Levelized Cost of Energy (\$/MWh)	Levelized Fixed Cost (2024 \$/MW-yr) <i>nominal</i>
SDGE_Imperial_Solar	\$49.79	\$139.03
SDGE_Imperial_Wind	\$61.87	\$174.16
Li-ion_Battery_4-hr_-_CA	\$121.36	\$135.54
Li-ion_Battery_8-hr_-_CA	\$101.47	\$226.66
Gas_CCGT	\$55.95	\$184.22
Gas_CT_-_Frame	\$234.90	\$173.72
Reciprocating_Engine	\$421.40	\$341.34
Morro_Bay_Offshore_Wind	\$338.64	\$1,377.01
Humboldt_Bay_Offshore_Wind	\$319.32	\$1,377.01
LDES_-_Generic_12-hr	\$192.28	\$403.79
LDES_-_Generic_24-hr	\$350.36	\$504.52

Strategy Assumptions

Category	Constraint
Maximum Available Capacity	0MW in 2026, No limit beyond 2028
Maximum Market Purchase	1000MW per hour
Maximum Market Sale	1000MW per hour
Maximum Out of State Wind Available Capacity	N/A (New Mexico Wind starts in 2028, Wyoming Wind starts in 2030)
PCIA Hedging Strategy	Incorporated
Minimum Annual Available Capacity	70MW mandated Geothermal/Long-Duration Storage by 2032
Market Buy-Sell Spread	\$1 per MWh
Maximum In-State Wind Available Capacity	250MW per year until 2030, 1000MW per year between 2031-2035
Production Tax Credit & Investment Tax Credit	PTC is available in 2026-2030; ITC is incorporated in the levelized fixed cost (From TPP)

Clean Energy Requirements

Year	State-level RPS Requirements (%)	Ava-internal clean energy requirement	GHG Emissions Benchmark (MMT)
2026	49.2%	76.6%	1.106
2028	54.6%	90.0%	1.106
2030	60.0%	100.0%	1.106
2035	60.0%	100.0%	0.917
2040	60.0%	100.0%	0.767
2045	60.0%	100.0%	0.391

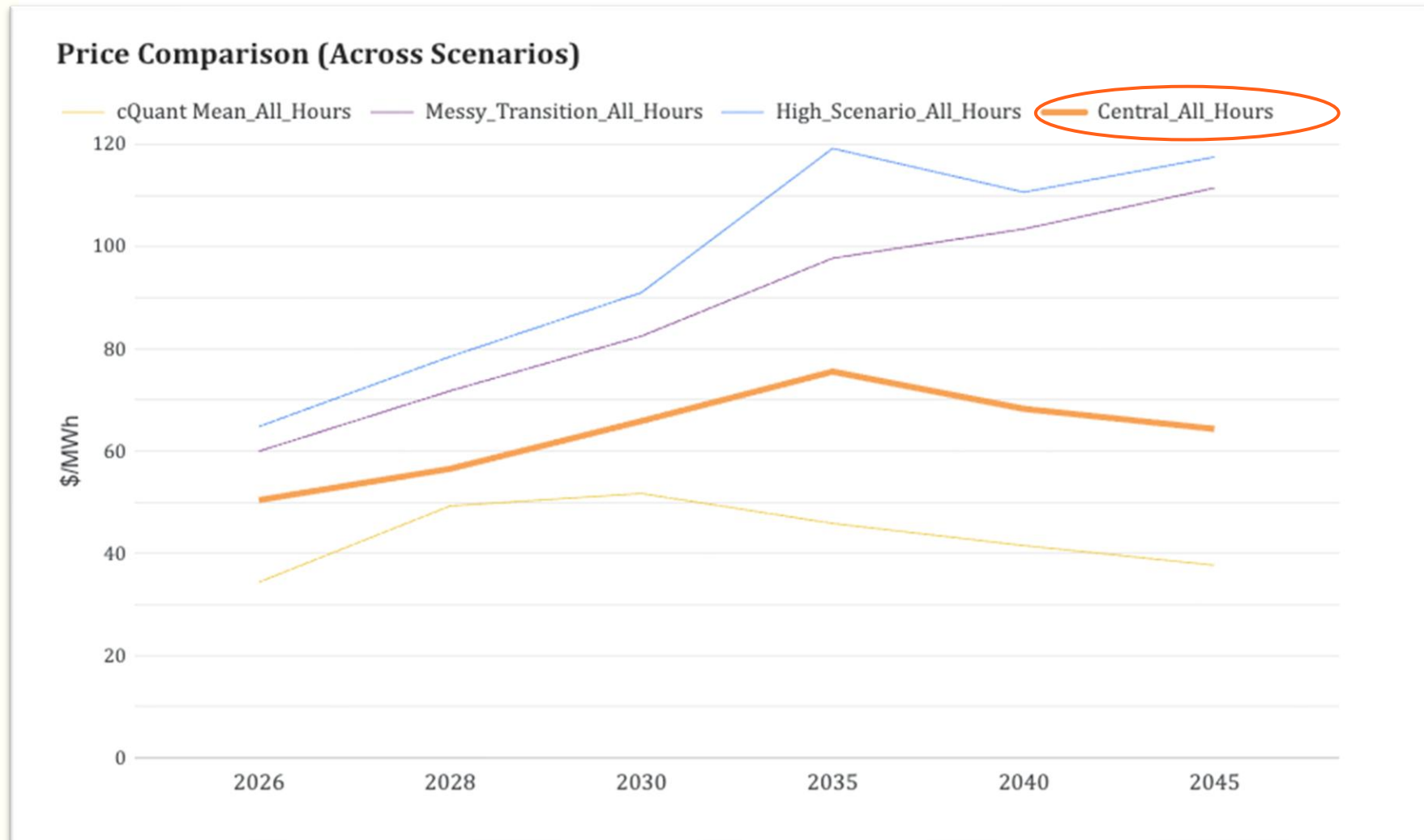
What is “clean energy”?

- Ava’s Board-approved target is 100% carbon-free energy, as measured on a net-annual basis, by 2030. Rules consistent with Power Source Disclosure Report
- “GHG Emissions Benchmark” is consistent with CARB-established rules; every LSE is allocated an emission limit they must design portfolio to comply with

Key takeaway: Ava’s compliance portfolio and any “real” procurement far exceeds the State’s RPS requirements

Updated Market Prices

Average DLAP prices from Ava Internal modeling vs. Aurora Price Forecast Curves

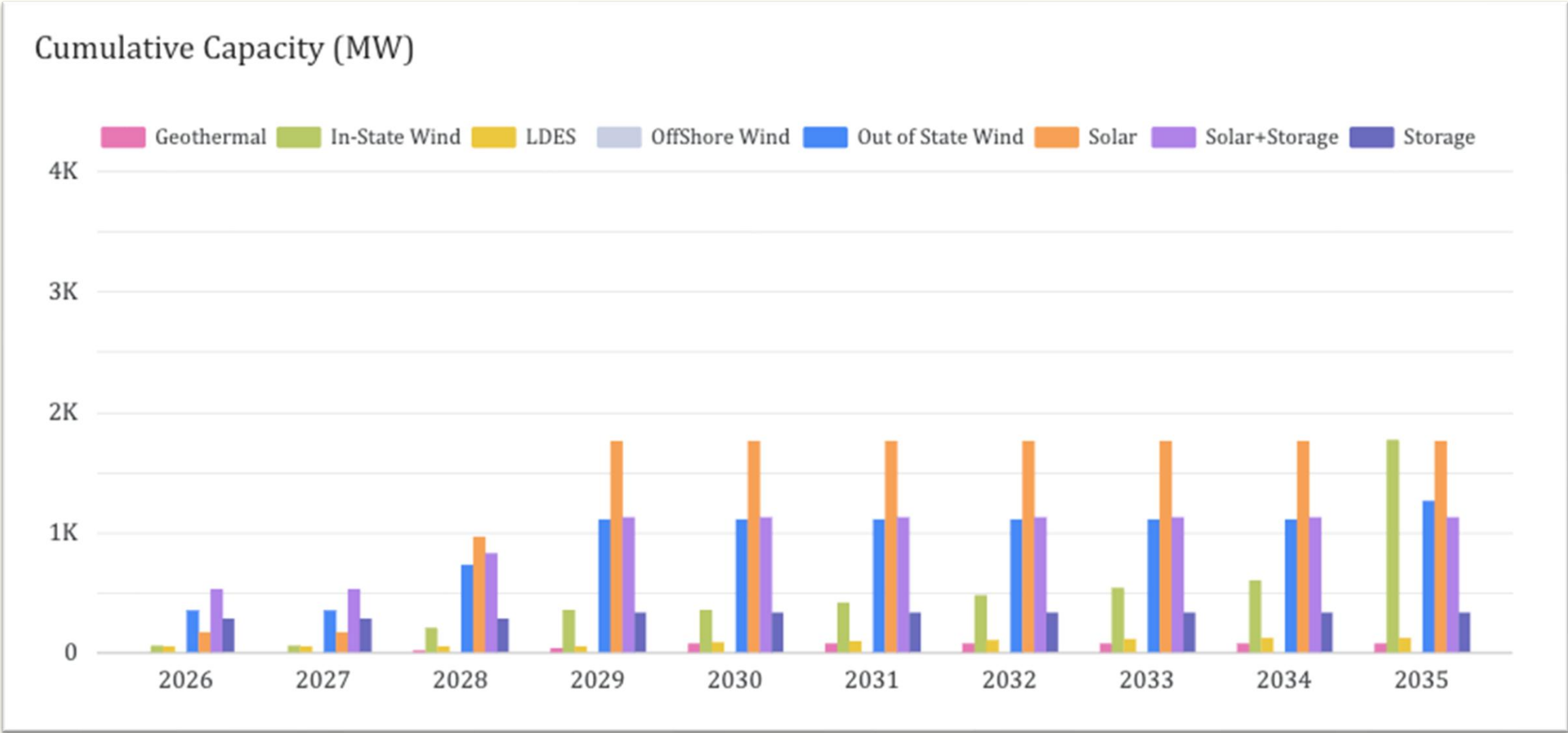


- Ava evaluated portfolios that effectively meet multiple different price scenarios.
- Ava selected the portfolio that fits the “Central” price scenario **as the basis of** the Compliance Portfolio, i.e. the “Preferred Conforming Portfolio”
- Note: forward curves and resource prices are the most impactful sensitivities

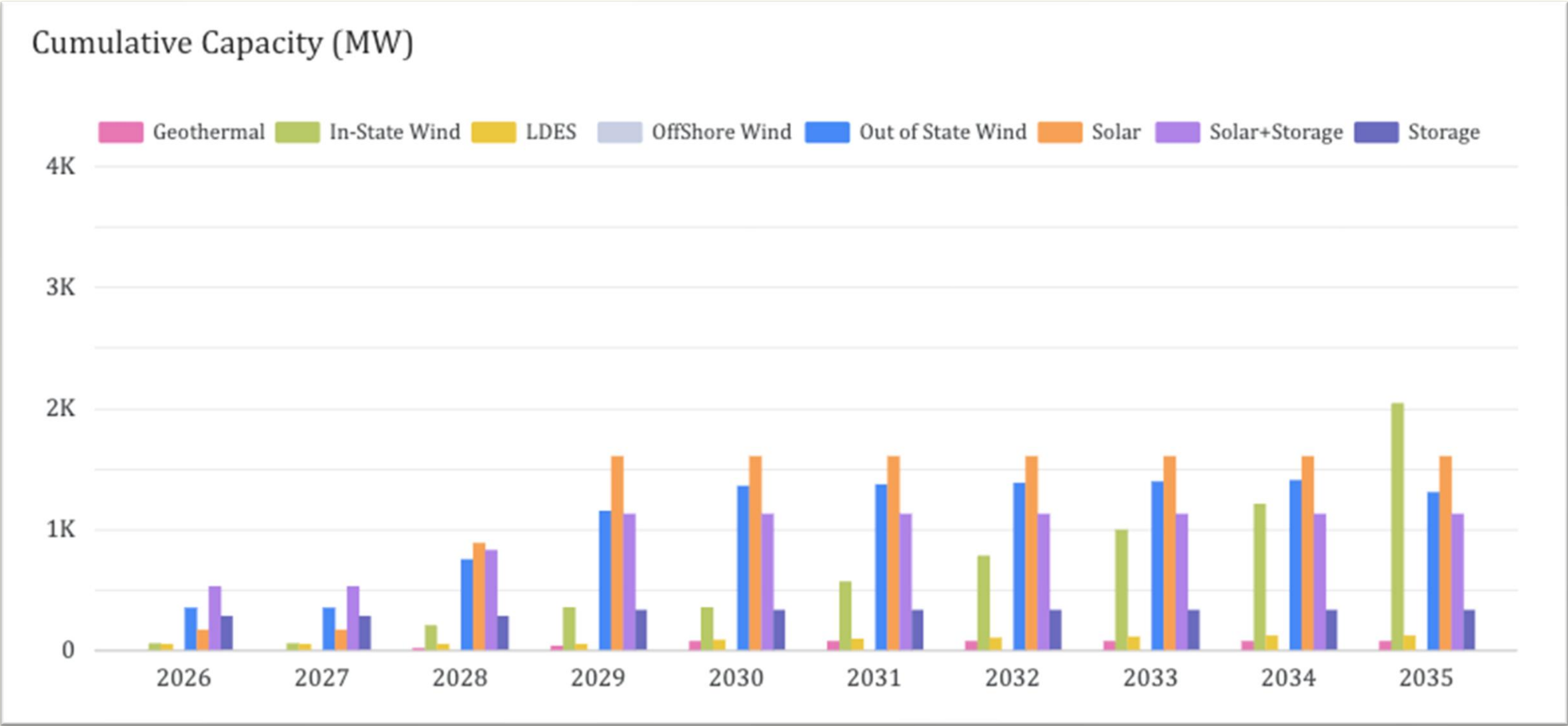
GenX Model Results & Overview of the “Preferred Conforming Portfolio”



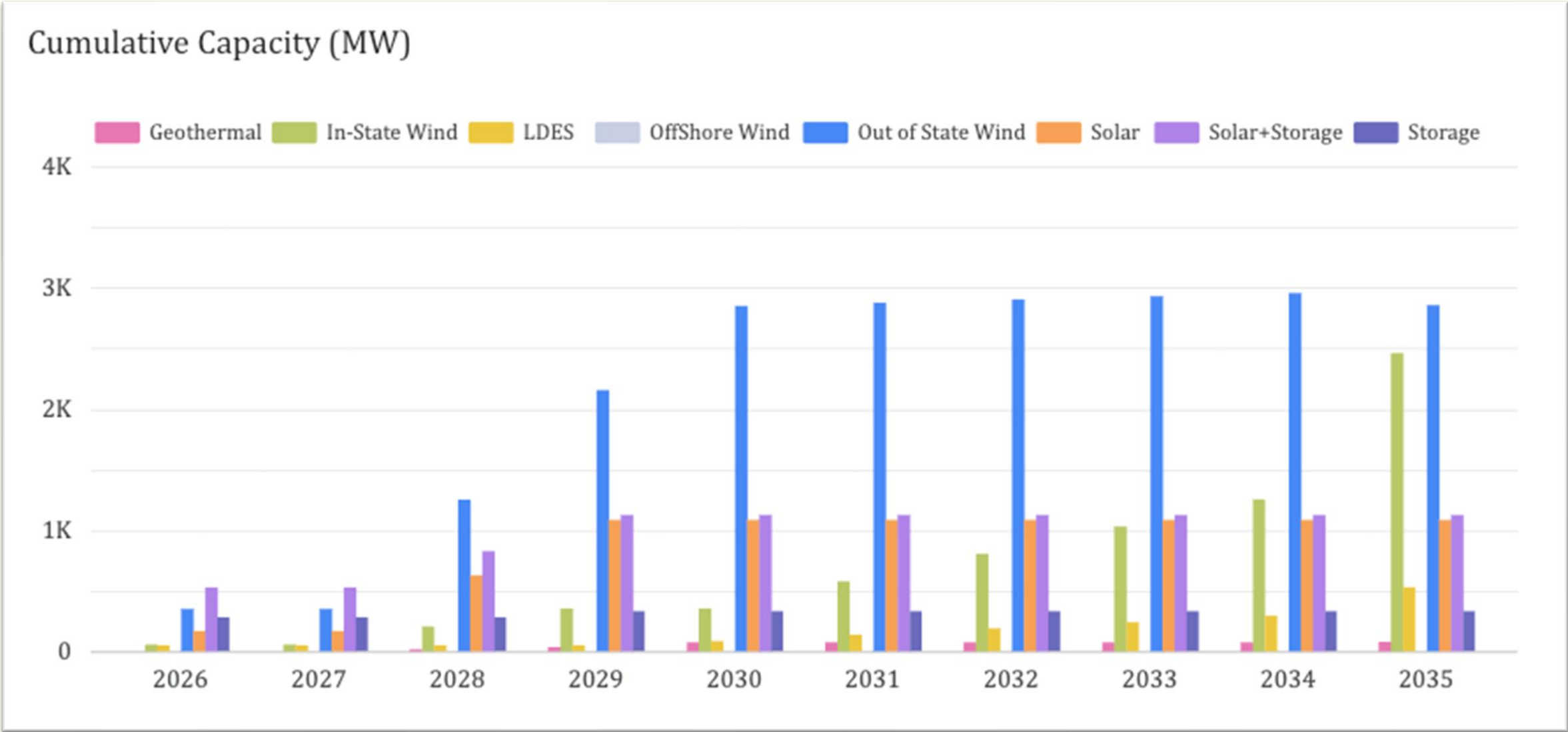
Cumulative Capacity Results - “cQuant Mean”



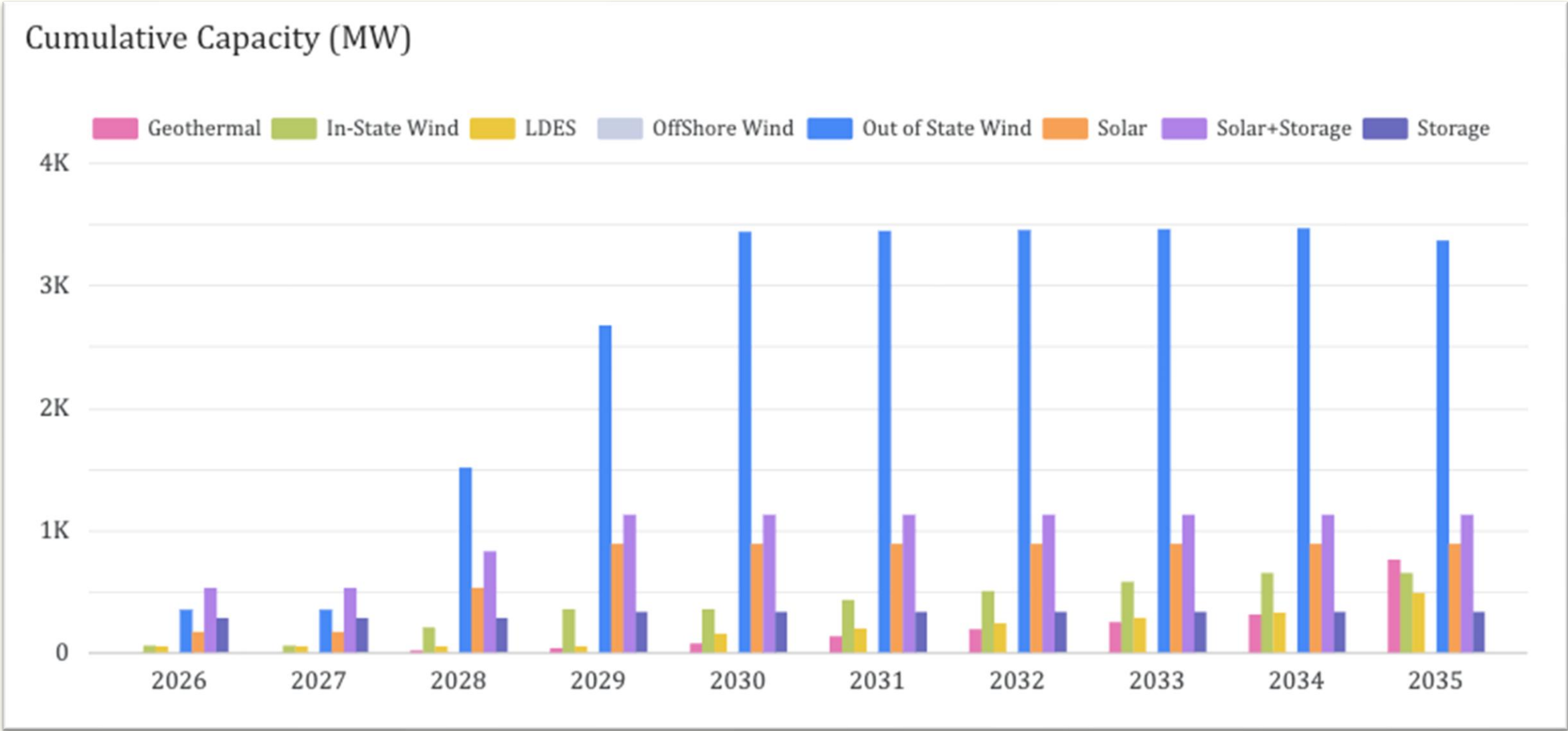
Cumulative Capacity Results - “Central”



