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Comments on Draft AB 525 Offshore Wind Strategic Plan

Additional submitted attachment is included below.

California Wind Energy Association

April 19, 2024

California Energy Commission
Docket No. 17-MISC-01
Docket Office
1516 Ninth Street
Sacramento CA 95814

Submitted Electronically via CEC website to Docket 17-MISC-01

Re: Comments on Draft Assembly Bill 525 Report: Assembly Bill 525 Offshore Wind Strategic Plan (January 2024)

The California Wind Energy Association ("CalWEA")[1] appreciates this opportunity to comment on the Commission's Draft Assembly Bill 525 Report: Assembly Bill 525 Offshore Wind Strategic Plan ("Draft Plan"). These comments are organized by subject area and reflect, in part, the five sets of comments that CalWEA submitted during the Commission's process of preparing the interim AB 525 reports.

The Draft Plan presents a wealth of information on issues that will play out over the next decade, and CalWEA applauds the staff and consultant effort that has produced this information. However, the Draft Plan contains a dearth of ***specific near-term actions*** that urgently need to be taken to enable the Draft Plan's stated offshore wind goals to be achieved. Together with the insufficient action that has been taken by state and federal agencies to date, the lack of planning regarding specific, near-term goals serves to undermine investor confidence in the future of industry. Restoring that confidence will require additions to the final plan, and immediate leadership at the highest state and federal levels to make progress in key areas.

Specifically, CalWEA recommends bolstering the Final Plan in these areas:

- The final plan should ***highlight the real experience and important tangible progress made by the CADEMO project that can facilitate the federal projects***. The project has

[1] CalWEA is a 24-year-old trade organization whose members are focused on developing wind energy resources within and directly interconnected to California and off the coast of California, as well as capturing the related economic and workforce development benefits for California.

forged important agreements with labor, tribal, and military stakeholders and offers critical "lessons learned" regarding the state-federal permitting process. Importantly, CADEMO's experience to date illuminates a bureaucratic quagmire that, left unresolved, could jeopardize this state-waters project as well as the federal projects. A state-federal interagency Memorandum of Understanding (MOU) is urgently needed.

- Given that ports and transmission infrastructure are the two prerequisites to offshore wind development, each with decade-long lead times, the final plan must include ***specific recommendations to move ports and transmission planning and investment forward***, rather than recommendations merely to continue collaborating and coordinating with relevant parties.

- Additionally, as most of the Draft Plan is devoted to the substantial challenges, costs, and potential impacts of offshore wind, ***a qualitative and quantitative discussion of the substantial benefits of offshore wind must be added for readers to understand why the effort to address these challenges is warranted***. Among the considerable benefits of a portfolio with offshore wind is a substantial reduction in the total capacity that would otherwise be needed to achieve the state's greenhouse gas goals, representing a significant reduction in overall land-use impacts, reduced supply chain risks, and greater system reliability.

Until California develops a specific industrial plan for offshore wind, with a commitment to near-term actions to implement that plan, there will be no impacts to mitigate, no underserved communities to serve, no reliability benefits to be gained for tribal communities and the state, and no advancement towards the state's climate change goals. The state's focus now needs to be on moving forward needed port and transmission infrastructure, while resolving tangled state-federal permitting processes.

Potential Impacts and Mitigation Strategies

In this chapter, which addresses impacts on coastal resources, fisheries, Native American and Indigenous peoples, underserved communities, and national defense, it is curious and unfortunate that, despite the "extensive outreach to understand impacts and strategies to address them" conducted by the Commission and coordinating agencies,[2] the Draft Plan does not fully report on the proposed CADEMO project, its ability to provide early information on many of these impacts and related mitigation strategies, and the tangible progress it has made in forging agreements with the affected tribe and the military. The omission of material facts on these issues should be corrected in the final plan.

[2] Vol. I at p. 10.

Volume II of the report notes, "If approved and constructed, CADEMO asserts the project would assist California in assessing environmental impacts, technology options, workforce needs, supply chain options, and port facilities needed for offshore wind development in the state"[3] (emphasis added). Referencing a developer's assertion is not particularly helpful. The Commission and its agency partners should evaluate CADEMO's contention that the project will inform and facilitate the larger projects in federal waters and confirm its claims to the extent that it agrees.

