

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

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

Rulemaking 25-06-019

**CALIFORNIA WIND ENERGY ASSOCIATION COMMENTS  
ON ALJ RULING ON 2026-27 TPP PORTFOLIOS  
AND NEED FOR ADDITIONAL RELIABILITY PROCUREMENT**

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*On behalf of the California Wind Energy  
Association*

October 22, 2025

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**I. INTRODUCTION AND SUMMARY**

Pursuant to the September 30, 2025, *Ruling Seeking Comments on Electricity Portfolios for 2026-2027 Transmission Planning Process and Need for Additional Reliability Procurement* issued by Administrative Law Judge Julie Fitch (“Ruling”), the California Wind Energy Association (“CalWEA”) provides these opening comments. As requested, comments are organized according to the questions posed in the Ruling.

In summary, the RESOLVE model is not a crystal ball, and its inputs and assumptions can only attempt to approximate reality. Moreover, in the face of numerous substantial looming uncertainties, one possible future (and one dubious sensitivity) is not a sufficient basis to make crucial decisions. That possible future, as represented in the 2026-27 TPP Proposed Base Case, could virtually close the door on in-state wind development unless the Commission uses its own judgment (and at least one additional sensitivity) to preserve this long-proven resource and technology as an option for meeting our state’s challenging emissions reduction, resource adequacy, and affordable energy goals.

In response to the Ruling’s questions, we will discuss the many flawed or uncertain assumptions underlying the Proposed Base Case in the primary 10-year transmission planning horizon to 2036, which broadly include:

- The assumption that current federal conditions will persist over the long term, rather than revert to policies that respond to the dire threats posed by climate change as well as rising energy costs.

- The assumption that building more than 1 GW of wind in California by 2036 (adding to Baja wind in development) will be more difficult than permitting 47.5 GW of solar, or permitting, financing, and constructing commercially unproven and risky new technologies, including 2.9 GW of offshore wind (“OSW”) that also lost critical federal support, and 1.7 GW of enhanced geothermal systems (“EGS”), by 2036.
- Deferring to gross computer-based environmental screening to identify promising wind resources rather than well-informed industry assessments of such resources, including on-site resource and ecological assessments.
- Overlooking the actual investments being made in wind developments today that are based on solid business decisions, which alone are likely to reach the proposed 2.6-GW target well before 2036.
- Projecting the recent lack of wind development in California into the future, even though California and this Commission are primarily in control of that future.

The Commission should recast the model to assume the restoration of federal wind and solar tax credits as of January 2029, which CalWEA expects would substantially increase the RESOLVE model’s selection of in-state wind energy in 2036. At a minimum, it should replace the Limited Wind Sensitivity with a sensitivity that assumes restoration of the federal tax credits by 2029 and, based on the results, force-in an appropriate level of in-state wind capacity in 2036 in the most promising development areas. Raising the amount of in-state wind is appropriate considering the substantial uncertainties and risks associated with other diverse resources, as well as the risks associated with high levels of solar and battery development. Despite the challenges, CalWEA supports a resource portfolio that includes all promising resources and technologies.

Regarding a possible procurement order, CalWEA recommends that the Commission focus on energy resources, given the state’s increasing reliance on battery storage to meet the state’s RA capacity needs and a growing lack of battery charging capacity. The lack of charging capacity is due to both a lack of clean and low-cost energy and limited transmission and distribution capacity for battery charging, which threatens capacity accreditation for these storage resources.

## **II. RESPONSES TO QUESTIONS RELATED TO THE 2026-2027 TPP RECOMMENDATIONS**

### **1. Please comment on the updated Framework for TPP Portfolio Selection and recommend any changes.**

CalWEA supports the added words “and consistency” to the updated Framework’s stated

principle that the Base Case Portfolios should “provide regulatory certainty and consistency.”<sup>1</sup> The principles state that the portfolio submitted to CAISO should be “actionable” so that the CAISO can recommend approval of identified transmission needs, and the Commission can take appropriate action to encourage development of resources in the relevant area. Regulatory consistency is critical to support this linkage so that the resources for which transmission is planned are actually built. Thus, the principle that states, “[w]here divergence is absolutely necessary, it should be clearly described and justified.”

The Proposed Base Case violates these principles by eliminating resources in many study areas that were included in the previous 2025-26 portfolio without clear description or justification. This includes 674 MW of wind resources in the SCE Northern zone (Tehachapi Wind area in RESOLVE). As noted in response to Question 4, this area has clear remaining wind potential and is an active development area. In Northeast California, 1,150 MW were included in the 2025-26 TPP portfolio, which the Commission requested CAISO to study; this study should be underway now and should inform the Commission’s adopted 2026-27 portfolio.

**2. Comment on the modeling assumption updates made for this round of TPP recommendations. Are there other critical assumptions that you recommend? Be as specific as possible about assumptions and data sources.**

*(a) The model should assume restoration of wind and solar tax credits in 2029*

The Base Case assumption that tax credits will not be restored for solar and wind energy in 2029 assumes a bleak future for U.S. climate policy that would jeopardize all of California’s greenhouse-gas-reduction goals, including the electricity load forecasts underlying the Proposed Base Case portfolio. The assumption is therefore unreasonable, and it is *entirely at odds* with the forced inclusion of 2.9 GW of offshore wind in the 2036 portfolio, which is highly dependent on federal tax credits and other policies.