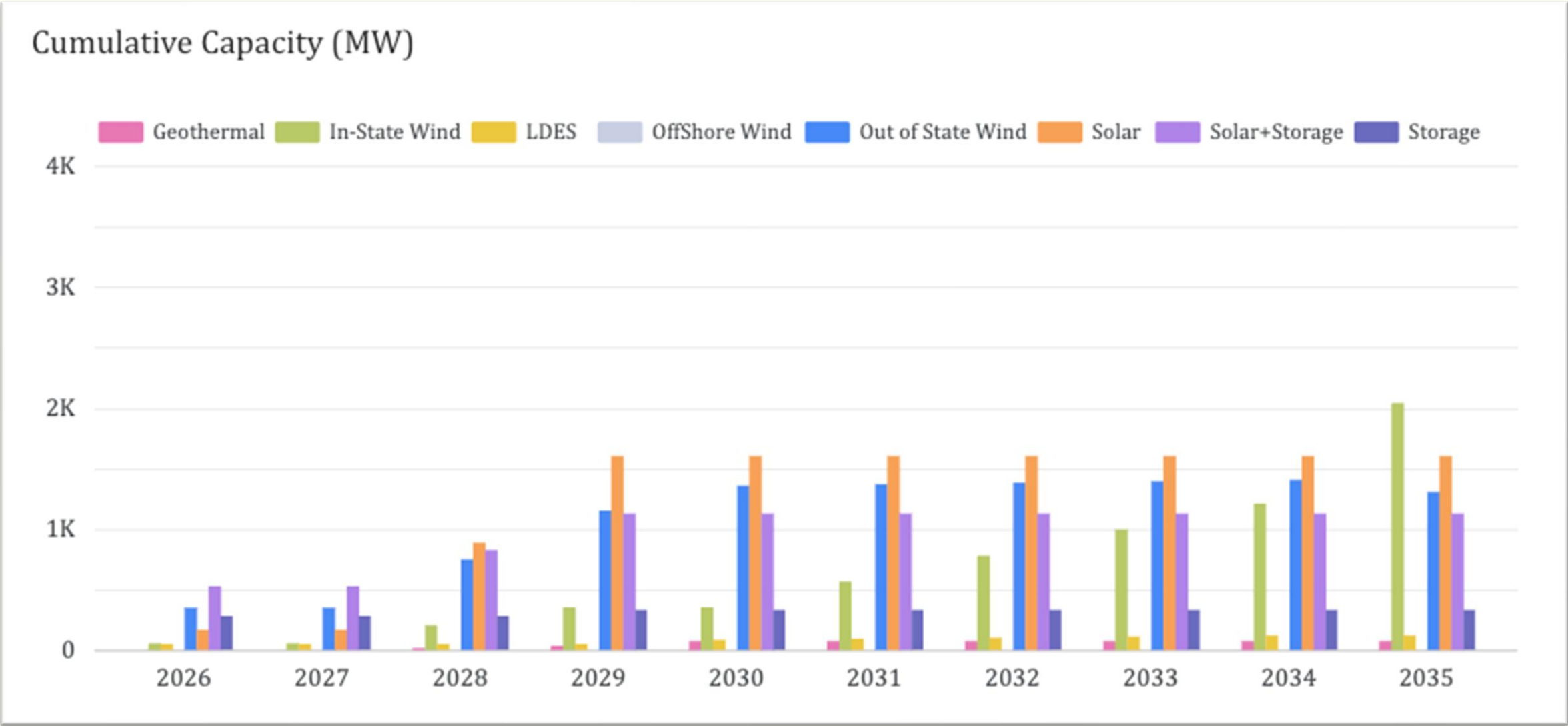
Cumulative Capacity Results - “Messy Transition”



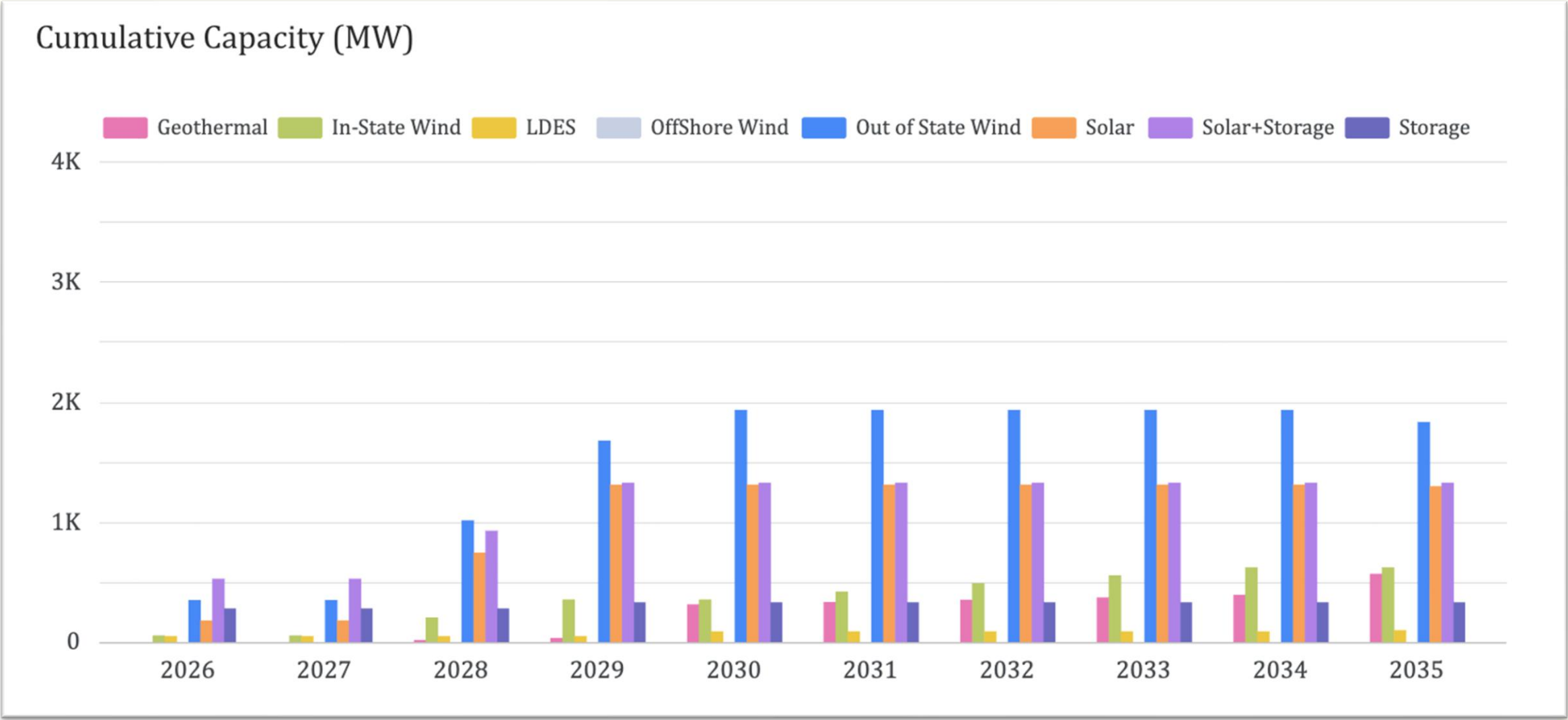
Cumulative Capacity Results - “High Scenario”



Conforming Portfolio for CPUC - “Central”



Revised Conforming Portfolio - “Central” Curve



Estimated Portfolio Emissions & Contribution to Statewide Emissions

Ava’s GHG MMT Benchmark, provided by CPUC, under statewide 8MMT in 2045 target

Year	2030	2035	2040	2045
GHG MMT/yr	1.106	0.917	0.767	0.391

Calculated emissions associated with Preferred Conforming Portfolio

Emission Type	Unit	2028	2030	2035	2040	2045
CO ₂	MMT/yr	0.83	0.82	0	0	0.09
PM 2.5	tonnes/yr	51	50	0	0	7
SO ₂	tonnes/yr	5	5	0	0	1
NOx	tonnes/yr	79	77	16	0	7

Calculated emissions include Ava’s “share” of the state’s Combined Heat & Power (CHP) portfolio
Note: IRP emissions accounting method is NOT consistent with Power Content Label (PCL) accounting

Attachment Staff Report Item 15B

For Reference – IRP Emissions vs Power Content Label

IRP Portfolio Requirement:

Year	2030	2035	2040	2045
MMT/yr	1.106	0.917	0.767	0.391

Ava Preferred Conforming Portfolio:

Emission Type	Unit	2028	2030	2035	2040	2045
CO ₂	MMT/yr	0.83	0.82	0	0	0.09

IRP uses hourly Clean Net Short
PCL uses annual netting

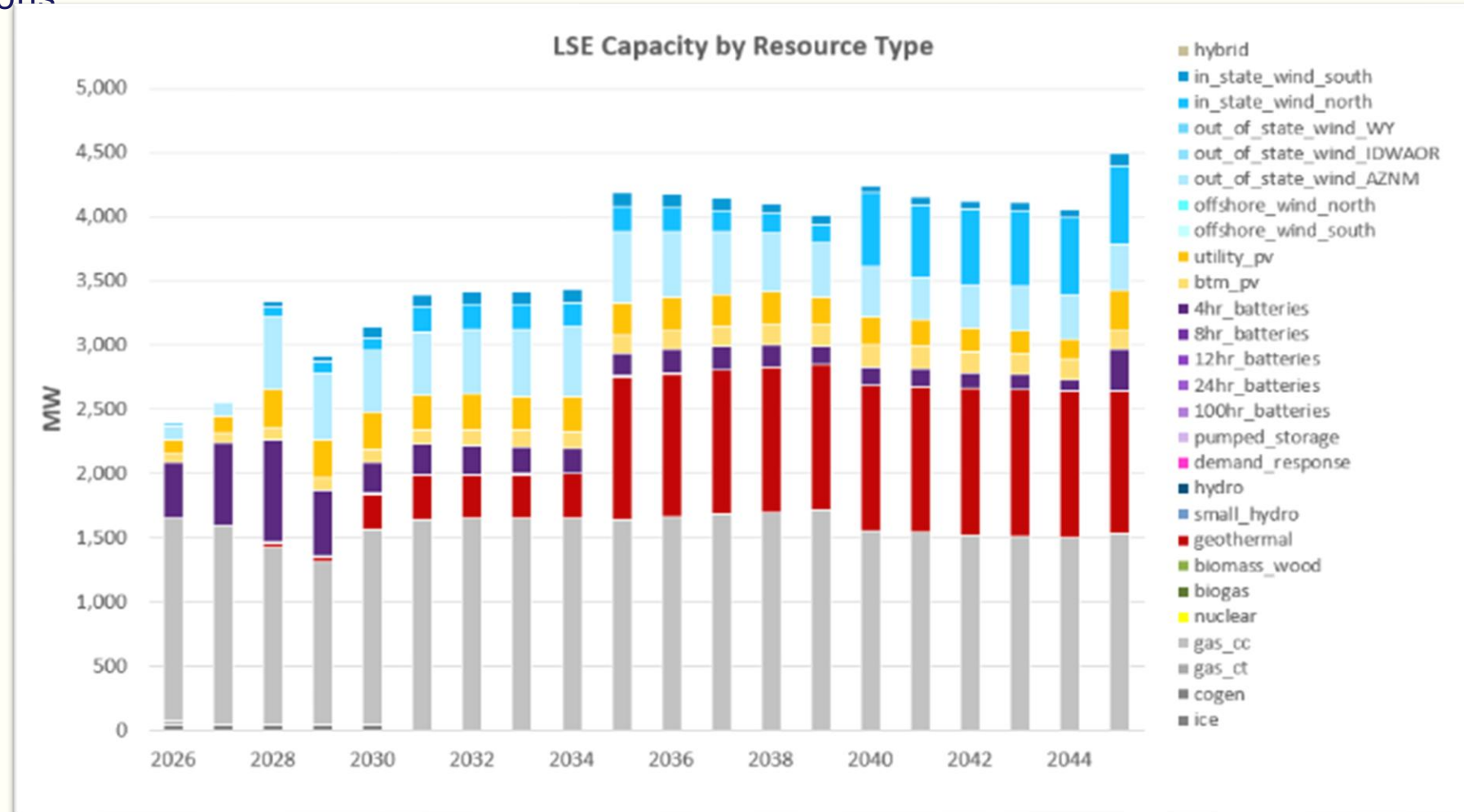
2024 POWER CONTENT LABEL			
Ava Community Energy			
	Bright Choice	Renewable 100	CA Utility Average
Greenhouse Gas Emissions Intensity (lbs of CO ₂ e emitted per megawatt hour)	221	0	359
Electricity Sources			
■ Renewables and Zero-Carbon Resources			
■ Fossil Fuels and Unspecified Power			
RPS Eligible Renewables	62%	100%	45%
Biomass & Biogas	10%	0%	2%
Geothermal	1%	0%	5%
Eligible Hydroelectric	2%	0%	2%
Solar	18%	77%	23%
Wind	31%	23%	14%
Large Hydroelectric	34%	0%	10%
Nuclear	0%	0%	11%
Emerging Technologies	0%	0%	0%
Other	0%	0%	0%
Natural Gas	0%	0%	10%
Coal & Petroleum	0%	0%	2%
Unspecified Power (primarily fossil fuels)	4%	0%	22%
Total	100%	100%	100%
Retail sales covered by retired unbundled RECs	0%	0%	
■ This label does not reflect compliance with the Renewables Portfolio Standard (RPS), which measures the use of tracking instruments called Renewable Energy Credits (RECs) over the course of multi-year compliance periods. RECs that are purchased separately from the renewable energy ("Unbundled RECs") can be used for RPS compliance, but they do not factor into the power mixes or GHG emissions intensities above. ■ GHG intensity figures exclude biogenic CO₂ and emissions from geothermal sources and grandfathered imports of firmed-and-shaped energy. For detailed information about all GHG emissions from California's retail electricity suppliers, visit the CEC webpage at the link below. ■ Unspecified power is electricity purchased from a genericized pool on the open market.			
https://avaenergy.org/about-ava/key-documents/		Want to learn more? Visit https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure-program	

Attachment Staff Report Item 15B

Result here demonstrate *example* of RA compliance for the purpose of the IRP analysis; not an instruction to or commitment to enter transactions

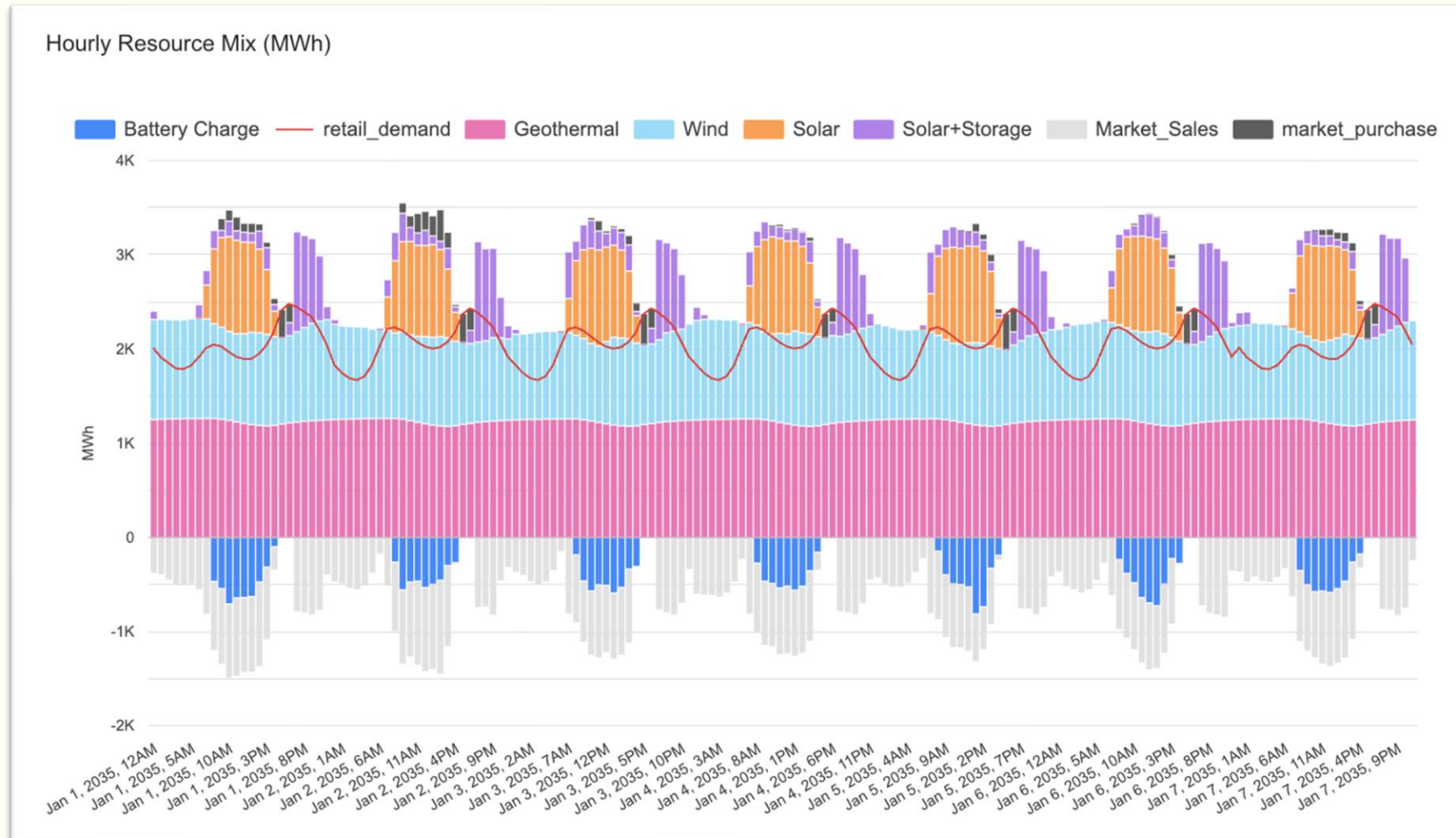
- https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/20230210_irp_e3_astrape_updated_incremental_elcc_study.pdf

- construct.** https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/resource-adequacy-homepage/ra_t3b2_workshop-1_presentation-np.pdf



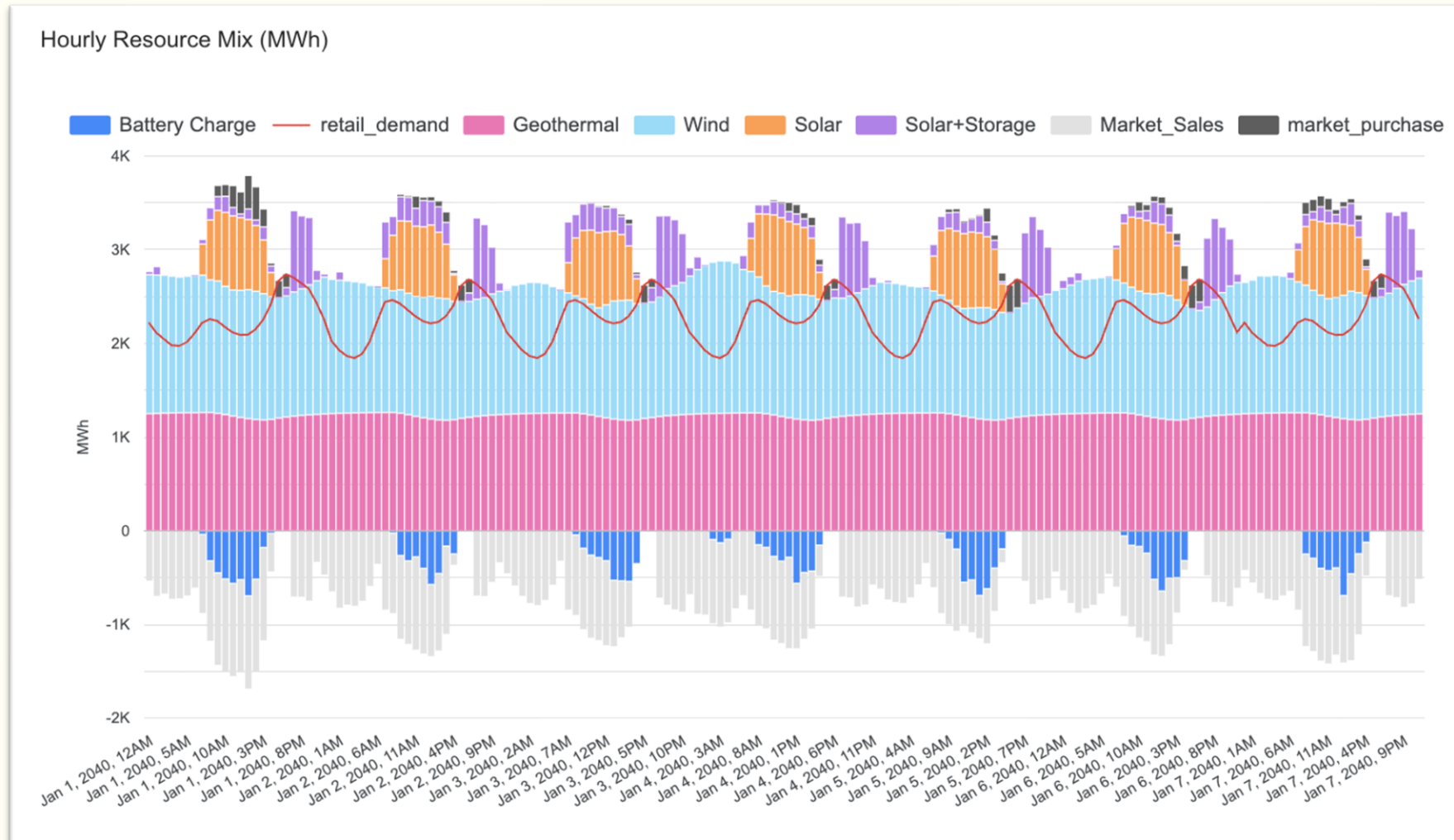
Annual Portfolio Generation & Contribution to Hedging

