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STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

In the Matter of:	
Senate Bill 100 Joint Agency Report	Docket No. 23-SB-100

CALIFORNIA COMMUNITY CHOICE ASSOCIATION'S COMMENTS ON THE OCTOBER 31, 2023, SENATE BILL 100 ANALYTICAL FRAMEWORK WORKSHOP

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California Community Choice Association[1] (CalCCA) submits these Comments pursuant to the *Senate Bill 100 Analytical Framework Workshop* (Workshop), held on October 31, 2023.

I. INTRODUCTION

CalCCA supports the overall analytical approach and proposed scenarios for the California Energy Commission's (Commission) analysis of the Senate Bill (SB) 100 goals, as presented at the Workshop. CalCCA appreciates this opportunity to provide comments to further improve the accuracy of the analysis and its usefulness moving forward. As set forth below, CalCCA recommends that the Commission:

- Account for long-term load forecasting errors in its reliability assessment;
- Compare transmission expansion with the California Independent System Operator's (CAISO) 20-year transmission outlook; and
- Use the modeling framework to identify cost targets for diverse resources.

[1] California Community Choice Association represents the interests of 24 community choice electricity providers in California: Apple Valley Choice Energy, Ava Community Energy, Central Coast Community Energy, Clean Energy Alliance, Clean Power Alliance, CleanPowerSF, Desert Community Energy, Energy For Palmdale's Independent Choice, Lancaster Energy, Marin Clean Energy, Orange County Power Authority, Peninsula Clean Energy, Pico Rivera Innovative Municipal Energy, Pioneer Community Energy, Pomona Choice Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Diego Community Power, San Jacinto Power, San José Clean Energy, Santa Barbara Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy.

II. THE COMMISSION SHOULD ACCOUNT FOR LONG-TERM LOAD FORECASTING ERRORS IN RELIABILITY ASSESSMENT

The Commission should account for long-term load forecasting errors in its reliability assessment. In addition to considering different supply and demand conditions due to weather variation, the Commission should account for different levels of realized demand relative to the forecasted demand. Realized demand can differ from the forecast for several reasons, including weather variations and macro-economic factors differing from the forecast. Because new resources can take multiple years to build, these long-term forecast errors can impact reliability. Any determination of a portfolio's loss of load expectation should therefore account for the long-term load forecast errors.

Where possible, CalCCA recommends that the values of load forecast errors and their respective probabilities should be based on California's experience with load forecasting. For example, the California Public Utilities Commission (CPUC) includes five different long-term load forecast errors in their reliability evaluation of the Preferred System Plan (PSP).[2] Previous CPUC Energy Division (ED) Staff documentation of the Strategic Energy and Risk Valuation Model (SERVM) reliability model, used in reliability evaluation of the PSP, indicate that ED Staff derives the range of load forecast errors from a European Central Bank survey of professional forecasters.[3]

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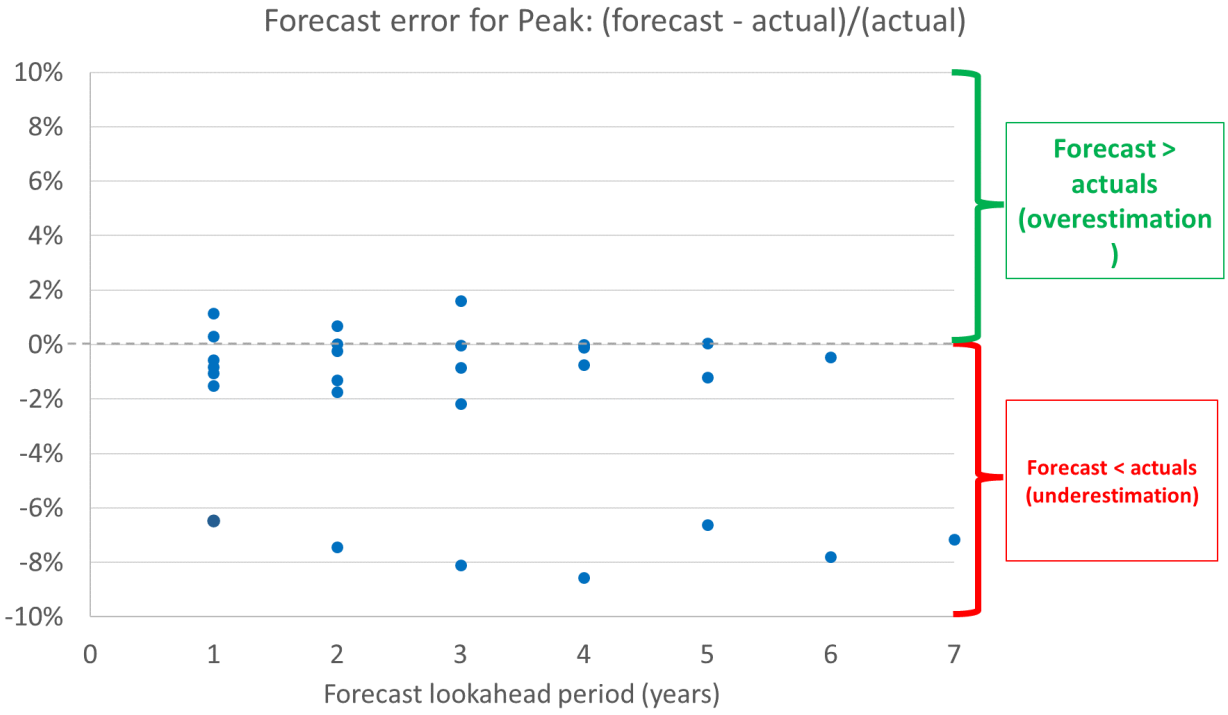
[2] *California Public Utilities Commission Inputs & Assumptions, 2022-2023 Integrated Resource Planning* (Oct., 2023), at 130: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2023-irp-cycle-events-and-materials/inputs-assumptions-2022-2023_final_document_10052023.pdf