In its comments during this process,[4] CalWEA discussed the benefits of the CADEMO project and the CalWEA and the CADEMO project team met several times with the Commission to discuss the project, which could be online several years before the federal-waters projects. Many, if not most, of the potential impacts, mitigation techniques, and adaptive management approaches depicted in Figure 4-1 and discussed in Vol. II, Chapter 4, as well as impacts on tribal communities, military operations, and labor relations, could be informed by the real-world experience of the CADEMO project. This experience, in turn, could inform and accelerate the federal waters projects.

The Draft Plan should acknowledge the progress made and opportunities presented by the CADEMO project. The Draft Plan discusses the workforce development benefits associated with the project in the Workforce Development chapter, and briefly notes that the project "is providing a means to model the high road labor practices and community engagement for offshore wind projects."[5] It notes that a PLA between the CADEMO project and labor unions was signed in November 2022. However, the Draft Plan misses other critically important strategic benefits of this project, including the substantial progress CADEMO has made in addressing tribal and military concerns.

Notably, in October 2023, CADEMO signed an unprecedented Community Benefits Agreement (CBA) with the Santa Ynez Band of Chumash Indians, whose ancestral territory includes the ocean waters and land where CADEMO is proposed to be located.[6] This is the offshore wind industry's first CBA with a tribe not just in California but nationwide, and it sets an important precedent for best practices in incorporating tribes into offshore wind planning. Especially in view of the largely critical comments made by tribal representatives in the Commission's AB

[3] Vol. II at p. 9.

[4] See, e.g., CalWEA's AB 525 comments dated July 7, 2022, October 20, 2022, and February 8, 2023.

[5] Vol. II at pp. 172-173.

[6] CADEMO press release, "CADEMO and Santa Ynez Chumash: Pioneering Offshore Wind Collaboration" (Nov. 9, 2023). Available at: https://cademo.net/cademo-and-santa-ynez-chumash-2/. Also see *Santa Maria Times,* "Tribal Cooperation in California's Offshore Wind Industry (Dec. 28, 2023). Available at *https://santamariatimes.com/opinion/guest/governments-tribes-must-cooperate-on-offshore-wind-development-guest-commentary/article_33e514af-f45c-55fd-b77e-5714130c0998.html*.

525 workshops,[7] and the tribal concerns discussed in the Draft Plan,[8] it is important to highlight successful industry-tribal collaboration where it exists.

The Santa Ynez Band of Chumash Indians communicated to the Commission[9] that it supports offshore wind energy as an alternative source of energy, provided there is full compliance with NEPA and Section 106 of the National Historic Preservation Act. The Santa Ynez Band noted its extensive involvement in the BOEM process. In juxtaposition to the lack of engagement by BOEM leaseholders in environmental survey work, it highlighted the CADEMO CBA, which will enable the engagement of professional ecologists and undersea archaeologists as well as tribal monitors to assist the tribe in monitoring any CADEMO surveys of the sea floor.[10] This tribe also notes its partnership with CADEMO to train tribal community members to participate in environmental monitoring and compliance for the project. Yet, the Draft Plan fails to mention the unprecedented engagement of the Santa Ynez Band in the relevant chapter or recommend that federal leaseholders consider similar engagement.

Similarly, the Draft Plan discusses how avoidance of conflict with DOD coastal, marine, and air operations could be addressed through coordination with BOEM and offshore wind project developers during planning, leasing, siting, design, and operations activities.[11] Yet, the Draft Plan does not mention the fact that CADEMO has already signed a Mitigation Agreement with the U.S. Department of Defense[12] to allow CADEMO's turbines to operate proximate to the military and space launch activity on Vandenberg Space Force Base. The agreement itself, and most certainly the experience with operating turbines just offshore from the base, should facilitate relations between the federal offshore wind projects and military and commercial space companies in other areas on the Central Coast.

The Commission should reach out to the parties to examine these agreements. These agreements, and the CADEMO project, warrant a thorough discussion in the Draft Plan and in its recommendations. This progress serves as an tangible example of the Draft Plan's calls for "comprehensive environmental research and monitoring that uses best available science and monitoring technologies, traditional ecological knowledge, and baseline and long-term monitoring to guide project siting," "meaningful consultations with California Native American tribes and collaborative development of appropriate avoidance, minimization, and mitigation

[7] See, e.g., Summary of 3/14/24 OSW Tribal Working Group Comments (docketed 4/9/24).

[8] Vol. I at pp. 12-13; Volume II, Chapter 4 at pp. 67-74.