While the outcomes of the 2029 election are highly uncertain, and thus there are many diverging scenarios impacting clean energy development, the assumptions behind the adopted Base Case portfolio must be consistent. If federal political conditions do not allow for renewal of the solar and wind tax credits, they will almost certainly not support the many favorable federal actions and policies that offshore wind requires. The Commission approved central procurement of

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<sup>1</sup> “CPUC (Updated) Framework for TPP Portfolio Selection” (Sept. 30, 2025), at p. 2. (Available on the CPUC’s IRP “Assumptions for the 2026-2027 TPP” webpage.)

offshore wind based on its cost-effectiveness under just a few of many future scenarios that *assumed the availability of tax credits*.

Energy Division’s April 2024 cost-benefit analysis of offshore wind showed that, even at low levels of offshore wind, such as the 4.5 GW included in the Proposed Base Case for 2045, ratepayers would face a significant chance of negative net benefits, particularly in scenarios with median or high price assumptions.<sup>2</sup> The ruling containing these findings pointed out that the “net benefits of OSW are highly sensitive to assumptions about OSW costs.”<sup>3</sup> Those costs will be substantially higher without the availability of tax credits. Even with resumed tax credits, the 2.9-GW OSW goal by 2036 is unreasonable, considering realistic timelines for port construction, as discussed under Question 27.

CalWEA continues to support a robustly diverse resource portfolio, including offshore and out-of-state wind and geothermal resources. However, the incongruous treatment of onshore in-state wind is not justifiable in the face of the costs, risks, and challenges of these other diverse resources, discussed in response to Questions 4 and 27, below. Therefore, the Commission should assume restoration of the tax credits beginning in 2029 in the Base Case.<sup>4</sup> Congress has retroactively restored tax credits many times in the past.<sup>5</sup> Therefore, assuming favorable political conditions (which, again, are needed to support the state’s entire climate agenda) is reasonable.

At a minimum, as discussed under Question 4, staff should run a 2029 tax credit restoration sensitivity case to inform a Commission judgment regarding whether to include a much higher level of in-state wind in the 2036 portfolio.

*(b) Staff should not exclude promising wind areas where development is legally permissible*

Staff continue to screen out high-wind-speed areas where development is legally permissible based on discretionary GIS layers in the CEC’s Core Land-use Screen. These layers

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<sup>2</sup> R.20-03-005, *Administrative Law Judge’s Ruling Seeking Comments on Need and Process for Centralized Procurement of Specified Long Lead-Time Resources* (4-26-24) at Figure 3.

<sup>3</sup> *Id.* at p. 20.

<sup>4</sup> In this case, all clean energy technologies would be eligible for the tax credits as originally set forth in the Inflation Reduction Act of 2022, retroactive to January 2029, to be phased out as the U.S. meets greenhouse gas emission reduction targets.

<sup>5</sup> For example, the PTC and ITC expired at the end of 2014; Congress did not renew them until December 2015 as part of the Consolidated Appropriations Act, 2016. The bill retroactively reinstated the credits for the entire 2015 tax year.

are overbroad and highly problematic. As shown in maps included in our September 5, 2025, comments on the Busbar Mapping Methodology, CalWEA analyzed these layers in relation to *permitted and operating wind project areas*. We found that these screens *would have screened out almost 42 percent of existing projects*, including 39 percent of projects in Kern County, 86.5 percent of projects in Riverside County, 70 percent of projects in East San Diego County, and the relatively recently permitted Strauss Wind Project in Santa Barbara County. Moreover, the screens would have eliminated only 7 percent of capacity in the Altamont, which has historically been the most environmentally controversial area.

Clearly, these screens are overly broad and not informed by actual on-the-ground conditions. They must not be used to eliminate wind resource areas if wind is to play a significant role in a least-cost resource portfolio. At most, they should be used to pare down the available wind resource in these areas, focusing on those identified by CalWEA based on industry assessments informed by years of investment in resource exploration.

*(c) Staff should re-evaluate wind capacity factors with commercially available assessment tools*

The model selects out-of-state wind over in-state wind in part because out-of-state capacity factors are assumed to be much higher than in-state capacity factors. CalWEA appreciates that staff has replaced its reliance on dated and coarse NREL wind resource assessment models with Global Wind Atlas (“GWA”) data, following CalWEA’s recommendation. However, GWA does not provide wind speed distribution data from which site- or area-specific capacity factors can be calculated, while UL Solutions’ data has the important advantage of including these values. The complex approach used by staff underestimates capacity factors in at least some areas.<sup>6</sup>

CalWEA noted in earlier comments<sup>7</sup> that, based on UL data, the overall net capacity factor for Northern California wind resources should be in the range of 30-35% for potential projects using modern wind turbine generation technology. Staff’s calculated capacity factor for the NGBA

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<sup>6</sup> That approach is described in the CPUC’s “Inputs and Assumptions” (February 2025) at Section 6.2.3. The approach relies on very low-resolution reference data (ERA5) instead of higher resolution data (ERA5 seeded WRF) in the velocity approach. As we have noted previously, such data is too coarse to capture ridgeline-based wind resources. ERA5 is a useful reference dataset, however, it should never be used to predict long-term wind speed directly.

<sup>7</sup> CalWEA Comments on Draft 2025 Inputs and Assumptions (I&A) for the 2024-2026 IRP Cycle (March 7, 2025) at p. 5.

region is 26%.<sup>8</sup> We note that, under the Commission’s new 24-hour framework for the RA program, the reliable capacity (“exceedance”) values for Northern California during summer-month net peak hours are around 52% in July, 45% in August, and 40% in September.<sup>9</sup>

An accurate analysis requires staff to obtain and use UL data to calculate capacity area factors. The cost is relatively low, and although the data is proprietary, the public can trust the Commission to use it faithfully. Moreover, many other aspects of the staff analysis are opaque to all but the most sophisticated parties.