Estimation of annual generation from Ava's compliance portfolio and value/ability of portfolio to contribute to hedging in **January 2035**



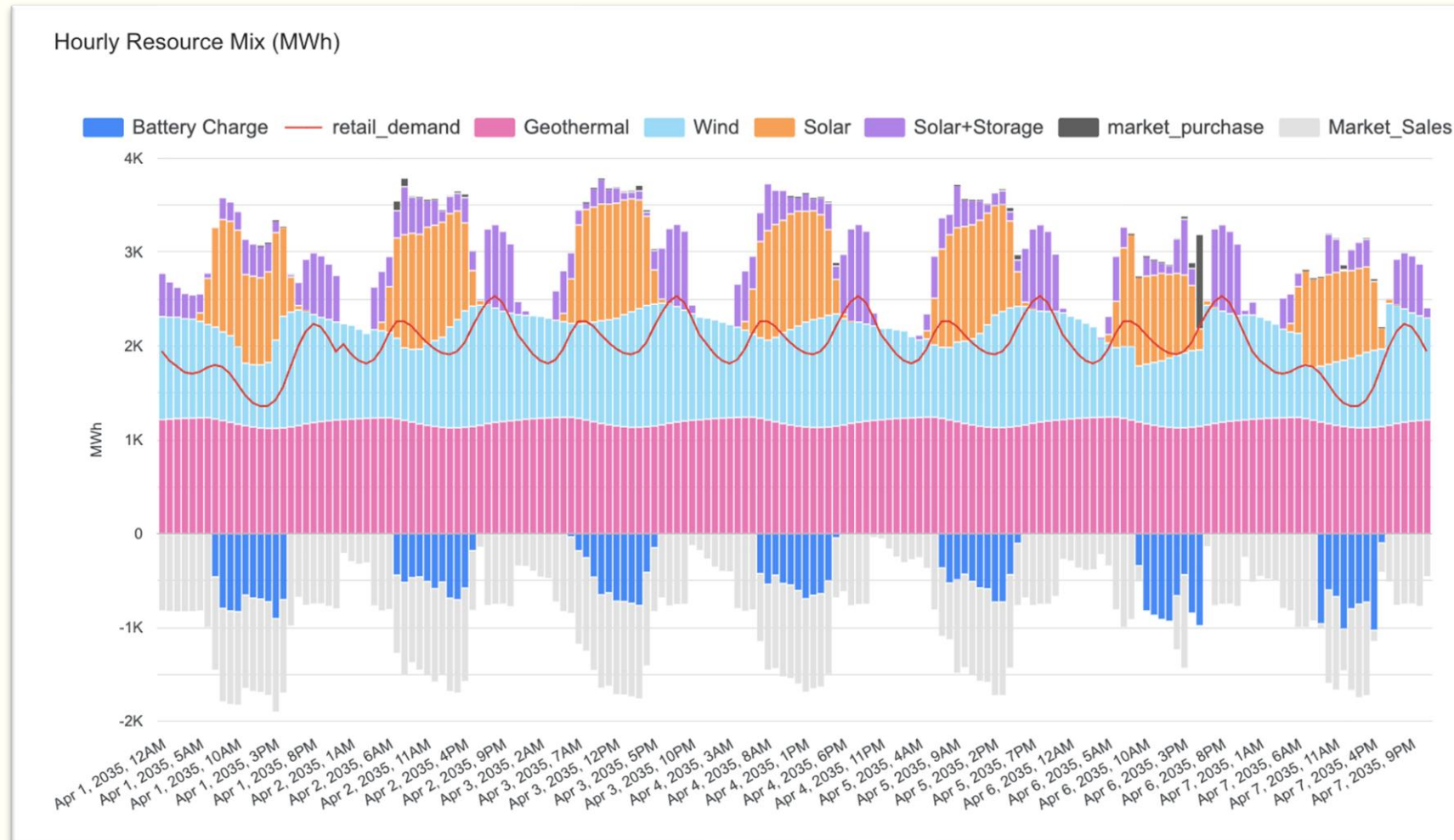
Annual Portfolio Generation & Contribution to Hedging

Estimation of annual generation from Ava's compliance portfolio and value/ability of portfolio to contribute to hedging in **January 2040**



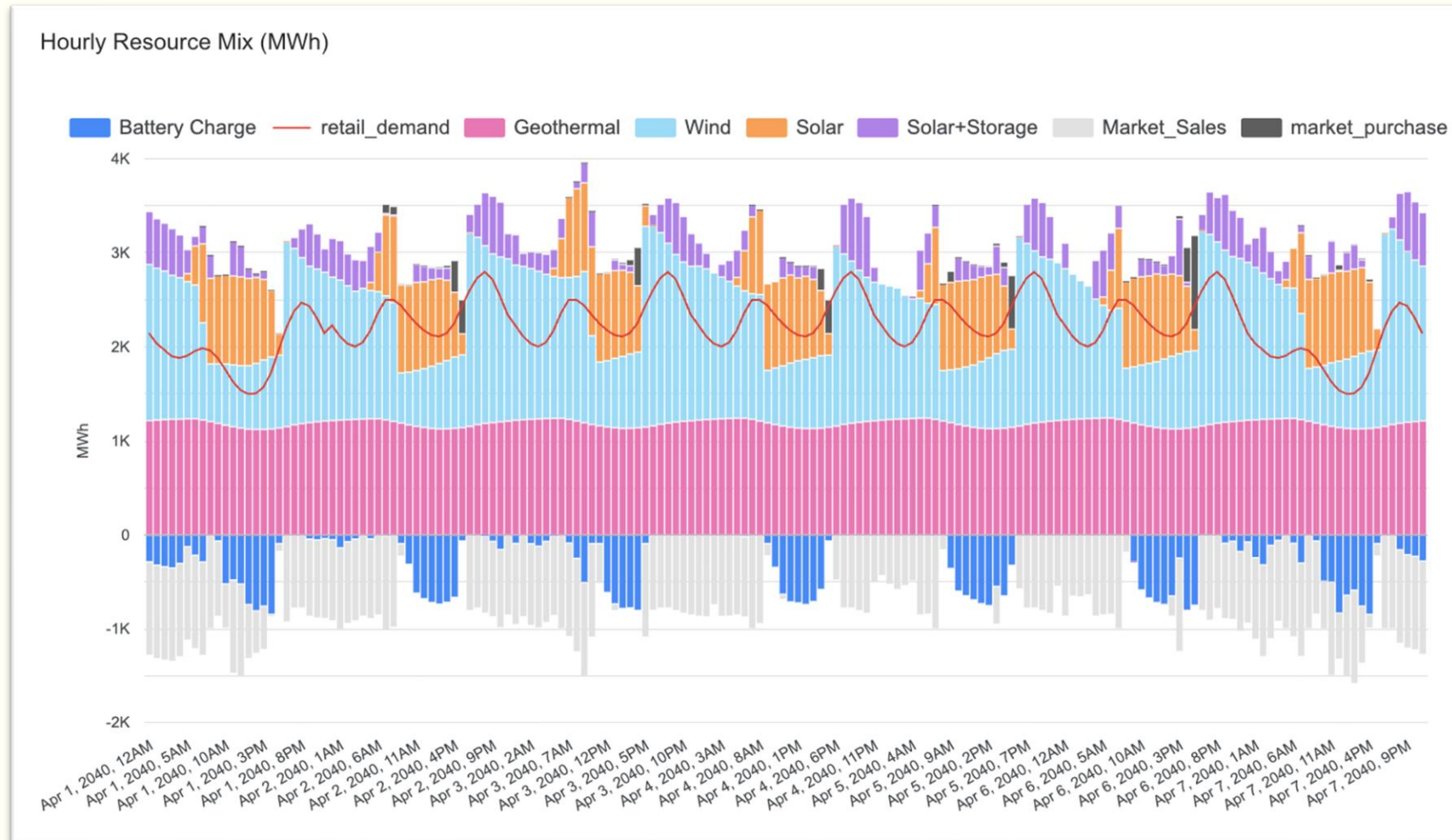
Annual Portfolio Generation & Contribution to Hedging

Estimation of annual generation from Ava's compliance portfolio and value/ability of portfolio to contribute to hedging in **April 2035**



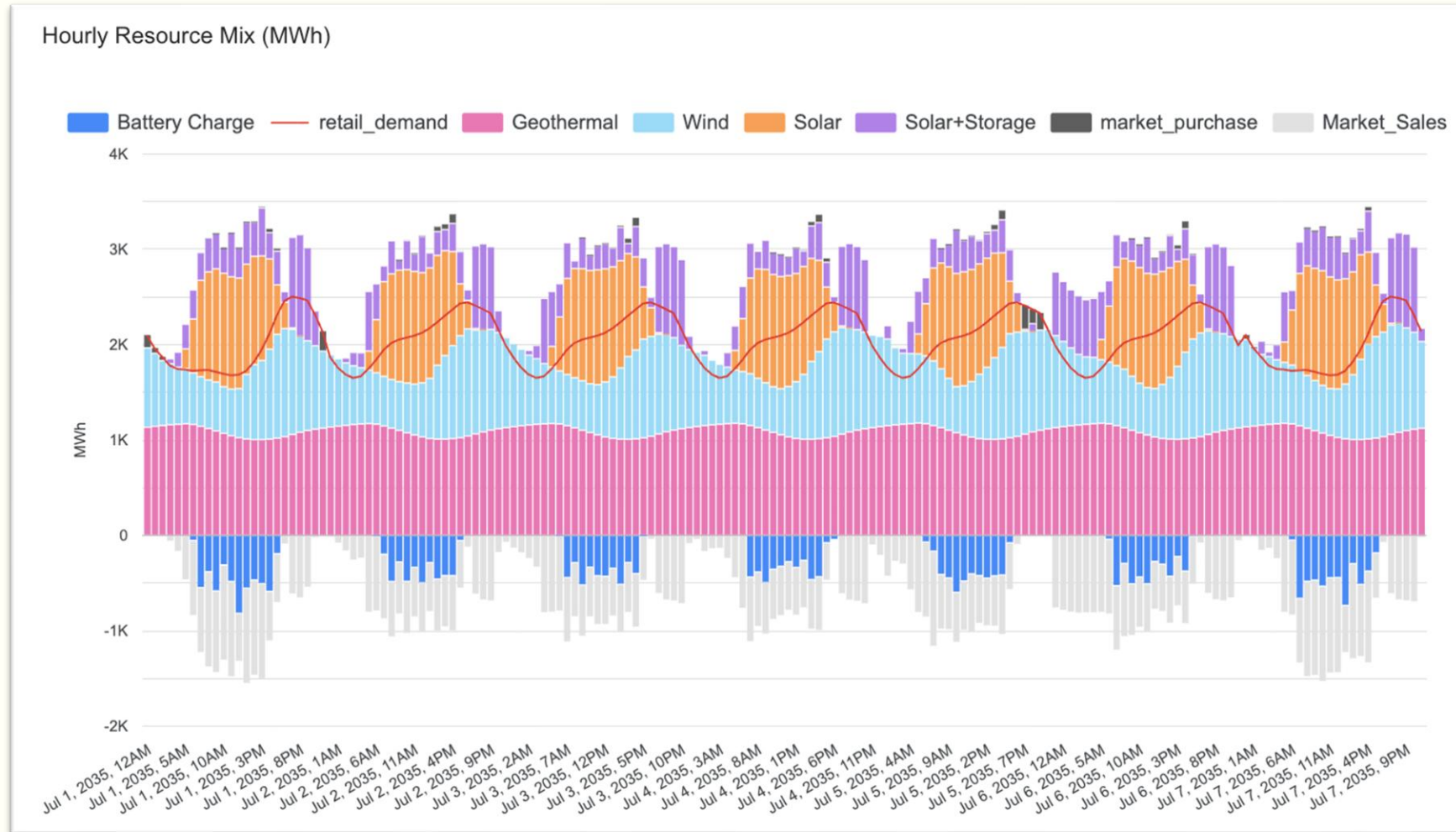
Annual Portfolio Generation & Contribution to Hedging

Estimation of annual generation from Ava's compliance portfolio and value/ability of portfolio to contribute to hedging in **April 2040**



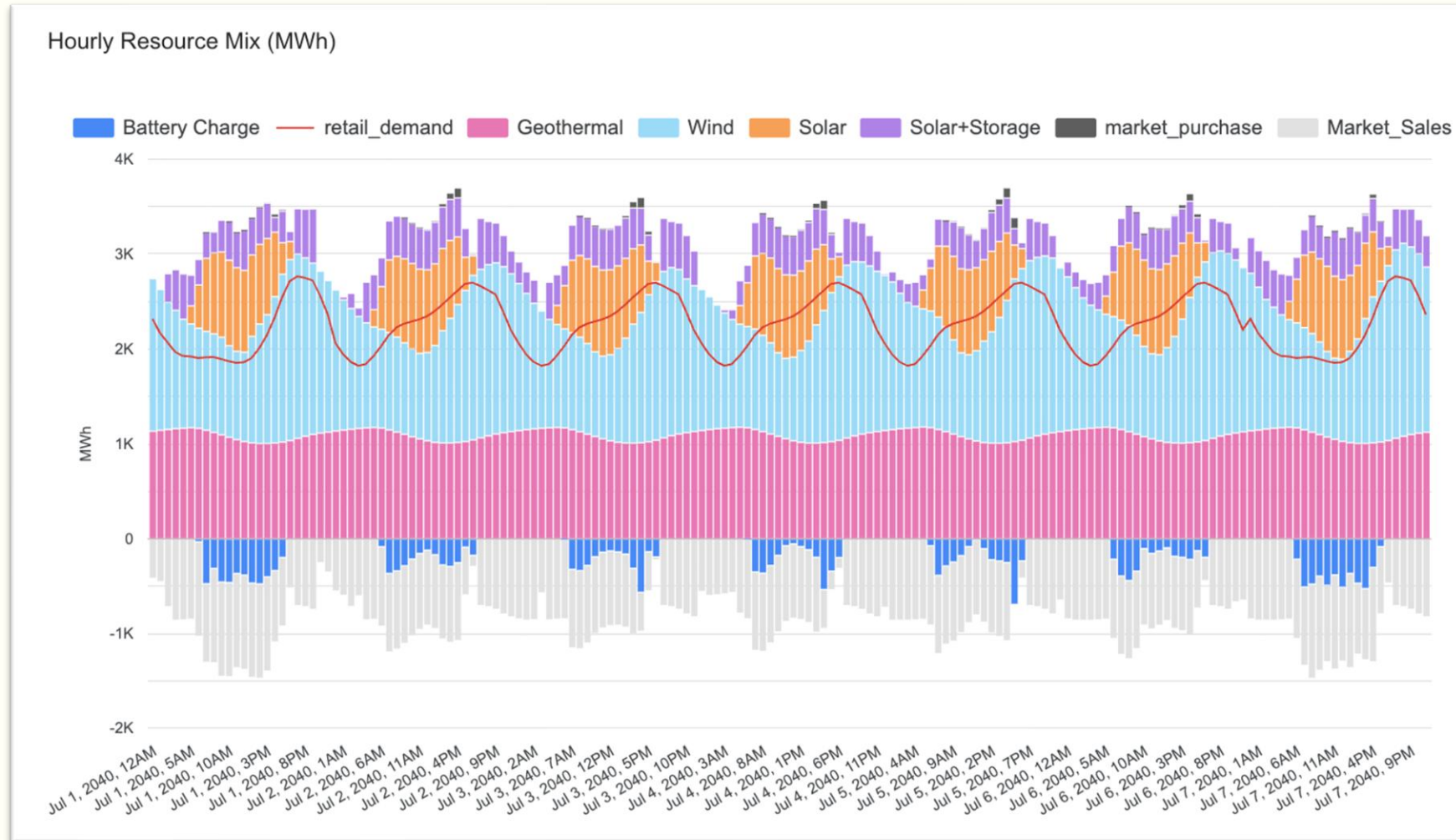
Annual Portfolio Generation & Contribution to Hedging

Estimation of annual generation from Ava's compliance portfolio and value/ability of portfolio to contribute to hedging in **July 2035**



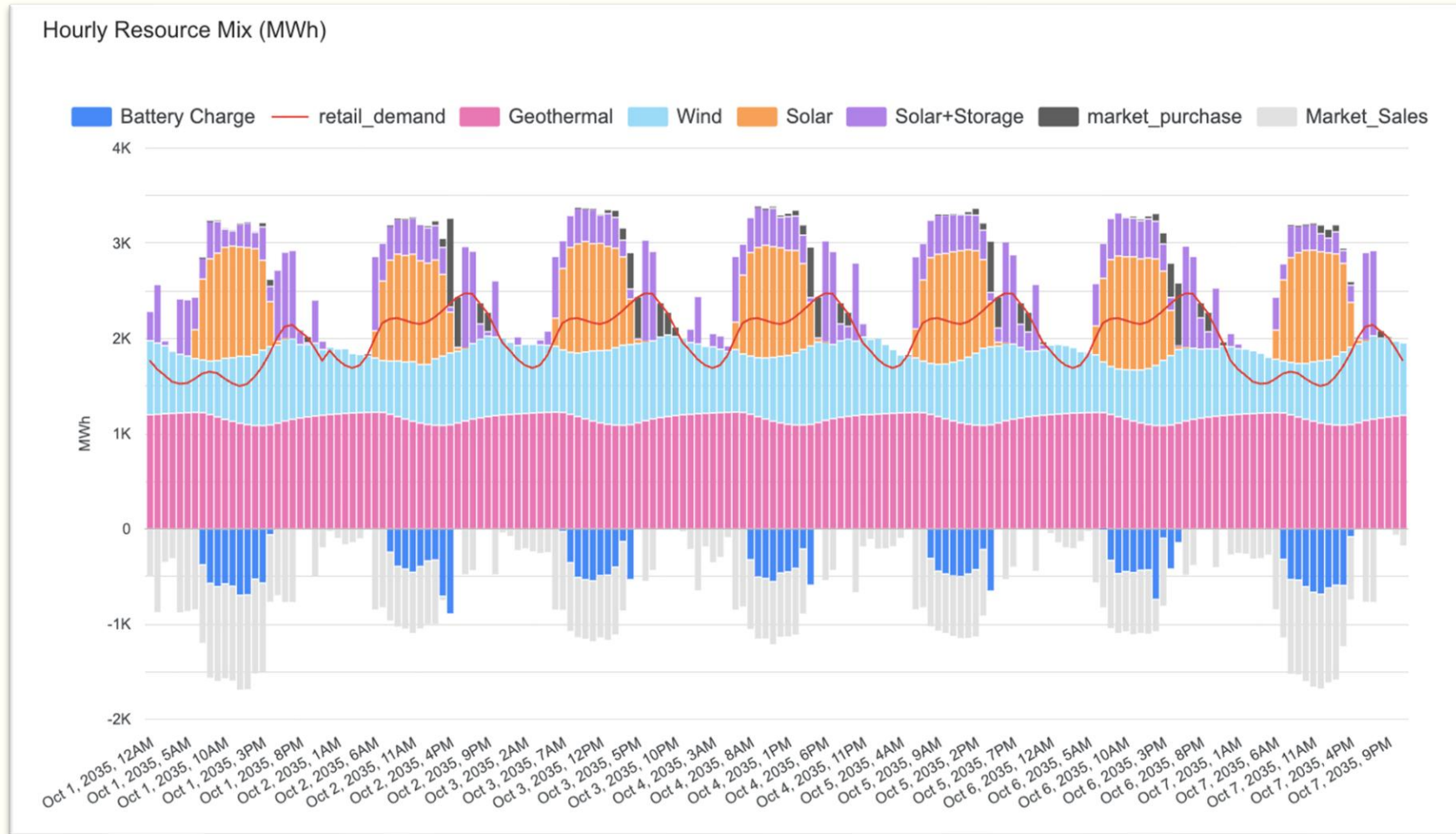
Annual Portfolio Generation & Contribution to Hedging

