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LSA Comments on the Workshop on Use of the IEPR Forecast in Electricity System Planning

Additional submitted attachment is included below.

Comments of the Large-scale Solar Association Regarding the Workshop on Use of the Forecast in Electricity System Planning

October 16, 2024

I. Introduction

The Large-scale Solar Association (LSA) appreciates the California Energy Commission's (CEC's) continued efforts to improve its load forecast and to understand its use in long term resource and transmission planning. The workshop provided a valuable opportunity for Commissioners, staff and stakeholders to identify issues with the forecast from their unique perspectives, providing a holistic view of overlapping concerns. LSA's comments focus on how the challenges with varying forecasts from year to year and spikes in load forecasts could impact the utility-scale solar industry's planning and buildout. Significant swings in the forecast have a disproportionate impact on the utility-scale solar industry because large solar and battery storage comprise the majority of the forecasted resources to meet demand.

II. Background on LSA

LSA is a non-partisan association of solar and battery storage developers that advocates appropriate policies to enable market penetration of utility-scale solar technologies in California and the Western United States. LSA's members are leaders in the industry with deep experience in all disciplines necessary to site develop, engineer, construct, finance and operate utility scale solar and battery storage systems. LSA's member companies are principally responsible for developing most of the operational and planned solar and storage capacity in California today. In addition to a deep appreciation of what it takes to bring solar and storage capacity on-line, LSA members are also profoundly aware of the many challenges that must be addressed with urgency to achieve the state's aggressive goals for incremental solar capacity between now and 2045.

III. Discussion

a. To achieve the levels of solar required to meet the IEPR forecast, planners must begin to consider the challenges that the utility-scale industry will face in achieving those goals.

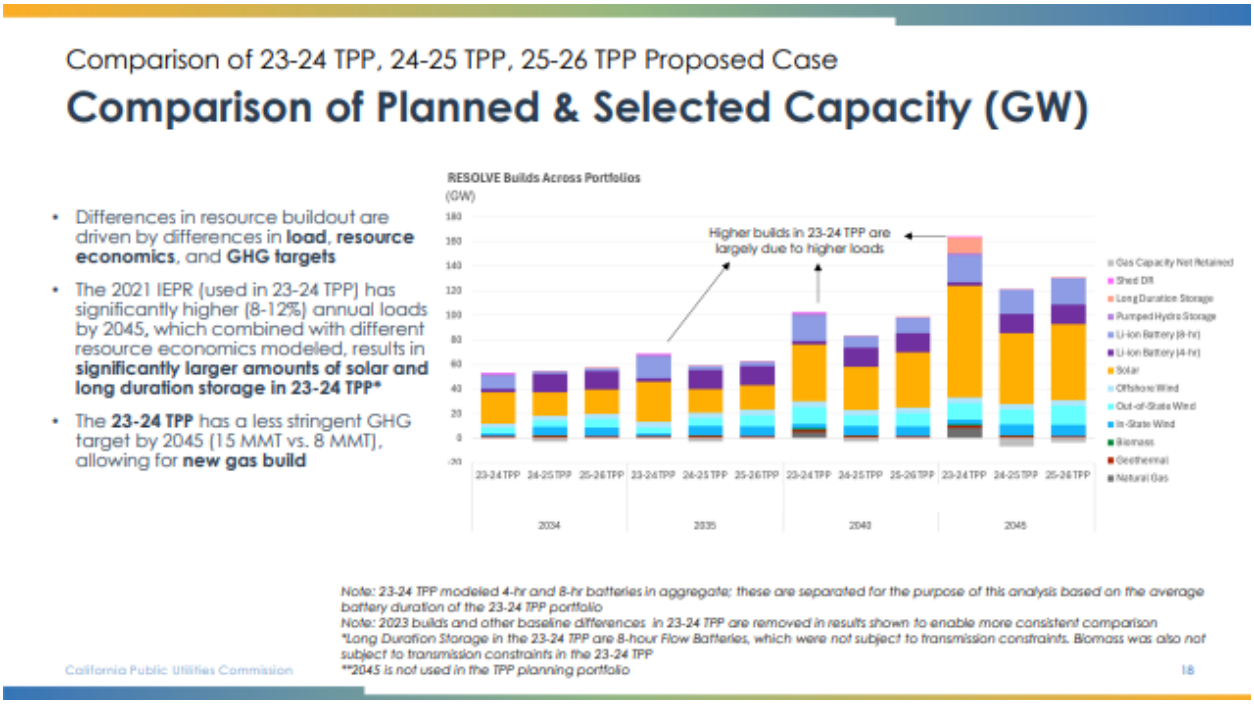
Utility-scale solar is the logical choice to provide the backbone of the state's resource plan, as it has already overcome hurdles that other newer technologies like offshore wind and long duration storage are currently facing. Thanks to California's early adoption of policies promoting renewable energy, solar is now a highly cost-effective and proven technology. However, the state should not assume that the solar industry can achieve unprecedented build rates without careful planning.