**3. Do you support the recommended Base Case for the 2026-2027 TPP? Provide rationale for your recommendation. If you prefer a different Base Case portfolio, describe it as specifically as possible.**

CalWEA does not support the Proposed Base Case. CalWEA has serious concerns with the low 2.6-GW in-state wind planning figure for 2036 – down from 7.9 GW in 2035 in the adopted portfolio for 2025-26. For the reasons below and in consideration of the flaws in the modeling assumptions above, CalWEA strongly recommends including, in the Base Case scenario, the specific amounts of wind resources in each CAISO study area as shown in the table below.

CalWEA Recommended "Selected Builds" for CPUC 2026-27 TPP Portfolio in 2036						
Study Area + Priority Area based on CalWEA's Assessment	CPUC (Max) Wind Potential Totals by Study Area (2045) (Slide 32)	CPUC Near-Term Wind Resource Build Limits (QUEUES) by Study Area (2034) (Slide 38)	CPUC Selected Builds by CAISO Study Area (2036) (Slide 47)	CalWEA Estimated Max Resource Potential (2045)	CalWEA Recommendations for 2036	Notes / Rationale
Northeast CA	584	1015	-	3801	1150	Wind potential should not be less than in queue; CPUC included 1,150 MW in its previous adopted portfolio. High-potential area. Area also has potential for ~1 GW solar on private lightly used farm land in 395 corridor and 178 MW geo in the proposed portfolio
PG&E NGBA	1,894	206	599	3663	750	Good resource potential, includes 200-MW Fountain Wind Project but otherwise no development activity presently
PG&E GBA	245	1399	247	1322	247	Accepting Energy Division figure. No development activity; not priority area
PG&E Fresno	-	292	-	200	200	Small resource area but with development activity (C15 wind shown in 24-25 TPP)
PG&E Kern	245	-	-	-	-	
SCE Northern	2,447	206	-	2734	750	High resource potential in Kern and LA Counties. Development area remains in Kern County's wind zone. 100-MW Keyhole Project is permitted with GIA and additional development activity is occurring. In addition, there is opportunity to increase nameplate capacity when existing wind projects are repowered.
SCE Metro	-	-	-	-	-	
SCE NOL	1,243	316	-	-	-	
SCE Eastern	819	676	372	478	372	Accepting Energy Division figure, but low priority area with no development activity.
SCE EOP	241	3719	255	0	255	Accepting Energy Division figure. Arizona resource only.
SDG&E Imperial (includes Baja)	971	1701	700	0	974	The IV and ECO substations are closeby and both can accommodate Baja resources. Ignis recently signed an LGIA with SDG&E for 974 MW Baja wind resources (w/interconnection sized to 1 GW at the ECO substation). Semptra's Cimarron project (in baseline) has 20 MW not in baseline; Semptra has 319 MW in development, and sees >300 MW of potential expansion opportunity.
SDG&E Baja	1654	653	353	2351	639	
TOTAL	10,343	10,183	2,526	14,549	5,337	CalWEA Recommendation is under Energy Division's 6.2 GW Build Limit for 2036

<sup>8</sup> *Supra* note 6 at Table 85.

<sup>9</sup> CPUC [2025 Master Resource Database](#) (VER Exceedance Profile tab, hourly wind values for NorCal, selecting Hour 20) (September 2025).

This outcome appears to be primarily driven by the assumption that federal wind (and solar) tax credits will never be restored. As discussed under Question 2, the Base Case should assume resumption of the wind and solar tax credits as of January 2029. In the alternative, as discussed in response to Question 4, staff should conduct a sensitivity analysis with 2029 tax-credit restoration to inform a Commission judgment regarding whether to include substantially more in-state wind in the 2036 portfolio, as it did for offshore wind.

Secondly, the Proposed Base Case should include more wind capacity in the pre-2032 timeframe that can be built without federal government support. The Proposed Base Case selects 1,053 MW of Baja California wind resources at the Imperial and East County substations in 2036, but there is at least 1,613 MW of wind capacity in these areas under development now for 2032 or earlier.<sup>10,11</sup> These resources do not rely on federal tax credits (which improves their cost-competitiveness relative to U.S. wind and solar resources without tax credits), and Baja resources no longer require U.S. Presidential permits to build cross-border transmission lines.<sup>12</sup> These, along with at least 300-MW of in-development resources within California that are expected to qualify for existing tax credits,<sup>13</sup> are likely to fulfill the 2.6-GW goal for 2036 by 2032; thus, the goal is clearly too low.

Finally, as discussed below regarding the Limited Wind Sensitivity Case and in response to Question 27, it is irrational to leave in-state wind energy and its well-proven technology on the cutting room floor while at the same time banking on far riskier, unproven floating offshore wind and enhanced geothermal technologies. Additionally, out-of-state wind projects will be more affected by unfavorable federal policies through 2028 due to their multi-state transmission

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<sup>10</sup> While the build limits for wind of 250 MW/year through 2030 and 1,000 MW/year from 2031 through 2035 are generally reasonable, the build limits for Baja wind are too constraining in the SDG&E Baja California wind area, as well as in the PG&E NGBA and SCE Northern areas.