Estimation of annual generation from Ava's compliance portfolio and value/ability of portfolio to contribute to hedging in **July 2040**



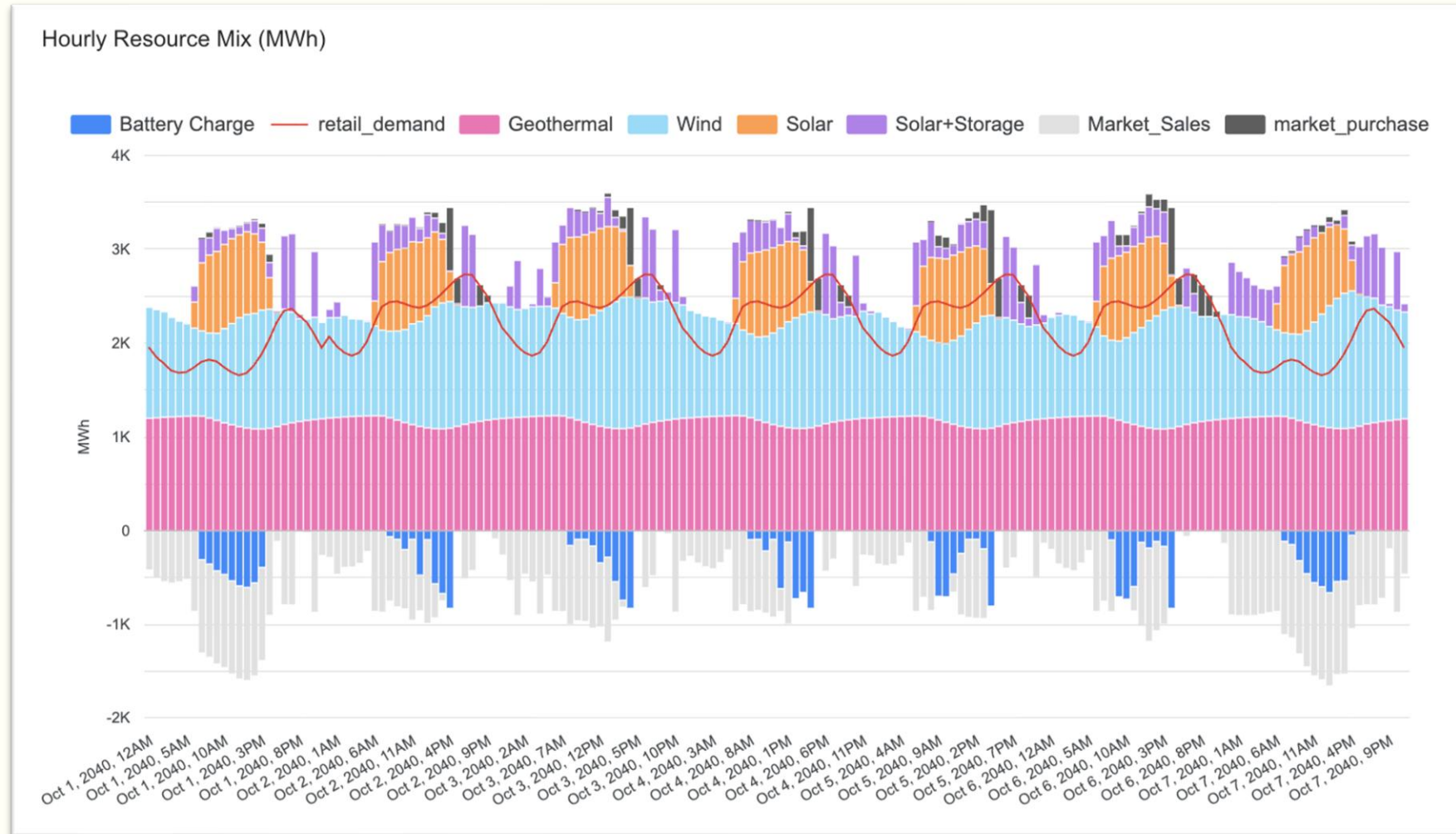
Annual Portfolio Generation & Contribution to Hedging

Estimation of annual generation from Ava's compliance portfolio and value/ability of portfolio to contribute to hedging in **October 2035**



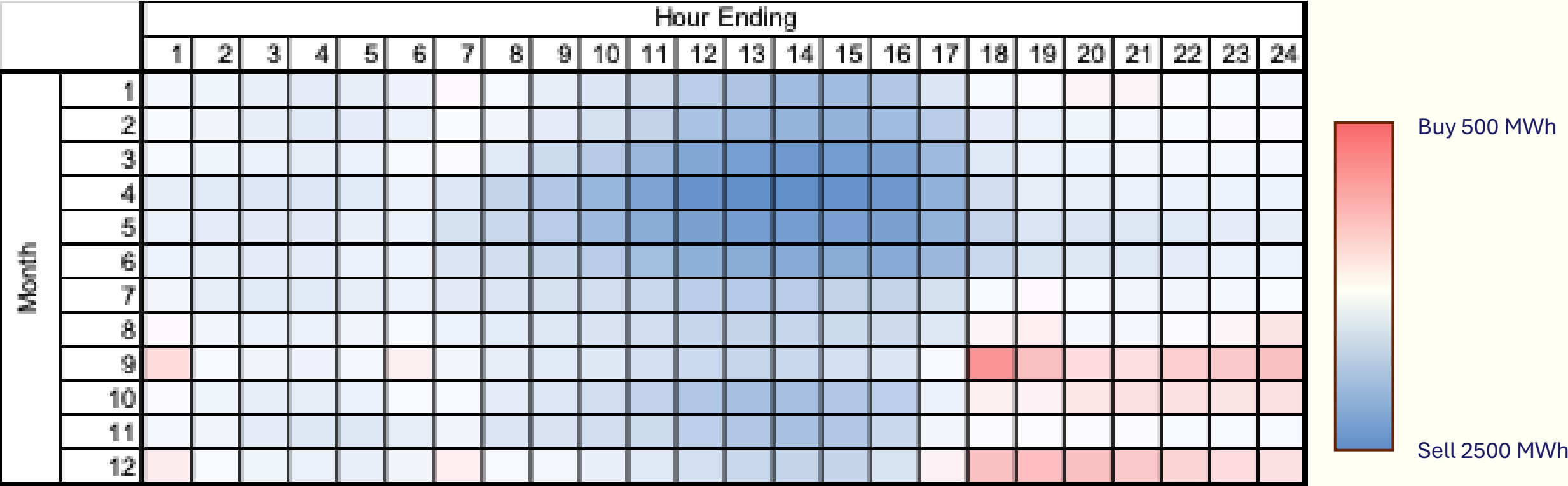
Annual Portfolio Generation & Contribution to Hedging

Estimation of annual generation from Ava's compliance portfolio and value/ability of portfolio to contribute to hedging in **October 2040**



CAISO Market Exposure Associated with Portfolio - 2035

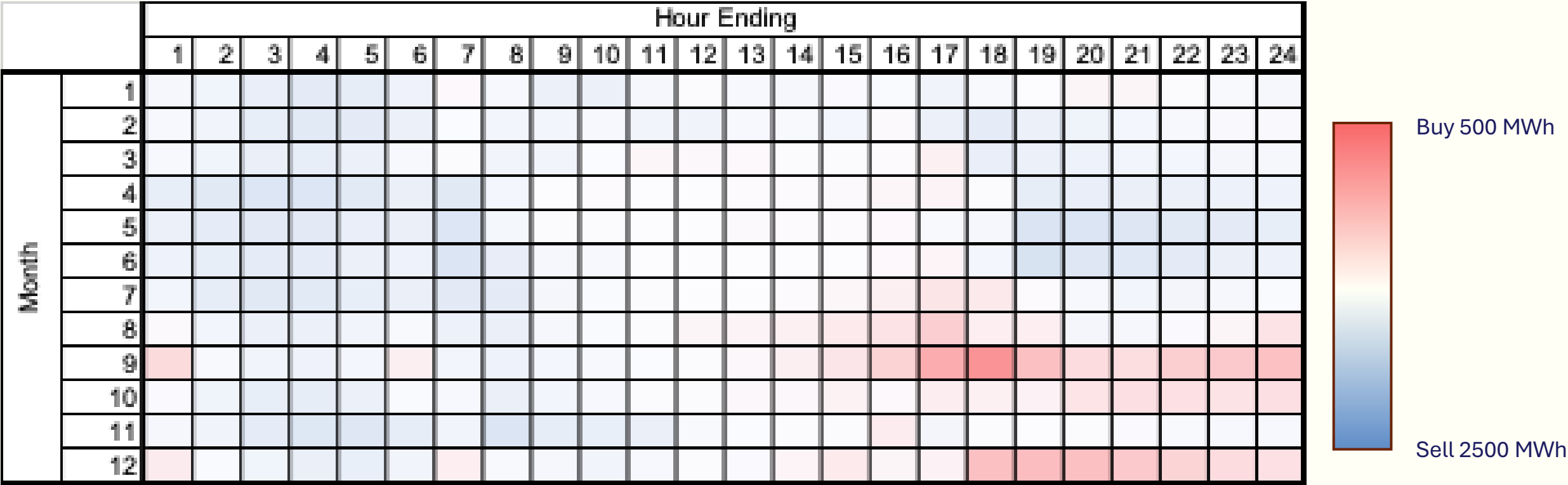
Results show the average Net Purchases *before curtailment and exports* according to the Clean System Power Calculator by Month and Hour



Note: LSEs functionally have to “take” Non-displaceable system power. Ava portfolio is curtailed in mid-day hours

CAISO Market Exposure Associated with Portfolio - 2035

Results show the average Net System Power Purchased (Red) or Sold (Blue) according to the Clean System Power Calculator by Month and Hour



Note: LSEs functionally have to “take” Non-displaceable system power. Ava portfolio is curtailed in mid-day hours

Market Purchases

Year	Total Market Purchases (MWh)	Total Retail Demand (MWh)	Market Purchase Share (%)
2030	1,108,025	13,715,986	8.08%
2035	238,446	17,748,849	1.34%
2040	305,939	19,658,398	1.56%
2045	727,244	20,658,463	3.52%

Key takeaway: Ava compliance portfolio does not “lean” on the system for reliability

Estimated Costs of the Portfolio

Year	Total Portfolio Costs (\$)
2035	\$1,473,534,331
2040	\$1,585,981,310

Note: Costs are represented in 2024 nominal \$; must be taken with many grains of salt – are largely informed by CPUC estimated resource costs.

Any near-term costs will be redacted in IRP filing.

IRP does not estimate portfolio revenues; seeks to create least-cost portfolio.

- **Process:**
 - Board accepts staff analysis today
 - Finalized compliance materials submitted to CPUC by August 10, 2026
 - Sept 16, 2026: Final submission materials submitted to Board on Consent agenda
 - Later in 2026: staff presents on Ava-supplemental analysis
- **Staff available for Ad Hoc meeting with designated Board member, if requested**
- **Staff seeks approval of resolution as attached**

Standard LSE Plan

Ava Community Energy
2026 Integrated Resource Plan
August 10, 2026

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I. Executive Summary

Ava Community Energy (Ava), a Community Choice Aggregator (CCA) and public load-serving entity (LSE) governed by elected officials from its member communities,¹ is pleased to participate in the Integrated Resource Planning (IRP) process. Ava is proud to serve one of the most dynamic and diverse communities in the State of California, with a clear mandate to spur the transition to a clean, greenhouse gas (GHG)-free energy economy while providing affordable energy to our customers.

This IRP narrative presents Ava's Preferred Conforming Portfolio that meets all applicable reliability constraints and assigned GHG benchmarks for the 2024–2027 IRP cycle. Together with the accompanying Resource Data Templates (RDTs) and Clean System Power (CSP) workbooks for the 8 MMT 2045 GHG scenario, this narrative satisfies the IRP filing requirements defined by the California Public Utilities Commission (CPUC or Commission). On July 15, 2026, Ava's Board of Directors (Board) approved the analysis and delegated final preparation of filing materials to Ava's CEO.

For the 2024–2027 IRP cycle, Ava developed a tailored configuration of GenX, an open-source capacity expansion model, to optimize the goals of reliability, GHG-emission reductions, and affordability of different resources. Leveraging the benefits afforded by this modeling framework, Ava identified an optimized least-cost portfolio that surpasses the emission reduction targets from the CPUC and meets the requirements for GHG-free procurement adopted by Ava's Board. Ava exceeds the California State goal that LSEs serve at least 60% of retail sales with qualifying renewable sources by 2030. Additionally, at least 39% of the renewable generation in Ava's Preferred Conforming Portfolio would be from resources with which Ava had signed long-term contracts.

Actual procurement decisions may vary from Ava's Preferred Conforming Portfolio due to prevailing market conditions, changes in direction from Ava's Board, or CPUC action. Nonetheless, Ava staff view this IRP filing as an opportunity to communicate the overall direction of its procurement roadmap over the medium- and long-term horizons to Ava's governing boards, customers, and regulatory agencies. Ava encourages stakeholders to view the Preferred Conforming Portfolio as indicative but not predictive of the organization's directional view on procurement decisions regarding resource types, amounts, locations, and timing of future portfolio additions.

¹ Ava currently serves Alameda County, unincorporated San Joaquin County, and the San Joaquin cities of Tracy, Stockton, and Lathrop. Ava

The total resource mix for Ava’s Preferred Conforming Portfolio is broken down by resource type in Figure 1 and Figure 2 below. These charts include Ava’s baseline resources, (i.e., resources already under contract), candidate resources (i.e., incremental resources added to the portfolio as part of this IRP exercise), and expected future market transactions (e.g., Resource Adequacy [RA]-Only contracts, fixed price Inter-Scheduling-Coordinator Trades [ISTs], and Day-Ahead Market purchases).

Figure 1 Nameplate Capacity of Ava’s Preferred Conforming Portfolio

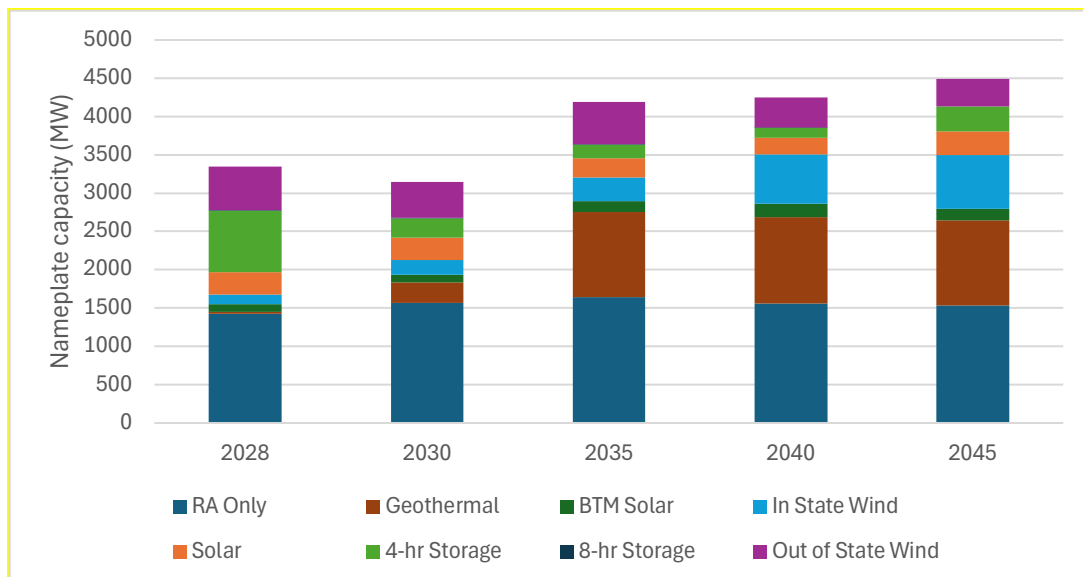
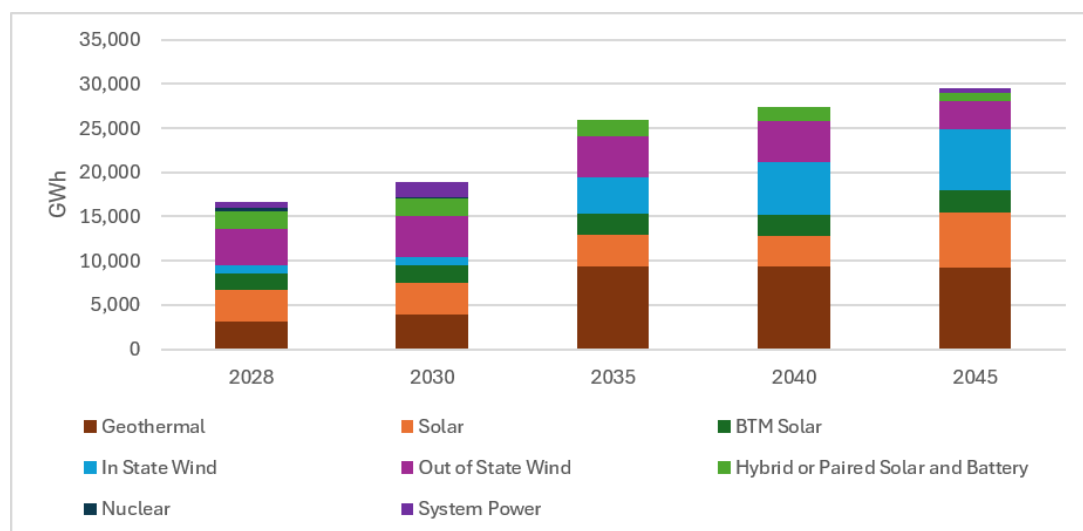


Figure 2 Annual Net Generation of Ava’s Preferred Conforming Portfolio



To improve the applicability of the results from this IRP, Ava staff supplemented the inputs and assumptions provided by the Commission with internal, proprietary forecasts on expected future market pricing conditions. The CPUC-provided values can be found in the RESOLVE Upstream Data Workbooks and Public Case Viewers zip file for the 2026–2027 Transmission Planning Process (TPP).² This dataset includes cost data within the Pro Forma Data Viewer, which aggregates cost curves and data from customer analyses from the CPUC IRP 2025 Inputs & Assumptions Document, NREL’s 2024 Annual Technology Baseline (ATB). This data was chosen as the analyses included impacts of US tariffs on various imports needed for these technologies, as well as changes to the Production Tax Credit and Investment Tax Credits on costs for specific technologies from the One Big Beautiful Bill Act (OBBBA). Effective Load Carrying Capacity (ELCC) values were taken from the CPUC’s Resource Data Template (RDT). Ava staff also incorporated the annualized load forecasts and annualized peak demand forecasts developed pursuant to an ALJ January 16th 2026 Ruling.

Ava staff relied on internal assumptions for the following: Ava’s actual procurement to date, expectations on future RA and REC market pricing conditions and resource availability (analyzed from broker quotes), deterministic forecasts of energy market prices based on several different scenarios (taken from a third party), and information germane to Ava’s local customer programs. Ava staff selected the price curve that aligns with current policies and incorporated considerations for potential future policy interventions when evaluating the price scenarios. All load-modifying resources, including BTM solar, were modeled based on the ALJ January 16th 2026 Ruling. Ava staff also compared the CPUC’s reliability procurement requirements with the combined estimate of CPUC annual peak demand and the Ava internal planning the base for annual reliability demand.

Once Ava completed the modeling exercise to identify the optimal portfolio, staff transferred the results into the CPUC’s RDT and CSP workbooks to verify that the portfolio conformed with all the applicable reliability and environmental requirements. As shown in the RDTs submitted with this IRP Plan, Ava’s Preferred Conforming Portfolio satisfies its reliability procurement requirement in each year from 2026–2045 and GHG benchmarks. The calculated annual CO₂ emissions from Ava’s Preferred Conforming portfolio are listed below, and are less than Ava’s assigned GHG benchmark in each year. Negative values indicate Ava’s portfolio generates clean energy in excess of its retail sales, and is providing that clean energy back to the system.