[9] Santa Ynez Band of Chumash Indians - AB 525 Comments (dated April 8, 2024; docketed April 10, 2024).

[10] *Ibid.*

[11] Vol. I at p. 15. Also see Volume II, Chapter 4….

[12] CADEMO press release, "U.S. Department of Defense and CADEMO sign agreement to allow floating offshore wind project near Vandenberg launch sites," (August 10, 2023). Available at: https://cademo.net/mitigation-agreement-press-release/.

strategies for impacts to tribal cultural resources, natural resources, cultural, social, economic, and other interests," and "coordinat[ion] with the DOD to prevent potential offshore wind development from encroaching on military testing, training, and operations areas."[13]

Offshore Wind Permitting

CalWEA supports the proposed establishment of an Ocean Renewable Energy Policy Group (Ocean REPG) and an Ocean Renewable Energy Action Team (Ocean REAT) to promote interagency coordination and facilitate timely decisions.[14] Here again, however, CADEMO serves as a tangible example of the problems that need immediately to be overcome, yet the Draft Plan fails to study this initial project for the unfortunate lessons that must be learned if offshore wind is to be developed in time to serve California's climate goals.

CADEMO reports that, in its joint state-federal environmental review process, coordination between state and federal agencies has been plagued by long delays. Despite the agencies' professed intent to synchronize their efforts effectively, actual experience has been cycles of regulatory Catch-22s that stretch inexplicably from months into years. For California's offshore wind industry, CalWEA believes that the greatest risk to progress (and indeed survival) is not outright opposition from competing interest groups but rather the slow drip of delay and uncertainty.

CalWEA endorses American Clean Power - California's recommendation to develop a more detailed plan for state and federal permitting coordination, including a process timeline and interagency Memorandum of Understanding (MOU).[15] CalWEA agrees that this is a top industry priority, along with subsequent steps to implement the Ocean REAT/REPG model.

Port Infrastructure

CalWEA strongly agrees with the Draft Plan that staging and integration port sites where floating offshore wind turbines are assembled are critical to the future of offshore wind in California, and that port development is necessary to maximize the economic benefits associated with developing an offshore wind industry by creating jobs and developing a local supply chain within the state.[16] Absent adequate port investment, California will lose out on the "roughly two-thirds of the offshore wind workforce [that] is centered around the supply chain and manufacturing of key components.[17] Given that ports, as well as transmission infrastructure, are the two prerequisites to offshore wind development with decade-long lead

[13] Vol. I at p. 31-32.

[14] Vol. I at p. 29.

[15] ACP-CA's comments at Section I.1.

[16] Vol. I at p. 20.

[17] Vol. I at p. 23 (citing BVG Associates Limited, October 2017).

times, the final plan must include specific recommendations to move ports planning and investment forward, rather than general recommendations to continue collaborating and coordinating with relevant parties. Those discussions occurred in this process. It is now time to take concrete steps to move the process along.

For example, while the Draft Plan identifies the need for $11 billion to $12 billion to upgrade existing port infrastructure to meet the 2045 offshore wind planning goal,[18] it should identify specific possible sources of funding, including a bond measure placed on the ballot by the Legislature, and the Plan should recommend the immediate development of a funding strategy. The final plan should also highlight the fact that needed investments in ports infrastructure represent a small fraction (4 percent to 6 percent, according to the Oceantic Network[19]) of the total investment required to reach our offshore wind targets.

At a minimum, CalWEA joins the Port of Los Angeles in supporting the expeditious release of the CEC's Offshore Wind Waterfront Facility Improvement Program funding to assist the POLA and other California ports in developing their infrastructure concepts.[20] Thus, immediate action is needed. The delay in releasing the $45 million in funding authorized two years ago to begin simple preliminary planning is one of many disturbing signs that the state does not have a functional approach to advancing offshore wind.

Transmission Infrastructure and Planning

Chapter 8 provides a wealth of information on the transmission technologies that may be needed to support offshore wind, technical descriptions of the current transmission system as relates to accessing OSW, and, particularly on the North Coast, detailed possible transmission interconnection schemes, system upgrades and associated costs. Chapter 9 addresses planning, interconnection, and permitting processes for transmission infrastructure.