<sup>11</sup> Ignis Energy USA has recently signed a generation interconnection agreement (GIA) with SDG&E for 974 MW of wind resources at the ECO substation (with the interconnection sized to 1 GW).

Sempra Infrastructure also has substantial resources under development. First, the CPUC's baseline understates its 320-MW Cimarron project by 20 MW. Additionally, Sempra's 319-MW Energia Sierra Juarez 4 project has submitted an interconnection request and is under full exclusivity agreements with LSEs. The ESJ-4 project has a potential expansion opportunity of at least 300 MW.

<sup>12</sup> The U.S. Department of Energy issued a final rule on May 16, 2025, with an effective date of September 12, 2025, revoking a prior rule requiring Presidential permits to authorize the construction, connection, operation, and maintenance of facilities for transmission of electric energy at international boundaries. See [Federal Register notice](#) issued on September 11, 2025.

<sup>13</sup> These include the 205-MW Fountain Wind project in Shasta County and the 100-MW Keyhole Wind project in Kern County.

requirements that must be federally approved, as well as any other nexuses with federal land and permitting requirements. To wit, the Trump Administration recently reversed the Biden Administration’s approval of the 1,000-MW Lava Ridge Wind Project on federal land in Idaho.<sup>14</sup>

**4. Do you support the proposed Limited Wind Sensitivity for analysis in the 2026-2027 TPP? Provide rationale for your recommendation. If you prefer a different Sensitivity portfolio, describe it as specifically as possible.**

CalWEA strongly opposes the proposed Limited Wind Sensitivity, the analytical basis for which is entirely lacking, would add almost \$11 billion by 2045 (NPV), compared to the least-cost case,<sup>15</sup> at a time when electricity affordability is already a major state concern. If the Commission does not adjust the Base Case to assume restoration of the wind and solar tax credits beginning in 2029, it should, at a minimum, run such a sensitivity case to inform a Commission judgment to support a more reasonable scenario that would restore in-state wind in the 2036 portfolio to a level more consistent with the previously adopted portfolio.

As discussed above under Question 2, response (a), the Proposed Base Case assumption that tax credits for wind and solar will not be restored in 2029 is unreasonable. But the pessimism in the proposed Limited Wind Sensitivity, especially regarding in-state wind, is worse than baffling as it threatens to become a self-fulfilling prophesy. That pessimism is illogical given in-state high-quality wind resources and challenges with other resources and technologies.

*(a) The proposed Limited Wind Sensitivity is unduly pessimistic regarding the prospects for in-state wind*

The Ruling justifies the proposed Limited Wind Sensitivity merely by referring to “the recent lack of wind development in California, the recent increased difficulty of permitting wind in California, and the recent changes in federal policy toward wind projects.”<sup>16</sup> The Ruling ignores the fact that, unlike the federal challenges affecting California’s clean-energy policies, permitting wind located in California *is under the state’s control*. Moreover:

- Substantial wind resources are under development in Baja California, which is not subject to the whims of U.S. federal policy.

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<sup>14</sup> See U.S. Department of the Interior, “Interior Department Moves to Cancel Reckless Biden-era Approval of Lava Ridge Wind Project” (August 6, 2025). Available at:

<https://www.doi.gov/pressreleases/interior-department-moves-cancel-reckless-biden-era-approval-lava-ridge-wind-project>

<sup>15</sup> Ruling at Table 6.

<sup>16</sup> Ruling at p. 16. Also see Slide 64 in the slide deck attachment to the Ruling.

- Wind projects were recently permitted in Kern County (2023) and Merced County (2024), and a Shasta County project is pending before the California Energy Commission.
- Additional resource development areas in Kern County are already zoned for wind energy, and substantial additional potential exists across the Kern County border in Los Angeles County.<sup>17</sup>
- Recently permitted projects in California and Baja California have secured offtake agreements, demonstrating market interest.<sup>18</sup>
- The California Legislature just adopted, and the Governor signed, legislation easing permitting for wind and other clean energy resources.<sup>19</sup>
- The Commission can revitalize wind development activity by adopting a Renewable and Clean Power Procurement Program (“RCPPP”) framework that sends clear signals to investors that there will be strong demand for in-state, as well as out-of-state, wind energy in the California market over the coming decade, given the match between in-state wind production and California’s GHG-emitting load profile.<sup>20</sup>

Resources already under development in Baja California<sup>21</sup> and within the state can reasonably be expected to meet nearly three-quarters of the 2.6 GW included in the 2036 Proposed Base Case by no later than 2032. Thus, even the Proposed Base Case planning figure is clearly too low and demonstrates that the Limited Wind Sensitivity is unduly pessimistic.

*(b) The proposed Limited Wind Sensitivity is illogical, given the challenges facing other resources and technologies*

Conducting a Limited Wind Sensitivity would completely ignore the significant challenges

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<sup>17</sup> This Los Angeles County area was identified in the Desert Renewable Energy Conservation Plan (“DRECP”) process as appropriate for wind development on private land. The scope of the DRECP was subsequently narrowed to focus only on federal land.

<sup>18</sup> The 320-MW Cimarron wind project in Baja California, now under construction, is [fully contracted](#) under a 20-year power purchase agreement to Silicon Valley Power. The 147.5-MW Gonzaga Ridge Wind Farm in Merced County, now under construction, is [fully contracted](#) with the San Francisco PUC to supply its CleanPowerSF program.

<sup>19</sup> SB 254 bolstered the Energy Commission’s ability to approve projects under the AB 205 opt-in permitting program, among other permitting efficiencies.