²<https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2024-26-irp-cycle-events-and-materials/assumptions-for-the-2026-2027-tpp>

Table 1: Ava Portfolio CO2 Emissions and Benchmark

Year	2030	2035	2040	2045
Ava Portfolio CO2 Emissions (MMT)	0.82	-0.02	-0.42	0.06
Ava GHG Benchmark (MMT)	1.11	0.92	0.77	0.39

II. Study Design

A. Objectives

Ava performs an IRP analysis exercise in accordance with the CPUC's IRP cycle to inform its mid-term and long-term procurement strategy. An integral part of Ava's IRP analysis is to ensure that the planned resource mix can achieve the milestones assigned by Ava's Board of Directors. Another key objective of this planning exercise is to identify a portfolio that satisfies CPUC requirements related to system reliability and GHG-reduction targets across the entire IRP planning horizon, which currently looks forward to 2045. The resulting portfolio must be feasible to adopt and implement and balance the goals of system reliability, decarbonization, and affordability. The resource portfolio submitted for this IRP is the joint outcome of a series of fundamental modeling exercises as well as discussions with Ava's Board, advisory committee, and other stakeholders.

The objectives for the analytical work described herein include:

- Satisfy the goals set forth by Ava's Board;
- Satisfy the regulatory requirements of PU Code Section 454.52(a)(1);
- Satisfy all CPUC specifications for required conforming portfolios;
- Demonstrate how future portfolios achieve Ava's proportional share of the 25 MMT by 2035 and 8 MMT by 2045 GHG Benchmarks, alongside Ava's Board-adopted goal of 100% clean energy by 2030;
- Demonstrate continuous progress towards meeting or exceeding the State's RPS targets;
- Show how Ava's future portfolios will contribute to overall system reliability; and
- Provide insight into how State policy mandates and GHG emission reductions change Ava customer costs over time.

B. Methodology

i. Modeling Tool(s)

For this IRP cycle, Ava contracted with First Principles Advisory and Professors Neha Patankar and Manar Jaradat at Binghamton University (collectively, consultants) to support the modeling analysis. To generate its Preferred Conforming Portfolios, Ava and consultants developed an instance of GenX uniquely suited for Ava's study objectives. GenX is a highly-configurable, open source, constrained linear optimization model that incorporates state-of-the-art practices for electricity resource capacity expansion.³ GenX is an open-source project that welcomes contributions from the community. For this IRP exercise, GenX was modified to include the following modules to enhance model capability: (1) a market module that models wholesale market participation by LSEs; (2) Planning Reserve module that enforces a reliability requirement to ensure that capacity expansion results maintain extra capacity beyond expected peak demand; and (3) an ELCC constraint that gives the amount of capacity resources use to qualify towards Ava's reliability requirements. GenX was also modified to ensure all resource cost components are discounted to the first year of the entire planning horizon for aggregated multi-stage outputs.

ii. Modeling Approach

The modeling framework used to create Ava's Preferred Conforming Portfolio is a multi-step process that begins with investment and operational decision modeling and concludes with local portfolio optimization. By individually addressing each of the key stages that constitute a robust IRP planning methodology, Ava acquired greater clarity on potential future states of the grid and what the likely impacts would be to its portfolio. In addition, Ava was able to conduct a detailed assessment of the trade-offs between its long-term goals and associated costs of such targets, and as a result, Ava is better positioned to make timely, orderly, and cost-efficient procurement decisions for its customers.

The GenX model consists of multiple layers. In the first layer, the process begins with capacity expansion modeling of the CAISO system in a manner similar to the CPUC's IRP instance of E3's RESOLVE model. E3's RESOLVE model uses a probabilistic method to optimize capacity expansion by sampling random days of resource performance from each month, while GenX applies a deterministic approach that optimizes capacity expansion using a representative week from each month. Start-up and shut-down decisions in the GenX model are modeled at the individual power plant level. GenX also accounts for the commitment of capacity to supply frequency regulation and operating reserves, approximates resource adequacy requirements through a capacity

³ <https://genxproject.github.io/GenX.jl/dev/>; see also <https://www.energyexemplar.com/>

reserve margin requirement, and effectively incorporates public policy constraints, including CO2 emission limits, renewable energy portfolio standards, and minimum technology deployment mandates.

For model inputs, GenX model can condense full year of data, such as retail demand and resource capacity factor profiles, into representative periods during the input processing stage, using a built-in time-domain reduction package. For model results, GenX model can simulate a full year of operational decisions at an hourly resolution and represent operations using multiple sub-periods, such as a representative week for each month. GenX allows the user to create specific constraints – policy, environmental, physical – to these inputs, as well with specific resource technologies (i.e. minimum/maximum amount to build, minimum/maximum amount to procure generally, etc.). This allows the GenX user to match their expectations to how these resources may pan out as well as how well it matches their entity's goals.

iii. Alternative Assumptions

Ava has made several alternative assumptions to either reflect real-world expectations or policy-specific constraints:

1. Ava modeled short-term RA purchase as a potential RA-only resource to account for any shortages in RA supply in the event that there aren't enough resources to procure to meet reliability targets. There are two reasons why Ava went with this assumption: first, it is realistic to assume that an LSE will need to procure short-term RA due to postponed CODs or facility outages. An LSE will not avoid procuring RA due to the compliance nature of the program. Secondly, Ava wanted the model to avoid optimizing for any "new" gas projects simply for RA to make certain that the model was optimizing for cleaner, non-thermal resources.
2. Ava opted to have no new builds in year 2026. This assumption was made due to the reality that the 2026 will be over halfway finished by the time each LSE's IRP is submitted, so it stands to reason that this IRP will not have a procurement order mandate specific to year 2026. Ava therefore went with its current fleet of resources used to meet its compliance requirements (based on IRP inputs) and internal procurement requirements (both by its Board of Directors and other alternative assumptions in the modeling) for 2026. Any shortage in any compliance item is met by an internal market price for that product (REC/CF, RA, energy, etc.).
3. Ava's optimization takes into account the organization's planned use of Power Cost Indifference Adjustment (PCIA) above-market cost allocation to its customers as a natural hedge in the portfolio. This planned market exposure is included as a zero-cost resource (as its use as a risk management tool is not price sensitive) and GenX optimizes for a portfolio that includes this risk mitigation strategy.
4. To ensure that the Preferred Conforming Portfolio complied with both IRP and anticipated RA requirements, Ava constrained the capacity buildout to meet the greater

of either the Reliability Procurement Requirement assigned by the CPUC or peak demand multiplied by the expected planning reserve margin (“PRM”).

III. Study Results

A. Conforming and Alternative Portfolios

Pursuant to the *Administrative Law Judge Ruling Setting Requirements for Individual Resource Plans Due June 1, 2026*, an LSE “must submit one ‘conforming portfolio’ that achieves GHG emissions that are equal to or **less than** [emphasis added] the LSE’s proportional Share of the 25 MMT by 2035 and 8 MMT by 2045 GHG target.”⁴ Ava intends to achieve a portfolio emissions level that is less than its expected share of both the 25 MMT 2035 and 8 MMT 2045 benchmark. As such, Ava developed a single preferred conforming portfolio for the 2026 IRP cycle. Table 2, below, Table 2 lists the resources and corresponding nameplate capacities for the calendar years explicitly modeled in GenX. For additional project related information, please refer to the RDT attachments.

⁴ ALJ Ruling, pp. 8–9

Table 2 Nameplate Capacity (MW) of Ava’s Preferred Conforming Capacity by Project Type and Technology⁵

⁵ Baseline “RA_Only” resources include AVA's allocated share of Cost Allocation Mechanism (CAM) and Central Procurement Entity (CPE) related capacity.

Project	Tech	Project Type	2026	2028	2030	2031	2035	2040	2045
Contracted RA	Aggregate	Baseline	2048	1403.6	1375.3	896.3	919.3	29.3	0
Altamont Winds LLC	Wind	Baseline	54.8	54.8	54.8	54.8	54.8	54.8	0
Imperial Sun Solar LLC	Solar+ Storage	Baseline	0	100	200	200	200	200	0
Corsac Generating Station 1 LLC	Geothermal	Baseline	0	0	40	40	40	40	40
Daggett Solar Power 3 LLC	Solar+ Storage	Baseline	62.5	62.5	62.5	62.5	62.5	0	0
IP Easley 1 LLC	Solar	Baseline	0	75	75	75	75	0	0
IP Easley 2 LLC	Solar	Baseline	0	75	75	75	75	0	0
EDPR CA Solar Park VI LLC + Sonrisa BESS LLC	Solar+ Storage	Baseline	0	192	384	384	384	384	384
San Gabriel Project LLC	Storage	Baseline	0	50	100	100	100	100	100
Golden Fields Solar III, LLC	Solar	Baseline	112	112	112	112	112	0	0
Henrietta D Energy Storage LLC	Storage	Baseline	10	10	10	10	10	0	0
Kola Energy Storage, LLC	Storage	Baseline	125	125	125	125	125	125	125

Project	Tech	Project Type	2026	2028	2030	2031	2035	2040	2045
MRP Pacific Marketing LLC	Storage	Baseline	96	96	96	96	96	96	0
IP Oberon II, LLC	Solar+ Storage	Baseline	250	250	250	250	250	0	0
PCIA	Aggregate	Baseline	541	123	124	112	20	19	23
Rosemary Solar, LLC	Solar+ Storage	Baseline	0	70	140	140	140	140	140
EDPR Scarlet I LLC	Solar+ Storage	Baseline	130	130	130	130	130	130	0
EDPR Scarlet III LLC	Storage	Baseline	0.00	70.00	70.00	70.00	70.00	70.00	0.00
Sun Pond, LLC	Solar+ Storage	Baseline	85.00	85.00	85.00	85.00	85.00	85.00	85.00
SunZia Wind South LLC	Wind	Baseline	175.40	175.40	175.40	175.40	175.40	175.40	0.00
SunZia Wind North LLC	Wind	Baseline	74.60	74.60	74.60	74.60	74.60	74.60	0.00
Tecolote Wind LLC	Wind	Baseline	100.00	100.00	100.00	100.00	0.00	0.00	0.00
Tumbleweed Energy, LLC	Long-Duration Storage	Baseline	50.00	50.00	50.00	50.00	50.00	0.00	0.00
Tulare Solar Center, LLC	Solar	Baseline	55.83	55.83	55.83	55.83	55.83	55.83	0.00
Zeta Solar, LLC	Solar+ Storage	Baseline	0.00	38.00	75.00	75.00	75.00	75.00	75.00
California Geothermal	Geothermal	Candidate	0.00	35.00	275.22	352.47	1238.56	1238.56	1238.56

Project	Tech	Project Type	2026	2028	2030	2031	2035	2040	2045
Lithium-Ion battery 8hr CA	Li-ion Battery	Candidate	0.00	0.00	339.70	39.70	89.77	89.77	894.63
New Mexico to SCE (PV) wind	Wind	Candidate	0.00	1072.19	1072.19	1072.19	1072.19	1072.19	1072.19
Greater Bay Area Wind	Wind	Candidate	0.00	246.83	246.83	493.678	493.67	493.67	493.67
Kern Wind	Wind	Candidate	0.00	0.00	0.00	0.00	0.00	0.00	245.11
Northern Bay Area Wind (	Wind	Candidate	0.00	0.00	0.00	0.00	0.00	1892.58	1892.58
Short-term RA	Aggregate	Candidate	670.00	706.00	961.40	1152.26	964.24	1764.44	2607.00
SCE East of Pisgah Wind	Wind	Candidate	0.00	509.43	509.43	509.43	509.43	509.43	509.43
North of Lugo Solar	Solar	Candidate	0.00	979.90	979.90	979.90	979.90	6979.90	2483.53
Baja California Wind	Wind	Candidate	0.00	53.17	53.17	53.17	53.17	53.17	53.17

Ava began executing long-term offtake agreements in 2019 and has released 8 RFOs since its inception. Presently, twenty-three (23) of Ava's long-term contracted assets are operational resources and numerous additional resources are scheduled to achieve commercial operation in the next few years. The Tumbleweed Energy, LLC Storage Project, included as a Baseline resource in the above Table 2, was originally a 50 MW 4-hour duration Storage Agreement, and on June 1, 2026, was expanded to an operational 50 MW 8-hr long-duration Storage Agreement. The Contracted RA Project, included as a Baseline resource in the above Table 2, is an aggregate of individual agreements for Resource Adequacy only, supplied by a variety of sources and technologies.

To date, Ava has contracted with seventeen (17) RPS-eligible generating resources of varying types and in some cases with co-located energy storage, to reduce emissions and to cover our load. These resources are described below as physical, in development resources, consistent with the definitions provided in the Resource Data template. Contracts not included in the CPUC's Baseline resource list were added to the Resource Data Templates as physical resources in development for Ava's preferred conforming portfolio to ensure completeness.⁶

Table 3 Ava's current list of contracted long-term generation ("development resources")

Project	Developer	Technology	Forecasted COD	Generation Capacity (MW)	Storage Capacity (MW)
Golden Fields Soar III, LLC	Clearway	Solar	Online	112.00	0.00
Altamont Winds, LLC	Greenbacker	Wind	Online	54.80	0.00
Tulare Solar Center, LLC	Idemitsu	Solar	Online	55.83	0.00
Tecolote Wind LLC	Pattern	Wind	Online	100.00	0.00
Daggett Solar Power 3 LLC	Clearway	Solar + Storage	Online	50.00	12.50
IP Oberon II, LLC	IPX (formerly Intersect)	Solar + Storage	Online	125.00	125.00
EDPR Scarlet I LLC	EDP Renewables	Solar + Storage	Online	100.00	30.00
Sun Pond, LLC	Longroad Energy	Solar + Storage	Online	42.50	42.50
SunZia North, LLC	Pattern	Wind	Online	74.60	0.00
SunZia South, LLC	Pattern	Wind	Online	175.40	0.00
Easley I, LLC	IPX (formerly Intersect)	Solar	3/31/2027	75.00	0.00
Easley II, LLC	IPX (formerly Intersect)	Solar	3/31/2027	75.00	0.00
EDPR CA Solar Park VI LLC	EDP Renewables	Solar + Storage	6/30/2027	200.00	184.00
Zeta Solar, LLC	Longroad Energy	Solar + Storage	7/26/2027	37.50	37.50
Imperial Sun, LLC	Atlantica	Solar + Storage	7/29/2027	100.00	100.00
Rosemary Solar, LLC	Longroad Energy	Solar + Storage	6/1/2028	70.00	70.00

⁶ See the attached Resource Data Template.

Corsac Generating Station 1 LLC	Fervo	Geothermal	4/1/2030	40.00	0.00
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B. Preferred Conforming Portfolios

Ava's Preferred Conforming Portfolio meets the CPUC's requirements of "conforming" and is consistent with the relevant statutory requirements of PU Code Section 454.52(a)(1). Below is a description of how Ava's planned resource mix satisfies each of those requirements.

- The GHG reduction targets established by the State Air Resources Board for the electricity sector are set such that economywide GHG emissions reductions of 40 percent from 1990 levels by 2030 are achieved. By Ava meeting its assigned 25 MMT by 2035 and 8 MMT by 2045 benchmarks —as reflected in the accompanying CSP Calculators, this requirement is satisfied.
- Article 16 (commencing with Section 399.11) of Chapter 2.3 requires LSEs to meet at least 60 percent of retail sales with eligible renewable energy resources by December 31, 2030. Based on *CSP accounting methodologies*, Ava's conforming portfolio is expected to meet 95% of retail sales with eligible RPS energy by 2030.
- Along with its current projections on future market pricing conditions, Ava uses the costs assumptions provided by the CPUC. Ava's IRP modeling methodology applies these assumptions and identifies the least-cost portfolio that satisfies all defined reliability, GHG, and RPS constraints. As a result, Ava's Preferred Conforming Portfolio fulfills its obligation to serve customers at just and reasonable rates and minimizes impacts on ratepayer's bills.
- By satisfying Ava's reliability procurement requirement provided to Ava directly by the CPUC Ava believes it has demonstrated how its Preferred Conforming Portfolio meets the near-term and forecast long-term resource adequacy requirements of Section 380.
- Net of expected curtailments, Ava's planned resource mix is scheduled to provide at least 65 percent of its RPS requirement for each compliance period from contracts of 10 years or more in duration. Please see the following table for supporting values.
- Ava's planned resource mix is a diverse mix of resources that spans multiple technology types. In instances in which transmission upgrades are possible or likely (e.g., offshore wind) the organization will work with the appropriate stakeholders to assess commercial viability in a timely and costly manner. Ava incorporates eligible energy resources procured on behalf of its customers by the Department of Water Resources into Ava's preferred Conforming Portfolio.

- In these ways, Ava's portfolio strengthens the diversity, sustainability, and resilience of the bulk transmission and distribution systems; local communities; and enhances distribution systems and demand-side energy management.
- Ava will continue to monitor the cost and availability of alternative supply-side and demand-side resources that can minimize air pollutant emissions, particularly in disadvantaged communities.

C. GHG Emissions Results

This section discusses the emissions results for Ava’s Preferred Conforming Portfolio as calculated by the Clean System Power (CSP) calculator.⁷

While Ava’s portfolio meets the accepted definition of a 100% Renewable/CO₂-Free Portfolio (eligible renewable or carbon-free resources as a share of *retail* sales, calculated on an annual basis), the modeling specifications developed by staff allowed the use of system power to shape the renewable output and account for transmission and distribution losses. When the resulting Preferred Conforming Portfolio was input into the CSP, some emissions were attributed to the portfolio as an artifact of the CSP’s accounting methodology, which models supply and demand on an hourly basis and allocates each LSE a proportional share of system emissions from Combined Heat and Power (CHP) resources. Table 4 shows Ava’s CPUC-assigned GHG benchmarks for 2028, 2030, 2035, 2040, and 2045. Ava’s Preferred Conforming Portfolio is compliant with the CPUC’s targets in all years.

Table 4 CO₂ Emissions Summary of Ava's Preferred Conforming Portfolio⁸

CO ₂	Unit	2028	2030	2035	2040	2045
Coal	MMt/yr	-	-	-	-	-
IFM CHP	MMt/yr	0.25	0.24	0.26	-	-
Biogas	MMt/yr	-	-	-	-	-
Biomass	MMt/yr	-	-	-	-	-
System Power Unadjusted	MMt/yr	0.65	0.66	(0.36)	(0.51)	0.09
System Power	MMt/yr	0.58	0.58	(0.28)	(0.42)	0.06

⁷ The Clean System Power (CSP) tool is an excel-based workbook provided the CPUC that calculates emissions from CAISO system’s dispatchable thermal generation and unspecified imports and allocates them to LSEs based on their planned IRP portfolios.

⁸ CHP emissions shown in Table 4 represent Ava’s pro rata share of behind-the-meter Combined Heat and Power (CHP) interconnected to the CAISO-controlled electric grid. CHP emissions are determined by the CSP calculator as a function of LSE load, unrelated to the ‘actual’ GHG-emission profile of any specific LSE’s resource portfolio. Avais required to include this allocation in its CSP.

Asset Controlling Supplier	<i>MMt/yr</i>	-	-	-	-	-
Total	<i>MMt/yr</i>	<i>0.83</i>	<i>0.82</i>	<i>(0.02)</i>	<i>(0.42)</i>	<i>0.06</i>
Average emissions intensity	<i>tCO₂/MWh</i>	<i>0.069</i>	<i>0.060</i>	<i>(0.001)</i>	<i>(0.021)</i>	<i>0.003</i>
Oversupply Emissions Credits	<i>MMt/yr</i>	<i>0.42</i>	<i>0.28</i>	<i>0.70</i>	<i>0.90</i>	<i>0.36</i>

- The only inputs specified by Ava for the CSP workbook were the CPUC-issued retail sales and BTM solar forecasts and Ava’s supply portfolio information, which are copied over from the RDT. For this exercise, Ava did not include any custom hourly load shapes or user-specified production profiles.
- The table below provides a summary of the amount of Ava’s portfolio that is provided by RPS and GHG-F resources according to the methodology used in the CSP. Please refer to the CSP calculator file for more information on the emission calculations used to generate the results shown in these tables.