That said, fluctuations in IEPR forecasting have created fresh uncertainty for the solar industry. In recent planning efforts, both the CAISO and CPUC have recognized the importance of using a high electrification load forecast for transmission planning to get ahead of the anticipated demand for generation resources. For example, the original CAISO 20-Year Transmission Outlook relied on the Pathways high electrification load forecast, and the resource portfolio transmitted from the CPUC to

CAISO for the 2023-24 TPP cycle relied on the CEC's Additional Transportation Electrification (ATE) load forecast. In the decision that adopted resource portfolios for the 2023-24 TPP, the CPUC explained its rational:

> "The general rationale for recommending this portfolio, among other things, is that transmission planning and construction typically has a longer lead time than generation and storage. Recent work, including the SB 100 (DeLeon, 2018) report and the 20-year transmission outlook by the CAISO, demonstrates the need for significantly more generation and storage to meet California's climate policy goals, beyond what is included in this portfolio. Therefore, if California is to meet its aggressive reliability and environmental goals, more transmission will need to be planned and built ahead of generation and storage development, and it is just a matter of exactly when, and not if, the transmission will be needed."[1]

Since then, however, the Integrated Resource Plan ("IRP") has reverted to using the more traditional "Reference Case" which has resulted in significantly lower projected buildouts for all resources (see slide below).



Source: https://efiling.energy.ca.gov/GetDocument.aspx?tn=259389&DocumentContentId=95473, slide 18

Load forecast fluctuations are expected as methodologies improve and data evolves, but significant swings like this one create uncertainty for state planners and for developers when it comes to where and when resources are most needed and the economic viability of resource investments in certain areas.

Regardless of fluctuations in the load forecast, one consistency in the IRP portfolios is the exponential increase in solar build-out after 2035. For example, the most recent draft portfolios for the 2025-26 CAISO Transmission Planning Process ("TPP") show that the need for utility-scale solar increases from

[1] D. 23-02-040 at pp. 48-49.

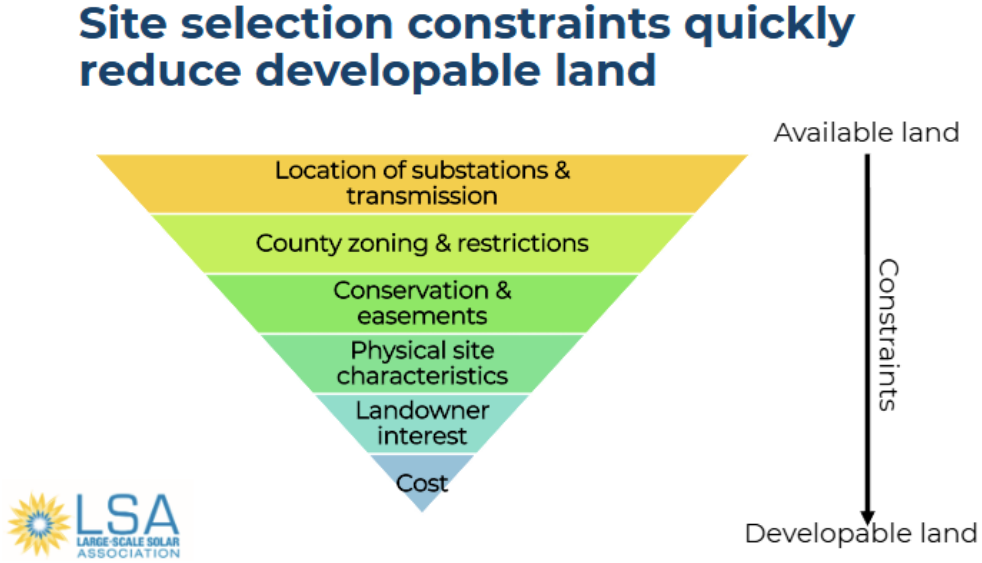
19.8 GW in 2035 to 42.6 GW in 2039 and jumps again from 44.9 GW in 2040 to 61.8 GW in 2045.[2] These are unprecedented build rates for any resource type, yet the planning processes have not yet focused on how different load forecasts and planning assumptions might impact the solar industry's ability to achieve this goal.