<sup>20</sup> See CalWEA’s Comments on Administrative Law Judge’s Ruling Seeking Comments on Reliable and Clean Power Procurement Program Staff Proposal (July 15, 2025) at section II.D.

<sup>21</sup> *Supra* notes 11 and 13.

that will be faced in permitting and building 83 GW of solar, almost 34 GW of battery storage, and over 9 GW of geothermal and EGS projects in that same sensitivity case. It is nonsensical to suggest that building more than just 7.6 GW of in-state and out-of-state wind, using fully proven technology, will be more challenging than building high levels of other technologies that, in some cases, have either shorter track records or are commercially unproven. In fact, as CalWEA has long argued,<sup>22</sup> it will be less risky to pursue reasonable amounts of *all* these technologies to diversify the various risks associated with *every* resource and technology.

Here, we list just a few of the challenges that will be faced by non-wind resources and technologies that the Ruling does not consider, let alone evaluate.

#### Geothermal

- Development of conventional geothermal resources serving California has been limited due to very high initial investment costs and uncertain outcomes. Recent geothermal permitting has been for relatively small project sizes (< 60 MW).
- While its vast potential is exciting, EGS has been surrounded by “often-unrealistic hype,”<sup>23</sup> and has not yet been proven to be commercially viable. For example, while Fervo’s 2023 successful completion of a 30-day full-scale well test at its commercial pilot plant in Nevada demonstrated substantial reductions in drilling time and cost, it did not prove scalability or competitive costs.
- EGS resources involve numerous environmental and financial risks, including induced seismicity that adds project risk and public opposition. For example, EGS was linked to a 5.5 magnitude earthquake in South Korea that caused \$75 million (U.S.) in damages.<sup>24</sup>

#### Solar

- The Ruling justifies the proposed Limited Wind Sensitivity in part by referencing “recent changes in federal policy toward wind projects.”<sup>25</sup> But solar energy is also affected by those recent changes. For example, the Esmeralda 7 project in Nevada,

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<sup>22</sup> See, e.g., CalWEA’s Comments on Administrative Law Judge’s Ruling Seeking Comments on Need and Process for Centralized Procurement of Specified Long Lead-Time Resources (May 24, 2024), at pp. 8-11.

<sup>23</sup> “Enhanced geothermal systems: Potential, challenges, and a realistic path to integration in a sustainable energy future,” *Science Direct - Next Energy* (July 20225).

<sup>24</sup> “The pros and cons of enhanced geothermal energy systems,” *Yale Climate Connections* (Feb. 6, 2020).

<sup>25</sup> *Supra* note 16.

comprised of seven distinct solar-and-battery projects, was abruptly cancelled by BLM earlier this month.<sup>26,27</sup> The joint programmatic analysis was in the late stages of the review process; the BLM had completed a draft environmental review of the joint project under the Biden administration, but the final version was never released. The applicants must now repeat the analysis for each project individually.

- The 68.5 GW of solar capacity included in the 2045 Proposed Base Case will be very challenging to build, let alone the astonishing 83.2 GW in the 2045 Limited Wind Sensitivity. The demand for some 600-1,000 square miles of land will almost certainly bring major siting and environmental impact challenges that will also raise costs. As one example, an increasing number of terrestrial California (if not federal) threatened and endangered species will reduce available land and raise permitting compliance and operational costs. To wit, a new petition to list the northern and southern populations of western spadefoot toad, which is widespread in the Central Valley, was filed with the California Fish and Game Commission just this month.<sup>28</sup> The limited footprint of wind energy projects and the ability to flexibly micro-site turbines substantially reduce wind's exposure to these listings.<sup>29</sup>
- Over the past few years, the state has experienced supply chain disruptions and related price spikes in the solar and storage industries.<sup>30</sup> As the Ruling notes, current tariff policies are hitting these technologies much harder than wind energy,<sup>31</sup> again demonstrating the value of resource diversity.

CalWEA supports a diverse resource portfolio to hedge against the many challenges and risks associated with transitioning the state to rely almost entirely on clean energy. Staff presents

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<sup>26</sup> "Canceled solar megaproject reveals new Trump-era threat to renewables," *Canary Media* (Oct. 13, 2025) Available [at this link](#).

<sup>27</sup> "Interior denies canceling largest solar project in U.S. after axing review," *Utility Dive* (Oct. 14, 2025). Available [at this link](#).

<sup>28</sup> See CDFG's [Petitions to List Species Under the California Endangered Species Act](#).

<sup>29</sup> Wind energy will be affected by listings of avian species, of course, but technologies are increasingly available to address these impacts. In any case, a better mix of wind and solar resources will diversify and therefore reduce impacts on any particular species.

<sup>30</sup> See, e.g., *Utility Dive*, "Supply-chain squeeze: Solar, storage industries grapple with delays, price spikes as demand continues to grow" (March 31, 2022). Available at: <https://www.utilitydive.com/news/solar-storage-delays-price-supply-chain/620537/>.

<sup>31</sup> Slide 23 in the slide deck attachment to the Ruling.

no evidence or logic to support the assumption behind the Limited Wind Sensitivity that somehow wind energy, particularly onshore, in-state California, with its proven track record, is riskier than emerging technologies or concentrating the state's reliance on just two technologies (solar and batteries).