Table 5 CSP Summary of Ava’s Preferred Conforming Portfolio

	Unit	2028	2030	2035	2040	2045
Retail Sales	GWh	12112	13715	17748	19658	20658
RPS-Eligible Delivered Renewable	GWh	10968	13048	20305	23235	23473
GHG free	GWh	11468	13264	20310	23262	23480
RPS-Eligible Delivered Renewable Percentage	% of retail sales	91%	95%	114%	118%	114%
GHG-free Percentage	% of retail sales	95%	97%	114%	118%	114%

D. Local Air Pollutant Minimization and Disadvantaged Communities

iv. Local Air Pollutants

The following tables provide a breakdown of the air pollutant emissions (e.g., Particulate Matter (PM) 2.5, SO₂, and NO_x) associated with Ava’s Preferred Conforming Portfolio as calculated by the CSP. As previously mentioned, Ava’s primary source of air pollutants are the result of its reliance on system power, as well as its CPUC-assigned allocation of Combined Heat and Power resources. To minimize the generation of local air pollutants and their corresponding impacts on disadvantaged communities, Ava will continue to monitor the cost and availability of alternative candidate projects as well as the percentage of total supply for the portfolio made up by market purchases.

Table 6 Preferred Conforming Portfolio of PM 2.5 Emissions

PM2.5	Unit	2028	2030	2035	2040	2045
Coal	tonnes/yr	-	-	-	-	-
IFM CHP	tonnes/yr	14	14	14	-	-
Biogas	tonnes/yr	-	-	-	-	-
Biomass	tonnes/yr	-	-	-	-	-
System Power	tonnes/yr	36	37	(20)	(29)	5
Total	tonnes/yr	51	50	(6)	(29)	5
Average emissions intensity	kg/MWh	0.0042	0.0037	(0.0003)	(0.0015)	0.0002

Table 7 Preferred Conforming Portfolio SO₂ Emissions

SO ₂	Unit	2028	2030	2035	2040	2045
Coal	tonnes/yr	-	-	-	-	-
IFM CHP	tonnes/yr	1	1	2	-	-
Biogas	tonnes/yr	-	-	-	-	-
Biomass	tonnes/yr	-	-	-	-	-
System Power	tonnes/yr	3	3	(2)	(3)	0
Total	tonnes/yr	5	5	(0)	(3)	0
Average emissions intensity	kg/MWh	0.0004	0.0004	(0.0000)	(0.0001)	0.0000

Table 8 Preferred Conforming Portfolio NO_x Emissions

NO _x	Unit	2028	2030	2035	2040	2045
Coal	tonnes/yr	-	-	-	-	-
IFM CHP	tonnes/yr	42	39	42	-	-
Biogas	tonnes/yr	-	-	-	-	-

Biomass	<i>tonnes/yr</i>	-	-	-	-	-
System Power	<i>tonnes/yr</i>	37	38	(26)	(48)	5
Total	<i>tonnes/yr</i>	79	77	16	(48)	5
Average emissions intensity	<i>kg/MWh</i>	0.0065	0.0056	0.0009	(0.0025)	0.0002

v. Focus on Disadvantaged Communities

There are 28 zip codes in Ava's service area that overlap census tracts designated as Disadvantaged Communities (DACs) according to the IRP definition that relies on CalEnviroScreen 4.0. These communities represent an approximate population of 331,000 people. The identified zip codes are as follows:

1. 95205 – August
2. 95204 – Country Club
3. 95231 – French Camp
4. 95215 – Garden Acres
5. 95330 – Lathrop
6. 94601 – Oakland
7. 94603 – Oakland
8. 94606 – Oakland
9. 94607 - Oakland
10. 94608 – Oakland
11. 94609 – Oakland
12. 94612 – Oakland
13. 94621 – Oakland
14. 94577 – San Leandro
15. 94578 – San Leandro
16. 95202 – Stockton
17. 95203 – Stockton
18. 95204 – Stockton
19. 95205 – Stockton
20. 95206 – Stockton
21. 95210 – Stockton
22. 95206 – Taft Mosswood
23. 95376 – Tracy
24. 95215 – Unincorporated San Joaquin County
25. 95206 – Unincorporated San Joaquin County
26. 95242 – Unincorporated San Joaquin County

- 27. 95330 – Unincorporated San Joaquin County
- 28. 95336 – Unincorporated San Joaquin County

Ava is committed to serving its DACs through numerous cross-organizational efforts, including in areas of procurement, local program development, increased customer engagement, and equitable policies. Increasing the deployment of clean energy resources in communities disproportionately impacted by air pollution is a key priority for Ava. The DAC Green Tariff (DAC-GT) program expands access to renewable energy in DACs, as designated using CalEnviroScreen 3.0, 4.0, or subsequent versions, by both supporting the development of new clean energy projects in or within 5 miles of a DAC and providing electricity bill savings to eligible customers. Specifically, the program provides participating California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance (FERA) customers who reside in DACs with 100% renewable energy at a 20% discount. Through the DAC-GT program, Ava has procured 7.28MW renewable nameplate capacity from local, distribution-connected projects sited in DACs in Ava's service area. Ava is in the process of procuring an additional 11.25MW renewable nameplate capacity through its 2026 DAC-GT Request for offers. There are currently over 4,000 CARE and FERA program participants. At full capacity, the DAC-GT program will be able to serve over 7,700 customers.

In addition to the DAC-GT program, in FY 2025–26 Ava conducted the Health-e Communities Pilot, a residential stove electrification pilot program for low-income customers. The Pilot improved participant's indoor air quality through the elimination of natural gas and improving participant's cooking experience through induction technology. In total the Pilot completed 162 gas to induction stove installations and led to deep learnings about electrification program implementation and indoor air quality impacts. Additionally, Ava's efforts to support increased EV adoption, like Ava Charge—a publicly available DC Fast Charging network—will reduce criteria air pollutants improving human health outcomes for all residents, especially those in the most vulnerable communities located along interstate corridors. These programs can be a model for intentional procurement of emission-free power to displace fossil-fueled generation and transportation fuel on behalf of our communities at the most risk of environmental injustices.

Equity is also a single thread guiding Ava's transportation electrification initiatives. Since 2019, Ava has analyzed transportation electrification gaps, needs, and opportunities in our service territory. Nearly half of the residents in our Alameda County service area are renters in multi-family properties that currently have limited access to at-home charging infrastructure. In San Joaquin County that figure is closer to 15%. Significantly, home charging access is often complicated by the age of the properties where renters live. Ava found that almost all the multi-family properties in much of our service territory are over 50 years old, meaning that many of these properties would require costly electrical upgrades above and beyond the cost of installing

home charging equipment. Moreover, renters may not have the authority to make the upgrades needed to install home charging equipment because they do not own the property.

Recognizing these systematic challenges to EV adoption for nearly half the residents in our service area, Ava is prioritizing deployment of reliable, convenient, and cost-effective public fast charging. Ava's EV fast charging network, thus far operating 31 plugs at one active site in downtown Oakland, will reduce barriers to access for community members who cannot charge at home to ensure that *all* residents in Ava's service area, especially renters, can join in and benefit from the transition to clean energy transportation.⁹

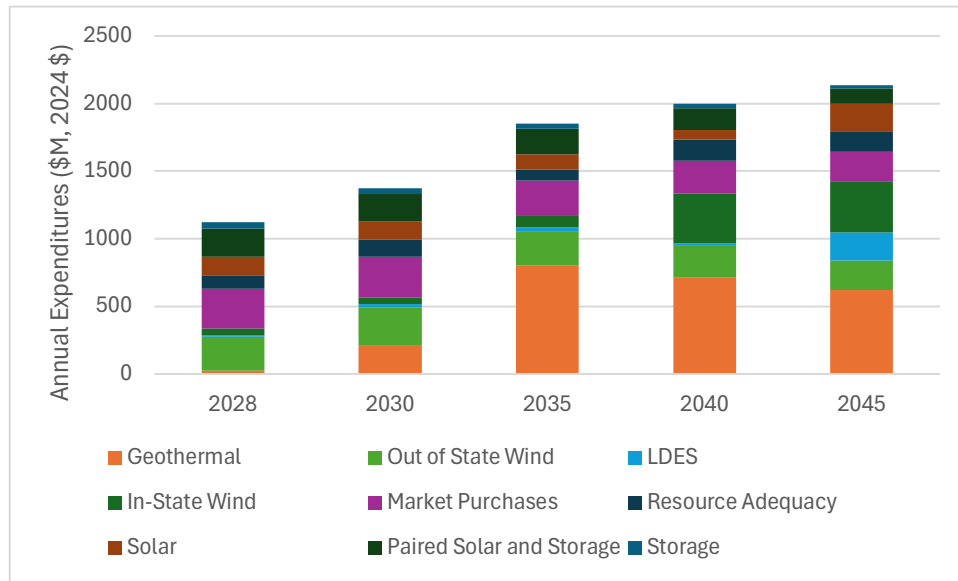
E. Cost and Rate Analysis

Recognizing that affordability is a key component of our long-term procurement strategy, Ava incorporated timely technology costs assumptions and market conditions forecasts into its IRP process to ensure the optimal portfolio reflected Ava's prevailing expectations on the future business landscape. The figure below provides an estimate of the inflation-adjusted total net costs¹⁰ of the Preferred Conforming Portfolio listed in real 2024 USD for select calendar years with a breakdown of the total by major cost category. Ava's reliance on the market for capacity and energy diminishes over time as bundled PPAs assume a larger role in the portfolio.

⁹ See *infra* at 43.

¹⁰ Total net costs equals expenditures to serve load in CAISO plus payments to counterparties Ava has signed PPAs and other bilateral agreements with minus offsetting revenue from generation scheduled into the CAISO market.

Figure 3 Inflation-Adjusted Expenses (\$M, 2024 \$USD) of Ava's Preferred Conforming Portfolio



Currently, Ava offers its customers two different product choices: (1) Bright Choice, which offers a fixed percentage savings¹¹ relative to PG&E's generation rates for an electricity mix containing a larger percentage of renewables than the baseline PG&E product; and (2) Renewable 100, which offers a 100% renewable electricity mix at a small fixed per-kWh premium relative to PG&E's generation. Though Ava is investigating decoupling from PG&E rates, the timing of such a move will depend on our internal analytical capabilities, the rate at which we are able to build up the operating reserves necessary to ensure our long-term financial health, and the direction provided by Ava's Board.

Ava strives to maintain stable costs for our customers while collecting sufficient revenues by conducting extensive planning and risk-management to intelligently safeguard against the risks of extreme fluctuations in future energy prices.

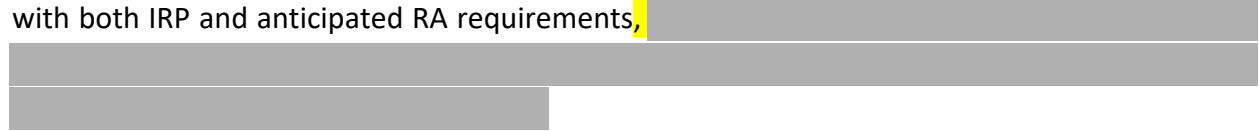
F. System Reliability Analysis

Ava's Preferred Conforming Portfolio satisfies Ava's reliability procurement requirement and illustrates how Ava contributes its commensurate share of system reliability to the grid. As a part of its IRP filing requirements, every CPUC-jurisdictional entity must demonstrate how it plans to meet its annual reliability requirements for every year in the IRP planning horizon. Ava's Reliability Procurement Requirement is shown below,

As discussed previously, to ensure that the Preferred Conforming Portfolio complied

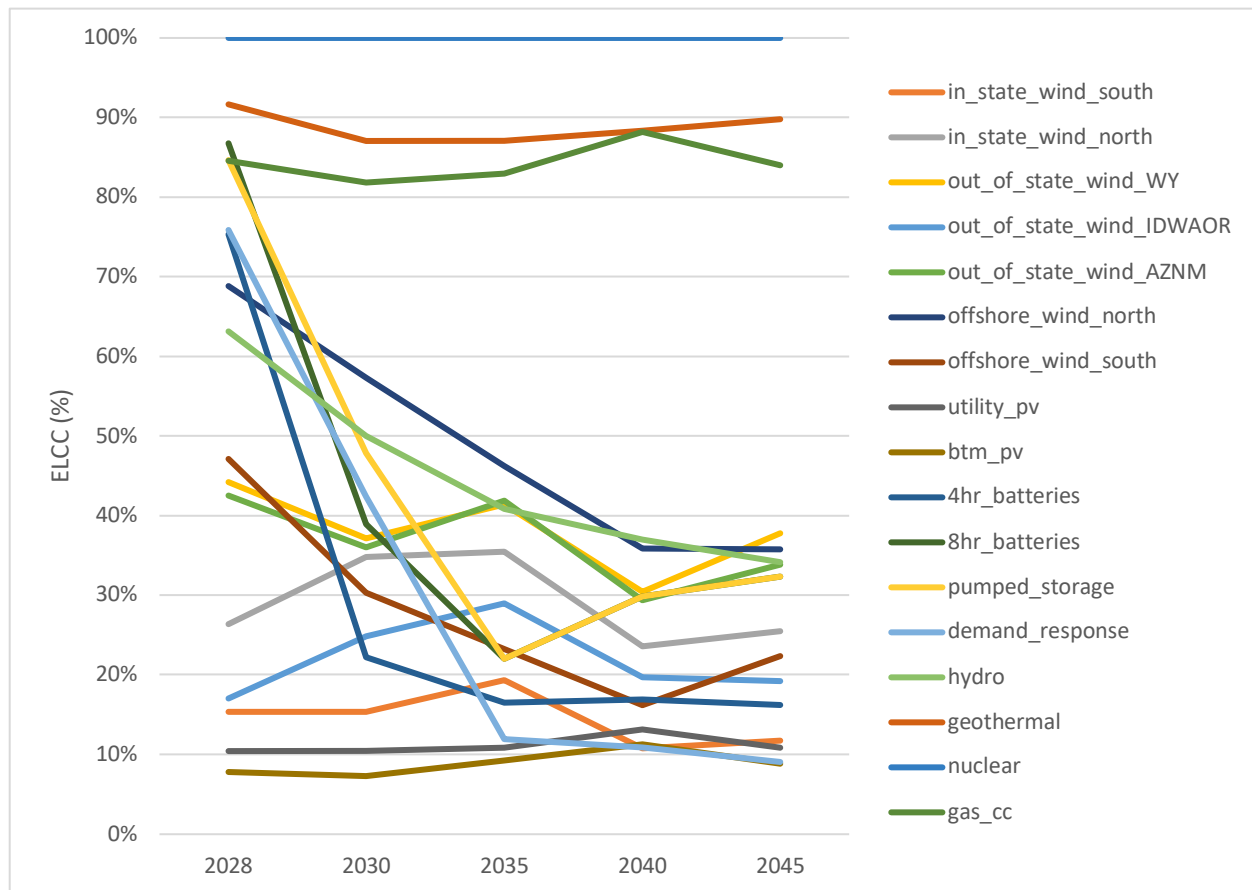
¹¹ Over the course of Ava's operating history, this discount has ranged from 1% to 5%.

with both IRP and anticipated RA requirements,



Ava can satisfy its reliability procurement requirement by either procuring bundled PPAs or RA-Only contracts; the amount of nameplate capacity that qualifies as firm is determined by the underlying physical resource backing the contract. For the 2026 IRP cycle, the CPUC provided marginal Effective Load Carrying Capacities (ELCCs) that are based on a “Perfect Capacity” construct. These ELCCs vary by year and reflect the ability of the resource type to provide reliable capacity during periods of high demand in net load. These ratings also account for the grid-level interactions of a given resource type with another, which is becoming increasingly more important as the grid sources more of its firm MWs from renewable and energy-limited resources. A sample of ELCC assignments for certain resource types and select calendar years for both GHG scenarios are listed below.

Figure 5 Marginal ELCC Assignments



The tables and charts below display the annual marginal reliability need Ava must satisfy and the corresponding composition of its marginal ELCC supply by contract type. Ava acknowledges that there is an increasing amount of project development risk in its portfolio, given that the percentage of its IRP portfolio of RA supply from projects that have not yet achieved commercial operation increases over time. Some of this risk can be managed through prudent procurement: for example, Ava would seek to diversify its contracts across multiple developers, resource types, and expected CODs. Some of this risk can also be managed with procurement of short-term contracts. Ava will continue to monitor this risk factor and update the CPUC with any material updates related to project delays in a timely manner.



Table 9 Load and Resource Table by Contract Status

	2028	2030	2035	2040	2045
Online	1326	1034	1009	62	12
Development	610	306	285	262	97
Review	0	0	0	0	0
PlannedExisting	597	787	800	1556	1532
PlannedNew	718	930	1957	2188	2704
BTM PV	94	94	141	180	150
LSE total supply (effective MW)	3345	3151	4192	4249	4495



G. Existing Resource Planning

Ava, like most CCAs, has a preference for energy produced by non-GHG emitting resources. Given our Board-approved goal of achieving an zero-emissions portfolio for Ava’s retail demand by

2030, Ava has no plans to enter into long-term contracts with GHG-emitting resources. As such, existing in- and out-of-state hydro resources would generally be attractive to Ava.¹² Staff actively monitors the market to identify opportunities to contract with existing hydro resources—either through short term transactions or through long-term contracts. Ava has been successful in entering into short-term transactions with existing hydro resources to date and does not have any long-term hydro resources in its portfolio at this time. If such resources became available in the coming years, Ava would evaluate those resources for portfolio fit and consider adding these resources to its portfolio. However, Ava recognizes the demand for these resources and the increasing uncertainty associated with their fuel supply as the western United States is increasingly frequently faced with droughts or the potential for droughts and other effects of climate change, such as a greater variance of geographically relevant snow pack and rainfall. Given the uncertainty of hydro resource availability, existing long-term hydro resources are not assumed to contribute to Ava's Preferred Conforming Portfolio. Ava does not assume existing wind, solar, or battery storage resources in its portfolios but will evaluate existing resources for cost competitiveness in relation to generation profile in future procurements as these resources roll off their long-term contracts. Ava assumes 0% of its portfolio will be served by contracted coal or nuclear resources. While Ava's Board has approved acceptance of Ava's allocated share of existing nuclear generation to offset unspecified energy, that allocation is not counted toward Ava's carbon-free target, cannot be bought or sold, and is not assumed to continue beyond the scheduled retirement of the underlying facilities in 2029 and 2030.

While Ava will evaluate opportunities to contract with existing clean resources, there are currently no specific existing CAISO resources Ava has plans to contract with in the future. Due to the limited and uncertain availability, Ava's approach to contracting with existing resources should be regarded as opportunistic and resulting from such resources submitting offers for long-term or short-term contracts to Ava at a price and forecasted net present value that is competitive with new-build resources.

H. Hydro Generation Risk Management

Ava's Preferred Conforming Portfolio does not include any expectations of long-term hydro asset contracts, whether with in-state or out-of-state hydro resources.¹³ Ava does intend to enter into short-term transactions for large hydroelectricity, likely from out-of-state resources, to help Ava achieve its goals of having an emission-free portfolio by 2030, but Ava's ability to meet RPS and

¹² *C.f. infra*, p. 34.

¹³ See [REDACTED] *supra*, p. 13.

RA compliance obligations is unrelated to and unthreatened by its ability to procure *excess* carbon-free energy from hydro assets.

California and the Western North America are seeing increased levels of extreme heat duration and intensity. Concurrently, precipitation in the form of rain and snow are proving to be a less consistently reliable as ‘fuel source’ for hydro power across this same area. Ava's primary exposure to drought and other climate-related reductions in hydroelectric generation is through their effects on CAISO energy markets and forward electricity prices. This exposure is exacerbated by low-level snow water content across the state of California that has been measured so far for 2026,¹⁴ which further decreases hydro generation and increases spot prices across the CAISO. Because Ava procures a portion of its energy needs through short-term transactions, persistent drought will increase market forward prices and result in higher prices being offered for forward transactions than would be associated with average or above average hydro years. Any Ava demand exposed to the CAISO day-ahead and real-time market will be subjected to greater price volatility in hours of exposure.

Ava manages its exposure to high forward market prices by implementing its Board- and Risk Oversight Committee-approved Risk Management Regulations (“Risk Regs”).

[REDACTED]

I. Long-Duration Storage Planning

Since the prior IRP submittal, Ava has successfully brought online an 8-hour battery and is contracted for an additional 8-hour battery resource. Ava executed an agreement with Tumbleweed LLC to expand the 4-hour battery to an 8-hour battery, at the current 50 MW nameplate capacity. The Tumbleweed 8-hour battery successfully became operational this June 1, 2026, and accounts for 42 MW of NQC long-duration storage, which is more than the 37 MW MTR requirement. Additionally, Ava has contracted for a 13.33 MW 8-hour battery resource with MRP Pacific Marketing III LLC that is expected to come online in the summer of 2027.

Long duration storage is a unique resource in the broader California energy mix. Ava recognizes the need for resources that can go beyond the 4-hour standard energy storage product. However,

¹⁴ https://cdec.water.ca.gov/reportapp/javareports?name=PLOT_SWC

the economics for these resources remains challenging. Ava is assessing the need to contract additional long duration storage to meet compliance requirements associated with the new D.26-02-057 procurement order.

