

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to
Continue Electric Integrated Resource
Planning and Related Procurement
Processes.

Rulemaking 20-05-003
(Filed on May 7, 2020)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE
ADMINISTRATIVE LAW JUDGE'S RULING ESTABLISHING PROCESS FOR
FINALIZING LOAD FORECASTS AND GREENHOUSE GAS EMISSIONS
BENCHMARKS FOR 2022 INTEGRATED RESOURCE PLAN FILINGS**

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May 16, 2022

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”) hereby submits these comments on the *Administrative Law Judge’s Ruling Establishing Process for Finalizing Load Forecasts and Greenhouse Gas Emissions Benchmarks for 2022 Integrated Resource Plan Filings* (“Ruling”), issued by Administrative Law Judge (“ALJ”) Julie Fitch on April 20, 2022.

I. INTRODUCTION.

CESA appreciates the opportunity to provide comments on the finalization of load forecasts for all load-serving entities (“LSEs”) that are under the jurisdiction of the Integrated Resource Planning (“IRP”) proceeding, as well as the greenhouse gas (“GHG”) emissions target correspondent to 2035. As the Commission moves towards a new IRP framework that focuses on the development of the next 2023 Preferred System Plan (“PSP”), it is fundamental that parties are provided with procedural venues to comment on the appropriateness of inputs and assumptions used for long-term system planning. In this context, CESA recognizes the Commission’s acknowledgement of the relevance of party feedback, both through the Ruling and

via the continued convening of the Modeling Advisory Group (“MAG”), in which interested parties will be able to vet and improve other inputs and assumptions that are essential in shaping IRP outcomes.

In these comments, CESA focuses on two matters. First, CESA finds that the projections for behind-the-meter (“BTM”) energy storage development included in the California Energy Commission’s (“CEC”) Integrated Energy Policy Report (“IEPR”) load forecasts are not aligned with current market trends and may merit reevaluation. As such, CESA requests that the Commission clarify to LSEs that they may provide updates in relevant fields for their forecasts. Second, while CESA understands the reasoning behind the linear extrapolation method to approximate the GHG emission target for 2035, we urge the Commission to focus its aggregation and analysis process on a 25 million metric ton (“MMT”) target by 2035 as it provides reasonable hedges against methodological shortcomings and reliability issues, in addition to supporting climate goals. Thus, CESA’s comments can be summarized as follows:

- The Commission should allow LSEs to update BTM storage assumptions in recognition of the fact that their preferred IEPR forecast includes assumptions that do not align with current trends.
- The Commission should focus on a GHG target of 25 MMT by 2035 to minimize reliability risks and ensure timely compliance with Senate Bill (“SB”) 100.

II. THE COMMISSION SHOULD ALLOW LSES TO UPDATE BTM STORAGE ASSUMPTIONS IN RECOGNITION OF THE FACT THAT THEIR PREFERRED IEPR FORECAST INCLUDES ASSUMPTIONS THAT DO NOT ALIGN WITH CURRENT TRENDS.

In the Ruling, the Commission notes that all LSEs wishing to modify their load forecasts shall file and serve energy and peak demand load forecasts templates in this proceeding and to the CEC no later than May 16, 2022.¹ The Ruling also notes that these updates can relate to energy forecasts from the IEPR figures, peak demand, and/or BTM photovoltaic (“PV”) information.² While CESA appreciates the Commission allowing LSEs to modify their load forecasts in order to develop LSE and system plans using accurate information, we find that the Commission’s omission of explicitly considering BTM energy storage modifications warrants clarification. Providing LSEs an opportunity to update BTM storage deployment assumptions is: (1) consistent with the spirit of allowing LSE feedback in the finalization of load forecasts; and (2) warranted given the lack of consideration of current market trends within IEPR’s methodology to approximate BTM storage buildout.

According to the CEC, the IEPR forecasts the deployment of BTM energy storage using three variables: the average historical build over the last two years; program queue information from the Self-Generation Incentive Program (“SGIP”); and interconnection data.³ The methodology is bifurcated for residential and non-residential customers. Importantly, for non-residential customers, the methodology relies entirely on trend analyses based on historical deployments. For residential customers, the CEC developed three cases: High Demand, Low

¹ Ruling at 1.

² Ruling at 3-4.

³ See CEC, “Behind-the-Meter Energy Storage Forecast: 2019 Revised Forecast”, November 21, 2019, at 8-10. Available at:

https://www.energy.ca.gov/sites/default/files/2019-12/02b%20Konala_BTM%20Energy%20Storage%2011.21.19_1_ada_0.pdf

Demand, and Mid Demand.⁴ The High Demand case is no different than the methodology used for non-residential customers, relying solely on historical data trends. The Low Demand case, on the other hand, approximates energy storage deployment by linking it to BTM solar deployment. Finally, the Mid Demand case is simply the average of the previous two cases.⁵ As a result of these methods, the High Demand case estimates about 1 GW of BTM storage deployment by 2030, the Low Demand case estimates close to 1.6 GW, and the Mid Demand case estimates approximately 1.3 GW.⁶

The methodology described above reveals that BTM energy storage estimates are largely driven by historical data, which is the primary input for non-residential estimates and the High Demand case for residential customers. Moreover, since the Mid Demand case is merely an average of the High and Low cases, historical trends also have a significant influence in Mid case estimates. CESA does not believe that historical trends are the best source of information to approximate the future development of BTM storage, particularly considering the significant transformation that California's electric grid is undergoing. Three factors affect the viability of historical trends as a predictive factor: current market trends resulting from decreasing costs, the increased importance of customer resiliency across California, and the expected direction of reform of the Net Energy Metering ("NEM") tariff favoring energy storage attachments.