**5. If you have a recommendation for a lower-overall-cost sensitivity portfolio to be evaluated, please describe it in detail.**

As discussed under Questions 2 and 4, if the Commission does not assume restoration of the tax credits beginning in 2029 in the Base Case, staff should run a 2029 tax credit restoration sensitivity. The results will inform the Commission's judgment regarding whether to include higher levels of in-state wind in the 2036 portfolio.

Another potential sensitivity case would be to replace the offshore wind capacity with in-state, onshore wind capacity, which would maintain the resource diversity provided by wind energy without excessive reliance on out-of-state wind energy. The unlikelihood of achieving 2.9 GW of offshore wind by 2036 is discussed in response to Question 27.

**6. How could the Commission address the very high solar build rates through 2031, observed in both the recommended Base Case and Sensitivity portfolios, driven by increased load forecasts from the 2024 IEPR and the 2030 GHG target? Do you have recommendations for alternative sensitivities that could achieve the near-term targets while mitigating risk and reducing potential costs to ratepayers? Provide rationale for your recommendations.**

First, the Commission should ensure that the 1.6 GW of wind capacity planned for development in the Baja California area by 2032 or earlier,<sup>32</sup> as well as 300 MW of projects currently under development,<sup>33</sup> are included in the Base Case portfolio. Second, the Commission should develop a more reasonable Sensitivity Portfolio that provides for higher amounts of in-state wind energy, as discussed in response to Questions 2 and 4.

**7. Comment on the busbar mapping methodology updates made for this round of TPP recommendations. Are there other critical updates that you recommend? Be as specific as possible about assumptions and data sources.**

CalWEA strongly urges the Commission not to screen out high-quality wind resource areas based on the updated fire threat maps for the many reasons discussed in our earlier comments.<sup>34</sup> In

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<sup>32</sup> *Supra* note 10.

<sup>33</sup> *Supra* note 13.

<sup>34</sup> CalWEA Informal Comments on the Busbar Mapping Methodology (September 5, 2025), at pp. 2-3.

summary, fire risk is elevated across wide swaths of California and, therefore, maps cover too much area to serve as a meaningful screening tool because they will de-prioritize most wind resource areas. Further, there is no evidence of increased fire risk in existing wind project areas, and wind projects cannot be permitted without fully mitigating any elevated fire risk. To illustrate, the Office of the State Fire Marshal was the lead agency for the local permits required for the Gonzaga Ridge Wind Project, located within Pacheco State Park and approved in 2023, within High and Very High fire severity zones. The agency did not consider the project’s wildfire risk to be “potentially significant.”<sup>35</sup>

**8. What criteria should the Commission adopt to inform mapping of EGS in California? Be as specific as possible about recommended assumptions and data sources.**

No comment. However, CalWEA urges the Commission also to consider CalWEA’s earnest recommendations regarding staff’s assessment of commercially promising wind energy resources in California. See responses (b) and (c) to Question 2, and the attachment to these comments.

**9. Do you have recommendations for additional data sources to inform future updates to the commercial interest criteria, to supplement review of interconnection queue data? Be as specific as possible about assumptions, data sources, and application to busbar mapping.**

No comment.

**III. QUESTIONS RELATED TO THE PROCUREMENT NEED ANALYSIS AND RECOMMENDATIONS**

**10. Is another procurement order needed, as recommended in this ruling? What amount of resources (in ELCC MW NQC) should be required and for which years/tranches?**

Please see CalWEA’s response to Questions 14 and 15.

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<sup>35</sup> Draft Environmental Impact Report for the Gonzaga Ridge Wind Repowering Project SCH no. 2018101047, at PDF-p. 316. Available at: [https://www.parks.ca.gov/pages/980/files/CVD\\_10.10.19\\_DraftEIR\\_508.pdf](https://www.parks.ca.gov/pages/980/files/CVD_10.10.19_DraftEIR_508.pdf). (“The proposed Project is located within a State Responsibility area and is designated as being within a high fire risk area. However, the Project does not include any permanent residences and does not include any uses or activities that would exacerbate wildfire risks ... Although the Project does include construction of overhead power lines, these lines would be routinely maintained by employees of the Project and it is not anticipated the risk of wildfire would be exacerbated. The impact is considered less than significant.”)

**11. Should the Commission base a potential procurement order on an alternative study or rationale beyond that described in this ruling? If so, provide the study and explain why it should be used instead.**

Please see CalWEA's response to Question 14.

**12. Comment on the impact a Commission procurement order could have on the market for the necessary resources. Provide evidence of your assertions, if possible.**

As indicated in our response to Question 14, a procurement order for clean energy resources, located in areas that can charge battery storage, would stimulate the market for lower-cost, energy-only resources. Such an order is needed because LSEs are focused on meeting their RA requirements with FCDS resources and are not procuring energy resources.

**13. In addition to or instead of procurement proposed in this ruling, are there other measures outside of the IRP context that the Commission should consider? If so, explain your recommendations in detail.**

No comment.

**14. If the Commission orders procurement in the IRP proceeding between 2028-2032, should it be for generic capacity, or should there also be an energy component (due, in part, to the declining ELCCs of battery storage)? Why or why not? Do the resource adequacy Slice of Day requirements adequately address this issue? Why or why not?**

Any procurement order should prioritize energy resources, considering the decreasing capacity value of battery storage and the increasing reliance on that resource to meet the state's RA capacity needs. There is also a growing lack of battery charging capacity due to both a lack of clean and low-cost energy as well as a lack of transmission and distribution capacity to allow the available energy to reach battery resources during low load periods – i.e., the problem has nothing to do with any lack of deliverability of energy resources. Without charging capacity, battery projects may lose their capacity accreditation.