[3] *California Public Utilities Commission Energy Resource Modeling Section, Energy Division Unified Resource Adequacy and Integrated Resource Plan Inputs and Assumptions – Guidance for Production Cost Modeling and Network Reliability Studies* (Mar. 29, 2019), at 30: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2019-2020-irp-events-and-materials/unified_rairp_ia_final_20190329.pdf.

In addition, to quantify California's experience with load forecasting, CalCCA compared the Commission's Integrated Energy Policy Report (IEPR) 1-in-2 peak demand forecasts between future years and the current 2023 IEPR year to estimate load forecast errors unrelated to weather (*i.e.,* all peak loads are based on the 1-in-2 weather conditions resulting in forecast errors from macroeconomic or other structural factors).[4] CalCCA's comparison found that the standard deviation of the California load forecast error over the past eight years is approximately three percent of peak demand, with forecast errors resulting from the demand update in the 2022 IEPR exceeding seven percent, as shown in Figure 1, below.

Figure 1: CalCCA Analysis of CEC IEPR Load Forecast Errors for California Peak 1-in-2 Demand



[4] CEC IEPR Forecast Data, 2015-2022.

III. THE COMMISSION SHOULD COMPARE TRANSMISSION EXPANSION WITH THE CAISO'S 20-YEAR TRANSMISSION OUTLOOK

The Commission should compare its SB 100 transmission expansion modeling results with the transmission expansion identified in the CAISO's 20-year Transmission Outlook. CalCCA supports the Commission's proposed approach of including transmission expansion as part of the PLEXOS Long-Term capacity expansion modeling of alternative scenarios. The CAISO's 20-year Transmission Outlook identified over $30 billion in transmission upgrades for the SB 100 Starting Point scenario.[5] These transmission upgrades were for upgrades to the existing CAISO footprint, upgrades to connect offshore wind, and upgrades to access out-of-state wind. Therefore, a comparison of the SB 100 transmission expansion modeling results with the transmission expansion identified in CAISO's 20-year Transmission Outlook will be a useful point of reference.

IV. THE COMMISSION SHOULD USE ITS MODELING FRAMEWORK TO IDENTIFY COST TARGETS FOR DIVERSE RESOURCES TO BECOME PART OF THE LEAST-COST SOLUTION

The Commission proposes to evaluate scenarios in its SB 100 study with a variety of diverse resources that include emerging zero-carbon resources and existing resources located across the Western Electricity Coordinating Council. However, comparisons across scenarios will be challenging because costs of emerging and geographically diverse resources are more uncertain than existing clean resources in California. To aid policy makers in understanding options for achieving SB 100 goals, CalCCA recommends that the CEC use its modeling framework to estimate the "break-even cost" that would be required for an emerging technology to be included in the least-cost reference scenario. The "break-even" cost establishes a cost target

[5] *20 Year Transmission Outlook* (May 2022), at 58: https://www.caiso.com/InitiativeDocuments/20-YearTransmissionOutlook-May2022.pdf.

for the technology, relative to the cost and performance of more established options that are included in the least-cost solution. Policy makers can compare estimated costs of the emerging technologies to these "break-even costs" to understand needs for research and development to reduce costs or policy supports to get initial traction in the marketplace.[6]

V. CONCLUSION

CalCCA looks forward to further collaboration on this topic.

Respectfully submitted,

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CALIFORNIA COMMUNITY CHOICE ASSOCIATION

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[6] *See, e.g.,* Binghui Li, Jeffrey Thomas, Anderson Rodrigo de Queiroz, and Joseph F. DeCarolis. "Open Source Energy System Modeling Using Break-Even Costs to Inform State-Level Policy: A North Carolina Case Study". Environmental Science & Technology 2020 54 (2), 665-676 DOI: 10.1021/acs.est.9b04184: https://arxiv.org/ftp/arxiv/papers/2001/2001.07264.pdf.