The best tool to deal with uncertainty in the load forecast is to develop sensitivities that help stakeholders and planners make "least regrets" decisions. The CPUC's presentation from Sara Goldmuntz highlighted some of the offshore wind and solar photovoltaic sensitivities that the IRP modeling team has run to provide insights to the market on a range of potential resource build-out levels. LSA encourages the CPUC to include additional sensitivities that front-load more utility-scale solar build-out in the early years, rather than casting relatively massive and unrealistic out-year GW growth projections.

Current IRP modeling caps solar build rates at 3000 MW per year through 2026[3] and calls for no more than 2000 MW/year through 2030[4], yet IRP portfolios consistently call for build rates over 4000 MW/year post 2035[5]. It takes about 5-7 acres of land to build 1 MW of solar[6], so on aggregate, developers would need to secure 20,000 – 28,000 acres per year to keep up with the anticipated solar build rate of over 4000 MW/year. Additionally, on-the-ground dynamics paired with the presence of constrained and transitioning interconnection availability and processes have extended the solar project development timelines to approximately 6-10 years per project.

California is at a complex juncture in the implementation of SB 100. As the forecasted clean energy build rate increases, and as projects face increasing challenges with development – including decreasing land availability – the state must avoid creating a risk that its own planning efforts hamper a successful outcome by application of overly narrow modeling, and use of artificial constraints on near-term build rates.

[2] See 25-26 Proposed TPP RESOLVE Analysis Slide Deck_FINAL (ca.gov) at slide 18.
[3] CPUC Inputs & Assumptions at 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, p. 62.
[4] See 25-26 Proposed TPP RESOLVE Analysis Slide Deck_FINAL (ca.gov) at slide 18.
[5] *Id*.
[6] See Land-Use Requirements for Solar Power Plants in the United States (nrel.gov)



In addition, the solar industry is facing increasing fees and taxes that could slow the rate of development without careful planning. California's inability to pass Tax Conformity legislation in 2024 means that solar projects might not receive the full benefits of federal funding, and the Solar Property Tax Exclusion is currently scheduled to sunset at the end of 2026. These financial risks, along with increasingly higher County fees and Community Benefit Agreements, are increasing costs for solar developers just as demand is increasing.

LSA recommends that the CPUC perform sensitivities that assume different build rates based on different land-use outcomes and cost assumptions. The analysis should include the possibility of increasing the rate of solar build in earlier years to smooth out the curve for utility-scale solar and provide a glide path to avoid potential bottle necks. The CEC should also assess potential impacts to the utility-scale solar build rate when its load forecast shifts significantly from prior years.

Utility-scale solar is the foundation of the IRP portfolios because it is a cost-effective, proven technology, but the exponential increase in demand for solar is coming at a time when the industry is facing new hurdles. The state needs to plan carefully and consider various industry challenges, like its approach with offshore wind and other emerging technologies, to ensure the successful development of expected solar projects.

IV. Conclusion

LSA appreciates the efforts of all three agencies (CEC, CPUC and CAISO) to continually improve the load forecasting, resource and transmission planning process and the opportunity to provide comments. Staff have shown consistent commitment to improving the tools and methods used to drive the state towards its clean energy goals. We look forward to continued collaboration on these issues.