Charging is becoming an increasing problem because substantial storage resources are, and will continue to be, located in areas that cannot be reached due to perceived or actual transmission and distribution capacity limitations for the purpose of charging. Distribution utilities are prioritizing native load over battery recharging, leading to battery charging insufficiencies.<sup>36</sup>

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<sup>36</sup> This prioritization may be partly genuine and partly artificial. It is CalWEA's understanding that the CPUC has started an unofficial inquiry into this growing problem.

Transmission (primarily sub-transmission) capacity limitations are beginning to become a constraint for charging purposes as well.

A procurement order for clean energy resources located in areas that can charge battery storage is needed because LSEs focused on meeting their RA requirements with FCDS resources are overlooking energy resources. As a result, there is presently little or no market for lower-cost, energy-only (EO) resources. EO resources can charge FCDS battery resources cost-effectively during all hours, except for limited periods of very high load when batteries would be discharging.

**15. If energy resources are needed for 2028-2032, should the RPS program be used for procurement of additional energy resources, rather than ordering procurement in the IRP context? Provide your rationale.**

As discussed above, there is a growing system need for energy resources to charge battery storage. Sufficient incentives exist currently to buy capacity resources due to the mid-term reliability (“MTR”) procurement requirements,<sup>37</sup> the recently implemented 24-hour “slice of day” RA program requirements, and potential additional requirements from the forthcoming Reliable and Clean Power Procurement Program (“RCPPP”). Therefore, an increase in RPS Program requirements, which are energy-based, rather than capacity-based, would be an appropriate means of requiring the additional low-cost, clean energy needed to ensure that battery capacity can be fully charged. However, it may be more efficient for the Commission to issue a procurement order for RPS-eligible energy resources through the IRP program.

**16. Comment on the LLT resource delay assumptions of three years. What challenges are present in procuring these resources and bringing them online?**

Assuming this question refers to delaying Humboldt offshore wind resources to 2041, please see our response to Questions 2(a) and 27.

**17. Should a procurement order, if one is issued, specify particular characteristics for resource procurement (e.g., clean firm, long-duration storage, etc.), or should the requirement be entirely for generic capacity resources?**

The requirement should be for all clean energy resources, as discussed under Question 14. Wind energy should not be excluded from any capacity-based procurement order, as was in the

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<sup>37</sup> As recapped recently in D.25-06-005, D.21-06-035 originally covered procurement in the years 2023-2026, but was subsequently amended by D.23-02-040 to require additional procurement through 2028, and to allow for certain potential extensions to compliance deadlines for long lead-time resources to come online by 2031.

MTR order. That order was a missed opportunity to promote the development of in-state wind resources, which produce a substantial fraction of their output during the riskiest evening net peak hours, as shown by the higher NQC wind values under the 24-hour “slice of day” RA program. The perplexing exclusion of wind energy in the MTR partially accounts for the limited amount of in-state wind development presently.

**18. Should a procurement order, if one is issued, consider relaxing any of the resource eligibility requirements associated with prior MTR orders? If so, what should be changed? Explain your rationale.**

Per our responses to Questions 14 and 15, CalWEA recommends an energy resource procurement order to ensure a supply of low-cost battery-charging resources, under which all RPS-eligible clean energy resources would qualify.

**19. If a procurement order is issued, comment on how the need determination should be allocated to LSEs.**

CalWEA continues to advocate for a 24-hour reliability framework to determine long-term system reliability needs and allocate them to LSEs, thereby accomplishing the requirement and purpose of AB 1584 and avoiding cost-shifting among them. We have advocated that this be done as part of the RCPMP,<sup>38</sup> but presume that it will not be done in time for any immediate procurement order.

**20. Given efficiencies associated with procuring at scale, should the Commission consider ordering central procurement of resources, if additional procurement is ordered? Why or why not?**

A procurement order for clean energy resources, as CalWEA recommends, could easily be satisfied without central resource procurement.

**21. If a procurement order is issued, should there be requirements for procurement within local capacity areas? If so, which ones, and how should this requirement be designed?**

No comment.

**22. Should capacity accreditation be based on forthcoming incremental ELCC analysis? If you prefer another method for resource accreditation (such as extension of existing accreditation, straight-line decline, or less frequent updates to values), describe it in detail. Also describe how resources should be submitted and**

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<sup>38</sup> See CalWEA’s Comments on Administrative Law Judge’s Ruling Seeking Comments on Reliable and Clean Power Procurement Program Staff Proposal (July 15, 2025) at section II.D.

**processed for compliance review.**

No comment.

**23. Should the Commission continue to use the existing MTR compliance baseline and allow LSEs who have excess procurement relative to their MTR and Supplemental MTR obligations to count their excess procurement toward any new obligations? Why or why not?**

No comment.

**24. How should any potential new procurement order relate to a potential adoption of the RCPPP requirements?**

No comment.

**25. What other actions should the Commission take, in conjunction with, or as a substitute for, a procurement order, to cost-efficiently promote system reliability and emissions reductions during the 2028-2032 period? Be as specific as possible.**

No comment.

**26. What other actions should the Commission take specifically to maximize the impact of the availability of existing federal government loans or other contributions, to support energy infrastructure during the 2028 to 2031 period? Be as specific as possible.**

No comment.