First, falling costs and their effect on demand are complex variables to capture solely utilizing historical trend analysis. According to Bloomberg New Energy Finance, lithium-ion costs have steadily dropped in the last nine years, from about \$684/kWh in 2013 to \$185/kWh in

⁴ Note that the naming of these cases relates to energy demand, not demand for BTM storage.

⁵ *Ibid* at 10.

⁶ *Ibid*.

2018 and \$132/kWh in 2021.⁷ This trend may not be immediately captured in historical trends, but it could be better incorporated in a decision-based model. Second, historical trends are not well-equipped to capture the rise and pervasiveness of Public Safety Power Shutoff (“PSPS”) events, and their effect on the demand for clean solutions that achieve resiliency. While the Commission has worked with LSEs to minimize these events, the infrastructure investments needed will not provide immediate relief, thus incenting customers to find their own solutions to keep their lights on. Finally, historical trends are unable to capture the potential effects of NEM reform, a policy change that will likely significantly modify the economic incentives of self-generation. Given some proposals have considered creating more opportunity for BTM energy storage systems, an evaluation of different rate and compensation scenarios would be better equipped to estimate BTM energy storage deployment over the next decade.

CESA recognizes that concerns with demand forecasts, including those for BTM energy storage, should be channeled through the CEC’s Demand Analysis Working Group (“DAWG”). Yet, for the reasons detailed above, CESA minimally requests that the Commission explicitly allow LSEs to update BTM storage deployment forecasts within the IEPR forecast. Doing so would be aligned with the spirit of the Ruling and would minimize the risks related to the limited scope of the forecasting methodology, which must be separately addressed in the appropriate forum (*e.g.*, DAWG).

⁷ Bloomberg New Energy Finance, “Battery Pack Prices Fall to an Average of \$132/kWh, But Rising Commodity Prices Start to Bite”, November 30, 2021, available at <https://about.bnef.com/blog/battery-pack-prices-fall-to-an-average-of-132-kwh-but-rising-commodity-prices-start-to-bite/>

III. THE COMMISSION SHOULD FOCUS ON A GHG TARGET OF 25 MMT BY 2035 TO MINIMIZE RELIABILITY RISKS AND ENSURE TIMELY COMPLIANCE WITH SB 100.

In the Ruling, the Commission presented a methodology to approximate the GHG target for 2035. This methodology is required since the IRP had previously worked towards a 2030 GHG target that is now outdated. Given the IRP's decade-long planning horizon and the increasing need to consider SB 100 goals in the IRP proceeding, the Commission has proposed a linear extrapolation methodology that links the previously-used 2030 GHG targets (38 MMT and 30 MMT by 2030) with the SB 100 target (15 MMT by 2045) in order to determine the targets applicable for 2035.⁸ The linear extrapolation methodology results in targets of 30 and 25 MMT for 2035, with them corresponding to the 38 and 30 MMT cases for 2030 respectively.⁹

CESA understands that the Commission's intent with this approach is to provide a clear linkage between prior IRP cycles, the current IRP cycle and the state's long-term SB 100 goals. While a linear extrapolation methodology provides an understandable trend, it fails to capture the increasing difficulty of decarbonization as systems tend toward zero emissions. Given increasing abatement costs as systems move towards zero-carbon, it is possible that the decarbonization trend is more rapid in the initial years relative to the last years. In other words, progress towards a decarbonized grid might be more closely represented by a logarithmic curve rather than a linear trend. To this effect, CESA recommends that, in the future, the Commission consider more rigorous methods to estimate interim emission goals ahead of 2045.

Considering the fact that the initial run of decarbonization may be more rapid than the final stretch, CESA recommends that the Commission focus on a 25 MMT target by 2030. This

⁸ Ruling, at 9.

⁹ *Ibid.*

would not represent significant administrative burdens or costs since it is aligned with the 30 MMT case of prior IRP cycles, a target for which LSEs have already prepared compliant individual filings. Moreover, analyses in this proceeding have demonstrated that planning for aggressive investments in preferred and energy storage resources offers a significant and reasonable hedge for reliability, transmission planning, and commercial deployment risks. As underscored in CESA’s comments to the *Administrative Law Judge’s Ruling Seeking Comments on Proposed Preferred System Plan* (“August Ruling”), production cost modeling (“PCM”) of the aggregate portfolios revealed that the loss-of-load expectation (“LOLE”) of the 46 MMT aggregation was 24% higher in 2026 and 66% higher in 2030, relative to the 38 MMT aggregation.¹⁰ This indicates that, in addition to advancing decarbonization, pursuing more aggressive planning targets provides a reasonable hedge against potential capacity shortfalls. Moreover, significant investments in the PSP better prepare the CAISO to adequately plan for and execute transmission investments. In this context, CESA recommends the Commission focuses on a 25 MMT target by 2035 to recognize the feasibility of accelerated decarbonization during the first years of the transition, and the reliability hedge that aggressive deployment of preferred resources provides.

¹⁰ August Ruling at 10.

IV. CONCLUSION.

CESA appreciates the opportunity to submit these comments to the Ruling and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Jin Noh', written in a cursive style.

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CALIFORNIA ENERGY STORAGE ALLIANCE

Date: May 16, 2022