J. Clean Firm Power Planning

Ava received multiple offers for geothermal resources that fit the Clean Firm Power requirements in its 2020 Renewable Energy and Storage RFO.¹⁵ Though Ava elected not to execute contracts with any of the geothermal resources offered in the RFO, when the CPUC released the MTR procurement order Ava was able to initiate bilateral negotiations with one of the projects that had been previously offered. In April 2022, Ava executed a contract with Corsac Generating Station 1 LLC for a 40 MW geothermal facility which will be constructed in Churchill County, Nevada. The facility is scheduled to achieve commercial operation in April 2030. This resource will contribute value from renewable generation to Ava's portfolio and serve as a firm baseload resource and hedge against price and supply stack volatility. Ava also looks forward to incorporating the high-capacity factor RA into its RA position. Ava must obtain import allocation rights (IAR) to ensure energy generated by the resource is fully deliverable into CAISO and that the resource will provide RA value, thus there is some risk associated with the project. Ava is working closely with the developer, Fervo Energy, to monitor CAISO transmission planning and evaluate probability that IAR will be available at the intended delivery point. If in Ava and Fervo's estimation the ability to obtain IARs at the intended point is at risk, Ava has some contractual ability to change the delivery point to a different CAISO branch group. In February of 2026, CPUC issued Decision (D.) 26-02-057 under the formal IRP proceeding docket Rulemaking (R.) 25-06-019 that requires a portion of the procurement mandate to be at least 25% from clean, firm power or long duration energy storage to come online on or before 2032. As such, Ava issued an RFO in May of 2026, which includes the request for clean, firm power as well as long duration energy storage to potentially meet or make progress in meeting the incremental procurement order.

K. Non-CAISO, including Out-of-State, Wind Planning

Cost declines in solar resources from the early 2000s until approximately 2021 have largely resulted in lower pricing for solar generation, and lower costs on a levelized basis, as compared to wind. However, the diurnal production profile of solar means that wind resources can potentially act as an important complementary resource in LSEs' portfolios, supplementing renewable production in overnight and winter hours and reducing the need for load shifting from

¹⁵ <https://Ava.org/2020-rfo/>

battery or demand-side resources. Ava has issued several RFOs since 2021 and considers the value and risks of out of state, wind imports, among other technologies. One recently acquired wind resource comes from New Mexico and intends to utilize as much Maximum Import Capability (MIC) as available to import the generation and capacity from this resource. However, for planning purposes, MIC and other transmission development considerations are the main roadblock for bringing out of state wind to the Ava supply portfolio.

Ava has one energy-only (no RA) out-of-state wind resource in its portfolio and generating electricity at this time. Ava is aware of and following CAISO's Transmission Planning Process (TPP) solicitation of interest regarding Idaho-area (and other States) out-of-state wind and in the CAISO's corollary to its TPP, the 20-year Transmission Outlook in which transmission projects that support access to out-of-state resources are evaluated. Ava is interested in out-of-state wind resources should their project economics appear more favorable than the economic assumptions underpinning the IRP analysis and will provide updates on any long-term contracts Ava enters into should that come to pass.

L. Offshore Wind Planning

In this IRP analysis cycle, Ava has not selected OSW resources for its Preferred Conforming Portfolio. While there has been significant interest in offshore wind (OSW) development in the California and Pacific Coast region, a range of multi-jurisdictional challenges have clouded the development timelines for OSW resources regionally.

M. Transmission Planning

Recognizing that transmission upgrades can constitute cost-effective investments in firm power, a key part of Ava's IRP plan includes looking for opportunities to increase the deliverability of existing and new generation facilities. Based on the information available at this time, Ava does not expect to incur any transmission-related restrictions on its procurement strategy for either baseline or planned resources.

Currently, there are no baseline resources with a "Development" status that require any transmission upgrades to achieve FCDS. As for planned resources, the only resource category in Ava's portfolio that may require an upgrade to the existing transmission system is offshore wind. Where viable, Ava is observing the potential for procurement of offshore wind depending on costs and the longer-term capability for development, availability, and other considerations. As for its plan to procure wind in the near-term horizon, Ava conducts procurement RFOs to assess market conditions related to costs, location, and timing of new resources. It will emphasize the

addition of wind to the portfolio, but the final amount, location, and timing will ultimately depend on the market pricing offered by project developers.

While Ava strives to execute contracts for long-term resources across a diverse geographic area to mitigate risks associated with congestion and limited deliverability in select load pockets, Ava currently has no firm restrictions regarding the location of any of its planned candidate resources, as long as full capacity deliverability (FCDS) status is attainable.¹⁶ The modeling framework used in this year's IRP has limited ability to account for transmission related constraints (e.g., congestion and interconnection capability) during the optimization stage. Moreover, the model assumes that any additional costs stemming from an Area Distribution Network Upgrade (ADNU) project are accounted for in the CapEx assumptions. Ava recognizes these limitations and will evaluate opportunities to mitigate the impacts of these limitations in future modeling exercises. At this time, Ava has no stated objection to the CPUC or CAISO relocating their candidate projects, assuming similar availability and costs for any given replacement project.

IV. Action Plan

The IRP study is a valuable planning tool and provides guidance that contributes to Ava's procurement strategy. However, neither Ava's IRP analysis nor the make-up of its Preferred Conforming Portfolio should be viewed as an explicit roadmap or firm commitment for future procurement. While Ava values the lessons learned through the IRP analysis, Ava will make procurement decisions and enter into contracts based on the resources available in the market and the cost and value proposition of those resources based on current and forward market projections at the time the resources in question are offered to Ava. Ava also notes that there remains significant uncertainty around the availability and timing of new resource types such as offshore wind. Since the COVID-19 pandemic began in 2020, supply-chain disruptions have increased costs, constrained the availability of critical components, and contributed to delays for renewable and conventional generation projects. Although some pandemic-era disruptions have eased, resource development now faces substantial additional uncertainty from changes in federal policy. The accelerated phaseout of federal tax credits for wind and solar projects, new restrictions tied to foreign-sourced components, increased tariffs on imported equipment and key materials, and heightened federal review of renewable energy development on public lands may increase project costs, limit equipment availability, and delay or prevent projects from reaching commercial operation. No load-serving entity can independently resolve these market,

¹⁶ A limited exception to Ava's preference for geographically diverse resources is that Ava does have a preference for projects sited in its own service territory for their contribution to local reliability, local air pollution reduction, and to minimize basis risk.

trade, tax, and permitting constraints, leaving Ava exposed to continued uncertainty regarding resource availability, pricing, and construction timelines.

N. Proposed Procurement Activities and Potential Barriers

The following sections describe Ava's planned procurement activities flowing from the IRP portfolio analysis and Preferred Conforming Portfolio, as well as potential barriers to those actions.

- i. Resources to meet IRP mandated procurement requirements, including D.21-06-035 and D.23-02-040

Table 10 Ava Mid-Term Reliability IRP Procurement

Resource Name	Expected or Actual COD	Procurement from which it was contracted
Sun Streams 2, LLC	6/1/2023	Bilateral negotiation
Daggett Solar Power 3 LLC	9/5/2023	2020 Renewable Energy and Storage RFO
IP Oberon II, LLC	1/1/2024	2020 Renewable Energy and Storage RFO
EDPR Scarlet I LLC	5/3/2024	Amended & Restated PPA executed 9/30/2025
Tumbleweed Energy, LLC*	4hr: 7/16/2024 8hr: 6/1/2026	4hr: 2020 Renewable Energy & Storage RFO 8hr: Bilateral Negotiation
EDPR Scarlet II BESS LLC	12/11/2024	Bilateral negotiation
EDPR Scarlet II LLC	12/27/2024	Bilateral negotiation
Kola Energy Storage, LLC	8/1/2025	2022 Renewable Energy and Storage RFO
MRP Pacific Marketing LLC	8/20/2025	2022 Renewable Energy and Storage RFO
Alpaugh BESS, LLC	5/29/2026	2022 Renewable Energy and Storage RFO
Sun Pond, LLC	4/1/2026	2022 Renewable Energy and Storage RFO
Sunzia Wind North LLC	5/29/2026	2023 Joint CCA RFO. Bifurcated into separate North and South Agreements on 5/27/26
Sunzia Wind South LLC	5/29/2026	2023 Joint CCA RFO. Bifurcated into separate North and South Agreements on 5/27/26
IP Aramis, LLC		Bilateral negotiation
EDPR Scarlet III LLC		Bilateral negotiation
Imperial Sun Solar LLC		2024 Joint CCA RFO
Sonrisa BESS LLC		Bilateral negotiation
EDPR CA Solar Park VI LLC		Bilateral negotiation
San Gabriel Project III LLC		2024 Joint CCA RFO
MRP Pacific Marketing III LLC		2024 Joint CCA RFO
Zeta Solar, LLC		2023 Joint CCA RFO
Rosemary Solar, LLC		2023 Joint CCA RFO
Corsac Generating Station 1 LLC		Bilateral negotiation
Other Resources Currently Under Negotiation		

*Tumbleweed was contracted as a 4-hour battery, originally operational on 7/16/2024. The facility was later expanded to an 8-hour battery to satisfy long-duration energy storage (LDES) compliance requirement. The 8-hour battery expansion became operational on June 1, 2026.

Ava has entered twenty-three (23) long-term contracts that contribute to its D.21-06-035 and D.23-02-040 requirements; executed agreements are listed above. Through the 2026 compliance period Ava has brought on 460.81 MW of renewable resources and is over the current compliance requirement by 46.81 MW. By the end of the compliance period Ava expects to have brought online 1,051.74 MW of renewable resources and exceed the compliance obligations by 496.74 MW.

a. 1,000 MW of firm zero-emitting resource requirements

Table 11 Ava Mid-Term Reliability IRP Procurement – Firm Zero-Emitting Resources

Resource Name	Expected or Actual COD	Procurement from which it was contracted	Notes
Corsac Generating Station 1 LLC	April 1, 2030	Bilateral negotiation	Amended agreement extending COD to accommodate transmission system upgrades

In February of 2022, Ava executed a long-term contract with Fervo Energy to meet its Firm Zero-Emitting Resource requirements under D.21-06-035. Ava's 40 MW Corsac Generating Station 1 project was expected to achieve COD in June 2026. Ava amended the contract in August 2024 extending the online date to accommodate required NV energy transmission system upgrades. The revised commercial operation date is April 1, 2030.

b. 1,000 MW of long-duration storage resource requirements

Table 12 Ava Mid-Term Reliability IRP Procurement - Long-Duration Energy Storage

Resource Name	Expected or Actual COD	Procurement from which it was contracted
Tumbleweed Energy, LLC	4hr: 7/16/2024 8hr: 6/1/2026	4hr: 2020 Renewable Energy & Storage RFO 8hr: Bilateral Negotiation
MRP Pacific Marketing III LLC		2024 Joint CCA RFO

Ava has fulfilled the long-duration resource requirement with the Tumbleweed 8-hour BESS. Tumbleweed was originally contracted as a 50 MW 4-hour battery that came online on July 16, 2024. Ava worked with the development team to expand the battery duration at the site from a 4-hour battery to an 8-hour battery. The Tumbleweed 8-hour battery became fully operational on June 1, 2026. Additionally, Ava has contracted with MRP Pacific Marketing III LLC for a 13.33

MW 8-hour battery expected to reach commercial operation June 30, 2027. MRP Pacific Marketing III LLC will be reducing capacity from a thermal resource that shares the same interconnection capacity.

- c. 2,500 MW of zero-emissions generation, generation paired with storage, or demand response resource requirements

Table 13 Zero Emission, Co-located, and DR Procurement Activities

Resource Name	Expected or Actual COD	Procurement from which it was contracted
Sun Streams 2, LLC	6/1/2023	Bilateral negotiation
Daggett Solar Power 3 LLC	9/5/2023	2020 Renewable Energy and Storage RFO
IP Oberon II, LLC	1/1/2024	2020 Renewable Energy and Storage RFO
EDPR Scarlet I LLC	5/3/2024	Amended & Restated PPA executed 3/21/2022
Tumbleweed Energy, LLC	4hr: 7/16/2024 8hr: 6/1/2026	4hr: 2020 Renewable Energy & Storage RFO 8hr: Bilateral Negotiation
EDPR Scarlet II BESS LLC	12/11/2024	Bilateral negotiation
EDPR Scarlet II LLC	12/27/2024	Bilateral negotiation
Kola Energy Storage, LLC	8/1/2025	2022 Renewable Energy and Storage RFO
MRP Pacific Marketing LLC	8/20/2025	2022 Renewable Energy and Storage RFO
Alpaugh BESS, LLC	5/29/2026	2022 Renewable Energy and Storage RFO
Sun Pond, LLC	4/1/2026	2022 Renewable Energy and Storage RFO
Sunzia Wind North LLC	5/29/2026	2023 Joint CCA RFO
Sunzia Wind South LLC	5/29/2026	2023 Joint CCA RFO
IP Aramis, LLC		Bilateral negotiation
EDPR Scarlet III LLC		Bilateral negotiation
Imperial Sun Solar LLC		2024 Joint CCA RFO
EDPR CA Solar Park VI LLC		Bilateral negotiation
San Gabriel Project III LLC		2024 Joint CCA RFO
Zeta Solar, LLC		2024 Joint CCA RFO
Rosemary Solar, LLC		2024 Joint CCA RFO

Ava has contracted enough resources to satisfy all D.21-06-035 and D.23-02-040 requirements. If all remaining contracts reach commercial operation as expected, Ava will have 496.74 MW of excess capacity to count towards the D.26-02-057 procurement order.

Ava has used excess capacity to support other LSEs in fulfilling their compliance obligations. Ava executed a swap with Clean Power San Francisco for 70 MW of capacity from Ava's portfolio of resources through November 2025 to December 2026. Additionally, Ava executed a sale of 5

MW of long-duration storage with Sonoma Clean Power from June 2028 to May 2038. Ava will continue to assess portfolio needs and support grid reliability.

d. All other procurement requirements

Ava is currently evaluating portfolio needs to satisfy the new D.26-02-057 procurement order. As mentioned, if all current contracts come online Ava will have excess capacity from the D.21-06-035 and D.23-02-040 orders to count towards the new order. Ava will continue to assess our portfolio and identify opportunities to support grid reliability.

- ii. Plans for resources that are currently non-candidate in CPUC's IRPs not described above

None at this time.

- iii. Other renewable and/or zero carbon resources not described above

None at this time.

- iv. Other energy storage not described above

None at this time.

- v. Other demand response not described above

None at this time.

- vi. Other energy efficiency not described above

Ava administered a CPUC-approved energy efficiency program from 2023 through 2026 focused on reducing energy use in large, nonresidential buildings. The program emphasized low- and no-cost operational improvements delivered through Strategic Energy Management (SEM) and Normalized Metered Energy Consumption (NMEC) approaches, as well as targeted incentives for commercial heat pump water heaters. Ava expects to achieve approximately 12 GWh of annual energy savings across all participating sites in this program. Looking ahead, Ava will continue to evaluate opportunities for energy efficiency investments that support beneficial electrification, improve load flexibility, and bring value to customers.

- vii. Other distributed generation not described above

Ava launched the Resilient Home program in 2020 to provide backup power to single and multifamily residential homeowners facing rolling blackouts or Public Safety Power Shutoff (PSPS) events, while generating Resource Adequacy (RA) benefits for Ava. Currently, the program aggregates over 990 enrolled residential battery storage systems paired with PV in Ava's service territory, dispatching stored energy (from solar) during the 5–9 PM net peak

window on weekdays to provide load modification benefits. This program is contracted to run for 10 years and is currently in its fourth year.

a. SmartHome Battery

Ava has developed a residential battery storage program called SmartHome Battery to lower the initial cost of installing a new solar and battery system or adding a home battery to an existing solar system for residential customers, while adding reliable batteries to Ava's community Virtual Power Plant (VPP). This program allows market-rate customers to receive an upfront incentive of \$90/kWh for the installation of new batteries, or \$500/kWh for income-qualified customers enrolled in CARE or FERA, with incentives varying by battery size and the capacity nominated by the customer. Additionally, customers can earn \$3/kWh/month in ongoing participation payments by connecting to Ava's VPP and sharing their battery capacity. Ava will also contract with residential storage aggregators to participate in our VPP and who can deliver load modification or event dispatch.

b. Critical Municipal Facilities

Ava is currently developing projects that will provide energy resilience by powering essential municipal facilities with solar and battery systems that keep critical services running during power outages. This includes 8 sites across 4 cities, including fire stations, community centers, food banks, equipment yards, and City Council buildings. These projects will consist of 490kW of solar panels and 1.34MWh of battery storage, which will generate 778,000kWh of clean energy in their first year of operations alone. Ava has executed 25-year Power Purchase Agreements with each City for these projects.

c. Ava Resilient Hub Initiative

Ava's Community Resilient Hub Initiative is designed to support the development of community-serving facilities that can provide critical services and resources before, during, and after power outages and emergencies. The initiative includes both technical assistance services and financial incentives to help eligible organizations assess, design, and implement solar + battery storage systems that support critical facility operations and improve community resilience. Over time, Ava will continue to evaluate opportunities to integrate these batteries into our virtual power plant.

viii. Transportation electrification, including any investments that correspond to different levels than what is included in Integrated Energy Policy Report (IEPR)

Ava has multiple transportation electrification efforts underway. What follows is a high-level summary of these activities.

e. DCFC Hubs

Ava is investing in deploying a dense regional network of public DCFC infrastructure to deliver charging throughout our service area. Ava is prioritizing development of this network to ensure all Ava customers are served and establish Ava's Joint Power Authority member communities as leaders in affordable and accessible EV fast charging. Ava's goal is to facilitate regional adoption of EVs in excess of the regional share of the California goal of 5 million zero-emission vehicles on the road by 2030. To support this goal, Ava plans to build and operate public fast charging hubs, each with a minimum of 10 DCFCs. Ava is focused on siting its hubs in areas with a dense population of renters.

Ava's first such project is on the border of West Oakland and Downtown Oakland, in a municipal parking garage. The location is within the Bay Area Air Quality Management District AB617 boundary for West Oakland. This DCFC hub is currently the largest in Oakland and the second largest in Alameda County. More importantly, within two square miles of the DCFC hub are approximately 1,000 multi-family properties with over five units at each premises including over 100 in West Oakland specifically. This project enables 60 minutes of free garage access for community members while charging, and all DCFCs are powered by Ava's Renewable 100 electricity product.

Ava is working to develop additional projects throughout its service area including but not limited to the Cities of Berkeley, Hayward, Livermore, Pleasanton, and Fremont.

f. SmartHome Charging

Ava SmartHome Charging is an electric vehicle (EV) and plug-in hybrid electric (PHEV) managed charging program that shifts charging to times when energy is cheaper and emissions are lower. The program integrates these devices into Ava's VPP utilizing third party providers, like Optiwatt, to reduce energy grid strain caused by at-home charging. The program optimizes participants' at-home charging to ensure vehicle charging automatically occurs during lower-cost, renewable energy times – saving money for both Ava and our customers while ensuring their desired read-by-time and state of charge requirements are met.

- ix. Building electrification, including any investments that correspond to different levels than what is included in Integrated Energy Policy Report (IEPR)

None at this time

x. Potential Centralized Procurement, pursuant to AB-1373

Ava incorporated centralized procurement in its Preferred Conforming Portfolio per CPUC guidance.¹⁷

xi. Other

Ava has worked with several of its member cities to develop and achieve Climate Action Plans, where cities transition their default energy service to Ava's Renewable 100. Ava's Renewable 100 service is sourced from California wind and solar facilities, including a new wind farm in Livermore. As Ava's service area grows and more member cities adopt their own Climate Action Plans, Ava will continue to maintain a portfolio that achieves 100 percent clean energy for customers in this service.

O. Ava Rate Programs

Ava currently participates in the CPUC- and state-funded bill assistance programs: CARE, FERA, Arrearage Management Plan (AMP), Percentage of Income Payment Plan (PIPP), and DAC-GT. Through these programs, Ava aims to remove economic barriers for ratepayers in our service area. The CARE and FERA programs provide income-qualifying customers with a monthly discount on their electric bill. The PIPP pilot program caps participating customers' monthly energy bills at a fixed amount based on their income level. AMP is a debt forgiveness program that offers customer assistance with overdue bills. DAC-GT provides 100% renewable energy and a 20% electric bill discount to income-qualifying customers residing in a DAC.

a. Self-Generation Electrification Programs

i. Resilient Home program

Ava's Resilient Home program, in partnership with Sunrun, provides backup power to more than 990 single- and multifamily homeowners. Enrollment in the Sunrun Resilient Home program focuses on equitable access in areas affected by rolling blackouts, with a target percentage of delivered capacity sourced from disadvantaged communities, CARE/FERA, and Medical Baseline customers.