### **III. COMMENTS ON OTHER ASPECTS OF THE RULING**

**27. Please feel free to comment on any other aspect of this ruling that is not covered by the above questions.**

*(a) The Ruling lacks justification for the OSW included in the Proposed Base Case*

CalWEA supports planning for a diverse resource portfolio that includes robust levels of in-state, out-of-state, and offshore wind, as well as geothermal/EGS, to diversify the risks and challenges that would be associated with a solar- and battery-dominated portfolio, and to diversify the risks associated with emerging technologies, as discussed in response (b) to Question 4 regarding the Limited Wind Sensitivity. However, the inclusion of OSW in the Proposed Base Case, while at the same time substantially reducing in-state wind development, is not rational, lacks proper support from any reasoning or analysis, and does not hold up to scrutiny.

As discussed in response (a) to Question 2, the proposal to force in 4.5 GW of offshore wind is at odds with the Base Case assumption that tax credits will never be restored. Given that unevenly applied assumption, the Commission should explain how it expects the benefits of 4.5 GW of OSW to exceed costs. In its decision authorizing DWR to procure up to 7.6 GW of OSW for 2037 delivery, the Commission stated that the 7.6 GW scenario analyzed in a staff cost-benefit analysis “appears to be the level beyond which, based on current assumptions, it becomes more likely that the costs of procuring the OSW will exceed benefits in cost savings to electricity ratepayers.”<sup>39</sup> Without federal tax credits, costs will rise. The Ruling does not provide an analysis showing net benefits for 4.5 GW of OSW without tax credits. Further, the Commission also justified the procurement of 7.6 GW for 2037 delivery because it would “achieve the economies of scale that will be necessary eventually to realize the full benefits of the resource potential by around 2045.”<sup>40</sup> Planning for just 4.5 GW in 2041 and 2045, as the Proposed Base Case would do, leaves no room for additional OSW development by 2045 to achieve the economies of scale necessary to deliver longer-term benefits from the initial investment.

Furthermore, as mentioned above, it is highly likely that if Congress does not restore the tax credits, it also will fail to authorize new federal grants for offshore wind ports, thus impeding the ports development strategy that is crucial for California’s offshore wind development. The inclusion of 2.9 GW of Morro Bay offshore wind in the 2036 Base Case portfolio without assuming restoration of the tax credits also presumably assumes that other federal support, including billions in ports grants, will not be available, even in 2029. Even if support becomes available again in 2029, federal permitting of OSW projects and grants to support port development would only commence then. Setting aside project permitting, federal permitting of port expansions, which is necessary to construct and assemble floating OSW platforms and turbines, is unlikely to be completed for several years, with the possibility of further delay from lawsuits. Port construction is therefore unlikely to begin until at least 2031, with construction of the first phase of port facilities not completed until 2034 at the earliest.

The process of constructing and assembling floating OSW platforms and turbines is slow. The Energy Commission assumes that the assembly process for a single, fully assembled floating wind turbine unit (platform + turbine) will take approximately 1 to 2 weeks per unit under optimal

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<sup>39</sup> D.24-08-064 at p. 50.

<sup>40</sup> *Ibid.*

conditions<sup>41</sup> – a rate of production that has never been achieved. By comparison, the most recent floating offshore wind project to be completed outside China, Hywind Tampen, took nearly three years to construct, assemble, and deploy its 11 turbines off Norway, culminating in August 2023.<sup>42</sup> Assuming a turbine size of 15 MW,<sup>43</sup> 193 turbines would need to be constructed to achieve the 2.6 GW in the Base Case for 2036. Even under the CEC’s unrealistic throughput assumptions, constructing 173 turbines would require 3.7 to 7.4 years, which, optimistically beginning in 2034, would be somewhere between late 2037 and 2041 under optimistic port construction assumptions. Thus, the 2.9-GW OSW goal by 2036 is unreasonable, even assuming the resumption of federal support in 2029 – *which the Base Case does not assume*.

*(b) Given the unlikelihood of achieving even 2.9 GW OSW by 2036, the transmission that has been planned and reserved for Humboldt OSW should be put on hold*

As discussed above, achieving 2.9 GW of OSW by 2036 is unrealistic. And staff proposes that this capacity be at Morro Bay, with the balance of 1.6 GW at Humboldt coming online by 2041.<sup>44</sup> Given this timeline for Humboldt resources, the Commission should request that CAISO place the transmission that has been planned and reserved for OSW on hold, and recommend that CAISO focus on much more surgical and modest upgrades to address choke points in the North of Greater Bay Area (NGBA) region. These upgrades, such as Vaca-Dixon to Collinsville to Tesla, would provide full capacity transmission service to onshore wind and other NGBA resources.

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<sup>41</sup> California Energy Commission (CEC), *Draft 2024 Offshore Wind Market Assessment* (CEC-200-2023-007-DF). The findings in this report were incorporated into the CEC’s 2024 *Assembly Bill 525 Offshore Wind Strategic Plan*. The report discusses the "quayside assembly" method that necessitates specific port infrastructure. While the report does not state the construction and assembly timeline explicitly, its port requirements and supply chain modeling are based on the operational timelines provided by industry experts in their official submissions to the CEC.

<sup>42</sup> <https://tethys.pnnl.gov/wind-project-sites/hywind-tampen>

<sup>43</sup> The prospect for turbine sizes larger than 15 MW is uncertain at best. See NREL, "[Scaling the Offshore Wind Industry and Optimizing Turbine Size](#)" (Nov. 20, 2024).

<sup>44</sup> Ruling at p. 11.

Respectfully submitted,

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***On behalf of the California Wind Energy  
Association***

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