¹⁷ AB 1373 Resource Allocation Methodology for 2024-2026 IRP Cycle Filing Requirements (March 19th, 2026); Characterizing AB 1373 Allocations in LSE Preferred Conforming Portfolios for 2024-2026 IRP Cycle Filing Requirements (March 19, 2026)

ii. SmartHome Battery

This program allows customers to receive an upfront incentive of \$90/kWh for the installation of new batteries, with income-qualified customers enrolled in CARE or FERA eligible for a higher upfront incentive of \$500/kWh. Customers can earn \$3/kWh/month by participating in Ava's VPP.

b. Transportation Electrification Programs

i. Ava Bike Electric

Ava Bike Electric aims to increase access to e-bikes, reduce carbon emissions, and support local businesses. At \$10 Million, this is the largest e-bike program in the U.S. along with the City of Portland. Ava has partnered with Alameda County Transportation Commission to extend this program to more residents and assess transportation mode shift by new e-bike users with \$4 Million of the budget coming from their grant.

The program provides point-of-sale incentives while also integrating education on biking, e-bikes, and safety; screening local bike shops & qualified products; and connection to local community groups to improve the participant experience of purchasing and using an e-bike. At least 40% of the incentive funds are dedicated to income qualified participants, which are verified automatically by enrollment in CARE, FERA, or EAP (through Alameda Municipal Power) electricity rate reduction programs. Income qualified participants receive a higher e-bike rebate amount and a safety equipment rebate for locks, lights, and helmets.

c. Grants

i. Community Investment Grants

The Community Investment Grants initiative will invest \$7M of Ava's Local Development budget into the community (2024-2030), for projects designed to aid in the energy transition, by engaging hard to reach communities and delivering energy-related social and environmental benefits to Ava residents.

This initiative, beginning in 2023, is designed to allocate funding dollars towards less restrictive, multi-year grant opportunities to non-profit and community-based organizations (CBOs).

Grant funded projects are designed incorporating Ava's Grantmaking Strategy that encompasses organizational strategic priorities for Ava's grantmaking portfolio; guided by Ava's ethos, mission, and organizational objectives.

The first two programs deploy robust marketing, education, and outreach strategies to meet our low-income, multi-family customers. Ava integrates thorough data analytics to best meet the needs of our disadvantaged communities. Ava intends to ensure that those who have been historically excluded in the clean energy transition have access to these programs to propel a just, all-electric transition.

Furthermore, Ava's governance structure allows community input through the Community Advisory Committee (CAC), which consists of twelve members, plus five alternatives. Formed in 2016, Ava's CAC advises the Board on all subjects related to our operations. The committee acts as a liaison between key stakeholders and our Board, holding public committee meetings on a regular basis. Having diverse community members is important to Ava, including geographic diversity.

P. LSE's Tribal Customers

There are no federally recognized tribal lands in Ava's service area.

Q. Procurement Products

In the final version of this report, Ava will provide a description of any physical and financial products they intend to utilize in procurement activities associated with their preferred conforming portfolio. This will include any electric or gas procurement products, GHG products, credit products, or exchanges.

R. Commission Direction of Actions

Ava encourages the Commission to consider the following items.

The IRP is an imprecise forecast of LSE portfolio needs using assumptions about the future state of resource costs, timely interconnection with available deliverability, and load forecasts. The conclusions of an LSE's IRP analysis provide more or less useful directional guidance about how their portfolio needs may change and what steps they may need to take in the future.

Ava anticipates that its portfolio needs in the future will differ from its Preferred Conforming Portfolio. The Commission should not expect nor insist that LSEs precisely follow the procurement plans reflected in their IRP portfolios.

V. Lessons Learned

As Ava has matured, we are looking further ahead to determine the best resource portfolio that will achieve our organizational goals while contributing to system reliability and emission reduction goals for the State. To succeed, we need to manage our portfolio effectively, adding clean energy resources with the appropriate attributes to meet our portfolio needs over time. Striving to achieve Ava's Board-established goal of providing 100% clean energy on a net-annual basis by 2030,¹⁸ Ava purposefully sought to expand and improve the capability of our long-term portfolio planning both in preparation for the 2026 IRP LSE Plan submittal as well as to improve our own long-term portfolio management. We have adopted markedly different tools and methodologies used for this year's IRP plan from previous cycles¹⁹ to establish an enhanced baseline of long-term analytical capability that can be adapted and repeated more frequently than the current CPUC IRP cycle requires. Ava's ultimate long-term portfolio strategy is to provide affordable, clean energy to our customers; Ava's expanded long-term planning will be a critical tool in guiding our procurement strategy to manage portfolio needs over time.

As Ava's long-term portfolio analysis continues to improve, we have identified several areas that warrant improvement.

S. Commission Should Recognize the Needs of Public Agency LSEs to Develop IRP Plans

For this IRP cycle, the Commission initially established a filing timeline that provided approximately 6 months from the release of final filing requirements and the filing deadline.²⁰ As filing requirements continued to be refined several months after that ruling, the Commission extended the filing deadline to August, approximately 5 months after final filing materials were released.

¹⁸ See *supra*, n. **Error! Bookmark not defined.**

¹⁹ See *supra* at p. 8.

²⁰ See January 2026 ALJ Ruling.

The CPUC's development of the IRP filing requirements and materials on the one hand, and Ava's (like other public agencies) required internal governance process on the other increases timeline complexity. Namely, while the filing deadline to submit an IRP LSE Plan is established by the Commission (e.g., for this year it is August 10, 2026), Ava must obtain filing authority from its Board well in advance of the CPUC's filing date (e.g., for this year Ava sought approval from its Board on July 15, 2026). As a public agency, Ava must comply with public meeting notice requirements such as the duty to publish Board meeting materials in advance of regularly scheduled meetings. While Ava is governed by a Board comprised of elected officials from every municipality within our service territory, our Board is advised by a Community Advisory Committee in addition to Ava Staff. Ava must comply with public meeting notice requirements for our advisory committee as well. To ensure that our Community Advisory Committee *and* our Board have a meaningful opportunity to review and approve our IRP LSE plan, Ava must complete its IRP analysis and plan development approximately one month prior to the CPUC's filing deadline.

Ava, like other public agencies participating in the IRP proceeding, therefore has less time to develop and prepare our IRP analysis than might be perceived by the filing due date that the Commission sets. Ava asks that the Commission consider the process to which public agencies must adhere when setting IRP cycle milestones, fixing the closed system of planning parameters, and establishing IRP LSE Plan filing deadlines.

T. Transmission Congestion and Interconnection Deliverability Slow Incremental Resource Development

Ava anticipates that the challenges of bringing incremental generating resources online will continue in light of congested transmission capacity across the CAISO system and scarce interconnection deliverability for new resources connecting to the grid. The Commission should consider what steps it may take to support efforts by CAISO and others to alleviate transmission congestion and deliverability scarcity for generation interconnection projects serving California load.

U. IRP-Directed Procurement Risks Displacing LSE Portfolio Management and Procurement Goals

Ava continues to be concerned that the CPUC's IRP process may have the effect of displacing Ava's own portfolio management autonomy. Recognizing that the Commission is eager to

encourage additional procurement beyond LSE need,²¹ given Ava's relatively small size within the broader LSE landscape, the Commission's procurement direction risks overwhelming Ava's ability to procure resources that reflect our mission and guidance from our Board.

Ava is cognizant of its place within the broader LSE landscape. Ava fully appreciates our obligation to serve load with a resource portfolio that complies with Ava Board guidance as well as State reliability and emission requirements. However, Ava notes that the Commission's conclusions based on its analysis of individual LSE-submitted resource portfolios has often resulted in significant additional procurement requirements for Ava, and other LSEs generally. Ava has a responsibility to manage its resource portfolio in accordance with the direction set by Ava's member city and municipal representatives. Yet Ava's IRP analysis, and the resulting preferred conforming portfolio, are based on assumptions regarding Ava's load change over time, availability of transmission capacity over the planning horizon, relative market energy prices, and costs associated with procurement of then-existing or new resources across the Western Interconnection. In other words, Ava's IRP portfolio is highly dependent on these assumptions and projections. Whether a particular resource or technology best suits Ava's future portfolio needs within the IRP planning context should guide but not constrain Ava's portfolio management decision-making or strategy.

Where Ava receives a directive from the Commission to procure capacity or energy from specific resource technologies, this 'forced portfolio adjustment' risks displacing other procurement Ava might have undertaken. Ava ultimately is striving to achieve a 24/7 coincident clean energy portfolio to meet its customers' load. Commission procurement direction constrains Ava's procurement autonomy.

²¹ See 9/8 ALJ Ruling at p. 8.

Glossary of Terms

Alternative Portfolio: LSEs are permitted to submit “Alternative Portfolios” developed from scenarios using different assumptions from those used in the Preferred System Plan with updates. Any deviations from the “Conforming Portfolio” must be explained and justified.

Approve (Plan): the CPUC’s obligation to approve an LSE’s integrated resource plan derives from Public Utilities Code Section 454.52(b)(2) and the procurement planning process described in Public Utilities Code Section 454.5, in addition to the CPUC obligation to ensure safe and reliable service at just and reasonable rates under Public Utilities Code Section 451.

Balancing Authority Area (CAISO): the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

Baseline resources: Those resources assumed to be fixed as a capacity expansion model input, as opposed to Candidate resources, which are selected by the model and are incremental to the Baseline. Baseline resources are existing (already online) or owned or contracted to come online within the planning horizon. Existing resources with announced retirements are excluded from the Baseline for the applicable years. Being “contracted” refers to a resource holding signed contract/s with an LSE/s for much of its energy and capacity, as applicable, for a significant portion of its useful life. The contracts refer to those approved by the CPUC and/or the LSE’s governing board, as applicable. These criteria indicate the resource is relatively certain to come online. Baseline resources that are not online at the time of modeling may have a failure rate applied to their nameplate capacity to allow for the risk of them failing to come online.

Candidate resource: those resources, such as renewables, energy storage, natural gas generation, and demand response, available for selection in IRP capacity expansion modeling, incremental to the Baseline resources.

Capacity Expansion Model: a capacity expansion model is a computer model that simulates generation and transmission investment to meet forecast electric load over many years, usually with the objective of minimizing the total cost of owning and operating the electrical system. Capacity expansion models can also be configured to only allow solutions that meet specific requirements, such as providing a minimum amount of capacity to ensure the reliability of the system or maintaining greenhouse gas emissions below an established level.

Certify (a Community Choice Aggregator Plan): Public Utilities Code 454.52(b)(3) requires the CPUC to certify the integrated resource plans of CCAs. “Certify” requires a formal act of the Commission to determine that the CCA’s Plan complies with the requirements of the statute and the process established via Public Utilities Code 454.51(a). In addition, the Commission must review the CCA Plans to determine any potential impacts on public utility bundled customers under Public Utilities Code Sections 451 and 454, among others.

Clean System Power (CSP) methodology: the methodology used to estimate GHG and criteria pollutant emissions associated with an LSE’s Portfolio based on how the LSE will expect to rely on system power on an hourly basis.

Community Choice Aggregator: a governmental entity formed by a city or county to procure electricity for its residents, businesses, and municipal facilities.

Conforming Portfolio: the LSE portfolio that conforms to IRP Planning Standards, the 2030 LSE-specific GHG Emissions Benchmark, use of the LSE's assigned load forecast, use of inputs and assumptions matching those used in developing the Reference System Portfolio, as well as other IRP requirements including the filing of a complete Narrative Template, a Resource Data Template and Clean System Power Calculator.

Effective Load Carrying Capacity: a percentage that expresses how well a resource is able avoid loss-of-load events (considering availability and use limitations). The percentage is relative to a reference resource, for example a resource that is always available with no use limitations. It is calculated via probabilistic reliability modeling, and yields a single percentage value for a given resource or grouping of resources.

Effective Megawatts (MW): perfect capacity equivalent MW, such as the MW calculated by applying an ELCC % multiplier to nameplate MW.

Electric Service Provider: an entity that offers electric service to a retail or end-use customer, but which does not fall within the definition of an electrical corporation under Public Utilities Code Section 218.

Filing Entity: an entity required by statute to file an integrated resource plan with CPUC.

Future: a set of assumptions about future conditions, such as load or gas prices.

GHG Benchmark (or LSE-specific 2030 GHG Benchmark): the mass-based GHG emission planning targets calculated by staff for each LSE based on the methodology established by the California Air Resources Board and required for use in LSE Portfolio development in IRP.

GHG Planning Price: the systemwide marginal GHG abatement cost associated with achieving a specific electric sector 2030 GHG planning target.

Integrated Resources Planning Standards (Planning Standards): the set of CPUC IRP rules, guidelines, formulas and metrics that LSEs must include in their LSE Plans.

Integrated Resource Planning (IRP) process: integrated resource planning process; the repeating cycle through which integrated resource plans are prepared, submitted, and reviewed by the CPUC

Long term: more than 5 years unless otherwise specified.

Load Serving Entity: an electrical corporation, electric service provider, community choice aggregator, or electric cooperative.

Load Serving Entity (LSE) Plan: an LSE's integrated resource plan; the full set of documents and information submitted by an LSE to the CPUC as part of the IRP process.

Load Serving Entity (LSE) Portfolio: a set of supply- and/or demand-side resources with certain attributes that together serve the LSE's assigned load over the IRP planning horizon.

Loss of Load Expectation (LOLE): a metric that quantifies the expected frequency of loss-of-load events per year. Loss-of-load is any instance where available generating capacity is insufficient to serve electric demand. If one or more instances of loss-of-load occurring within the same day regardless of duration

are counted as one loss-of-load event, then the LOLE metric can be compared to a reference point such as the industry probabilistic reliability standard of “one expected day in 10 years,” i.e. an LOLE of 0.1.

Maximum Import Capability: a California ISO metric that represents a quantity in MWs of imports determined by the CAISO to be simultaneously deliverable to the aggregate of load in the ISO’s Balancing Authority (BAA) Area and thus eligible for use in the Resource Adequacy process. The California ISO assess a MIC MW value for each intertie into the ISO’s BAA and allocated yearly to the LSEs. A LSE’s RA import showings are limited to its share of the MIC at each intertie.

Net Qualifying Capacity (NQC): *Qualifying Capacity reduced, as applicable, based on: (1) testing and verification; (2) application of performance criteria; and (3) deliverability restrictions. The Net Qualifying Capacity determination shall be made by the California ISO pursuant to the provisions of this California ISO Tariff and the applicable Business Practice Manual.*

Non-modeled costs: *embedded fixed costs in today’s energy system (e.g., existing distribution revenue requirement, existing transmission revenue requirement, and energy efficiency program cost).*

Nonstandard LSE Plan: *type of integrated resource plan that an LSE may be eligible to file if it serves load outside the CAISO balancing authority area.*

Optimization: *an exercise undertaken in the CPUC’s Integrated Resource Planning (IRP) process using a capacity expansion model to identify a least-cost portfolio of electricity resources for meeting specific policy constraints, such as GHG reduction or RPS targets, while maintaining reliability given a set of assumptions about the future. Optimization in IRP considers resources assumed to be online over the planning horizon (baseline resources), some of which the model may choose not to retain, and additional resources (candidate resources) that the model is able to select to meet future grid needs.*

Planned resource: *any resource included in an LSE portfolio, whether already online or not, that is yet to be procured. Relating this to capacity expansion modeling terms, planned resources can be baseline resources (needing contract renewal, or currently owned/contracted by another LSE), candidate resources, or possibly resources that were not considered by the modeling, e.g., due to the passage of time between the modeling taking place and LSEs developing their plans. Planned resources can be specific (e.g., with a CAISO ID) or generic, with only the type, size and some geographic information identified.*

Qualifying capacity: *the maximum amount of Resource Adequacy Benefits a generating facility could provide before an assessment of its net qualifying capacity.*

Preferred Conforming Portfolio: *the conforming portfolio preferred by an LSE as the most suitable to its own needs; submitted to CPUC for review as one element of the LSE’s overall IRP plan.*

Preferred System Plan: *the Commission’s integrated resource plan composed of both the aggregation of LSE portfolios (i.e., Preferred System Portfolio) and the set of actions necessary to implement that portfolio (i.e., Preferred System Action Plan).*

Preferred System Portfolio: *the combined portfolios of individual LSEs within the CAISO, aggregated, reviewed and possibly modified by Commission staff as a proposal to the Commission, and adopted by the Commission as most responsive to statutory requirements per Pub. Util. Code 454.51; part of the Preferred System Plan.*

Short term: *1 to 3 years (unless otherwise specified).*

Staff: CPUC Energy Division staff (unless otherwise specified).

Standard LSE Plan: type of integrated resource plan that an LSE is required to file if it serves load within the CAISO balancing authority area (unless the LSE demonstrates exemption from the IRP process).

Transmission Planning Process (TPP): annual process conducted by the California Independent System Operator (CAISO) to identify potential transmission system limitations and areas that need reinforcements over a 10-year horizon.

Appendix

The following figures and tables show the results tables from the CSP for the CPUC 30 MMT scenario.

Table 14 CO₂ Emissions Summary of Ava's Preferred Conforming Portfolio - 30 MMT Scenario²²

CO ₂	Unit	2024	2026	2030	2035
Coal	MMt/yr	0.000	0.000	0.000	0.000
CHP	MMt/yr	0.167	0.167	0.167	0.100
Biogas ²³	MMt/yr	0.000	0.000	0.000	0.000
Biomass ²³	MMt/yr	0.000	0.000	0.000	0.000
System Power	MMt/yr	1.136	0.829	0.544	0.480
Asset Controlling Supplier	MMt/yr	0.000	0.000	0.000	0.000
Total	MMt/yr	1.303	0.997	0.710	0.580
Average emissions intensity	tCO ₂ /MWh	0.193	0.145	0.099	0.077
Oversupply Emissions Credits	MMt/yr	0.14	0.18	0.20	0.27

Table 15 CSP Summary of Ava's Preferred Conforming Portfolio – 30 MMT Scenario

Renewable and GHG-Free %	Unit	2024	2026	2030	2035
Retail Sales	GWh	6,740	6,887	7,180	7,540
RPS-Eligible Delivered Renewable	GWh	4,348	5,276	6,375	7,129
GHG free	GWh	4,348	5,276	6,375	7,131
RPS-Eligible Delivered Renewable Percentage	% of retail sales	65	77	89	95
GHG-free Percentage	% of retail sales	65	77	89	95

²² CHP emissions shown in Table 14 represent Ava's pro rata share of behind-the-meter Combined Heat and Power (CHP) interconnected to the CAISO-controlled electric grid. CHP emissions are determined by the CSP calculator as a function of LSE load, unrelated to the 'actual' GHG-emission profile of any specific LSE's resource portfolio. Ava is required to include this allocation in its CSP.

²³ As shown in the tables below, Ava is allocated particulate emissions associated with the VAMO allocation of Biomass / Biogas attributes. However, the CSP assigns no CO₂ emissions for these resources.

Table 16 Preferred Conforming Portfolio of PM 2.5 Emissions – 30 MMT Scenario

PM2.5	Unit	2024	2026	2030	2035
Coal	tonnes/yr	0.00	0.00	0.00	0.00
CHP	tonnes/yr	9.17	9.17	9.14	5.61
Biogas	tonnes/yr	4.34	4.36	4.14	1.28
Biomass	tonnes/yr	36.96	35.06	26.12	19.84
System Power	tonnes/yr	29.51	24.51	16.71	17.74
Total	tonnes/yr	79.97	73.09	56.11	44.47
Average emissions intensity	kg/MWh	0.01	0.01	0.01	0.01

Table 17 Preferred Conforming Portfolio SO₂ Emissions – 30 MMT Scenario

SO2	Unit	2024	2026	2030	2035
Coal	tonnes/yr	0.00	0.00	0.00	0.00
CHP	tonnes/yr	0.98	0.97	0.97	0.60
Biogas	tonnes/yr	3.17	3.16	3.06	0.95
Biomass	tonnes/yr	14.21	13.48	10.05	7.63
System Power	tonnes/yr	2.77	2.30	1.56	1.66
Total	tonnes/yr	21.13	19.92	15.64	10.84
Average emissions intensity	kg/MWh	0.00	0.00	0.00	0.00

Table 18 Preferred Conforming Portfolio NO_x Emissions – 30 MMT Scenario

NOx	Unit	2024	2026	2030	2035
Coal	tonnes/yr	0.00	0.00	0.00	0.00
CHP	tonnes/yr	42.79	42.57	42.02	22.34
Biogas	tonnes/yr	14.26	14.23	13.75	4.29
Biomass	tonnes/yr	111.38	105.59	78.66	59.76
System Power	tonnes/yr	35.28	28.94	20.58	21.90
Total	tonnes/yr	203.70	191.33	155.02	108.29
Average emissions intensity	kg/MWh	0.03	0.03	0.02	0.01