While this information is valuable, the chapters lack information and recommendations on important regulatory policy decisions that must be made in the very near term to promote certainty that grid capacity will be available timely for offshore wind, particularly at the Central Coast. The Draft Plan states only that "it will be necessary to explore the availability of transmission in the Morro Bay area to interconnect offshore wind generation prior to 2030," listing needed studies.[21] This does not constitute strategic planning or meet the AB 525 requirement that the report "assess the transmission investments and upgrades necessary" "as

[18] Vol. I at p. 21.
[19] Oceantic Network Report: Building a National Network of Offshore Wind Ports, September 20, 2023, at p. 25. Available at: https://oceantic.org/building-a-national-network-of-offshore-wind-ports/.
[20] See the April 4, 2024, comments of the Port of Los Angeles in this docket, at https://efiling.energy.ca.gov/GetDocument.aspx?tn=255507&DocumentContentId=91255.
[21] Vol. II. at p. 214.

well as the extent to which existing transmission infrastructure and available capacity could support offshore wind energy development."[22]

Central Coast

At the Central Coast, the Draft Plan should identify decisions that must be made promptly to ensure that existing available grid capacity is planned and reserved for the full potential build-out of the existing OSW leases.

As an initial matter, the Draft Plan should correct the stated ranges of potential capacity at both the Central Coast and North Coast lease areas, as it underestimates potential capacity by up to 40%.[23] At the Central Coast, the state should plan for 6,825 MW,[24] particularly as CAISO applications for 6,500 MW have already been submitted in this area. Maximizing the use of these lease areas will reduce overall transmission requirements and reduce the need for additional sea space to meet the 25 GW planning goal. Thus, the Draft Plan should advise the CPUC to include 6,825 MW of capacity at the Central Coast in the TPP Base Case Portfolio that it will send to the CAISO in 2025.

The Draft Plan should also highlight the importance of the CAISO's stated intention to ensure that new transmission capacity is reserved for the specific "long-lead-time" (better thought of as location-constrained) resources that a transmission project is designed to serve,[25] and the importance of extending that policy to existing available transmission capacity. CAISO has stated its intent to address the issue as pertains to new transmission in Track 3 of its Interconnection Process Enhancements Initiative,[26] which will explore changes to CAISO's deliverability allocation methodology. The Draft Plan should recommend that the policy be extended to existing available transmission capacity, particularly as pertains to the Central Coast. CAISO aims to resolve the issue by July 2024.

In addition, the Draft Plan should discuss the need for the CPUC to work with the Department of Water Resources to provide CAISO with the procurement assurances that will be needed to enable CAISO to award transmission planning deliverability (TPD) capacity to offshore wind projects under planned reforms to the CAISO's interconnection process.[27] This will require

[22] Vol. II. at p. 180.

[23] See ACP-CA Comments on Draft Strategic Plan (April 8, 2024) at p. 17. Emphasis added.

[24] *Ibid.*

[25] CAISO 2023 Interconnection Process Enhancements Draft Final Proposal (Feb. 8, 2024) at p. 68.

[26] See CAISO 2023 Interconnection Process Enhancements Final Proposal (March 28, 2024), pp. 80-81.

[27] Under current and proposed revised CAISO procedures, projects that can show commitments towards securing a power purchase agreement will be strongly favored to receive TPD capacity. Offshore wind leaseholders are not currently able to make such showings.

progress to be made in implementing the DWR's central procurement role under Assembly Bill 1373 (2023).

The CAISO's 2023 Transmission Capability Estimates provided to the CPUC for its IRP process indicated that, at that time, there was a total of 7.8 GW of TPD capacity available for offshore wind at the Central Coast: 6.3 GW at the Diablo Canyon 500kV substation (and/or a new Morro Bay 500kV substation[28] in the same generation pocket) and at least 1.5 GW of TPD capacity at Moss Landing[29] – apparently more than enough to accommodate all 6.5 GW of OSW represented in Cluster 14 applications and one Cluster 13 applicant with a tentative hold on TPD capacity.[30] If these offshore wind projects can demonstrate strong CPUC-DWR procurement interest, they would be in a good position to obtain all remaining available TPD capacity in the TPD cycle following Cluster 15.[31] Thus, the CPUC must work with DWR to provide OSW projects the necessary procurement assurances to the CAISO.

The Draft Plan should also discuss an alternative, more proactive, approach that would be responsive to Senate Bill 887 (2022), which requires the CPUC "to identify and approve transmission facilities sufficient to make OSW deliverable to load centers." To do so, in addition to including 6,500 MW of OSW capacity at the Central Coast, the Commission would request that CAISO plan for reduced thermal Resource Adequacy capacity in the Los Angeles Basin to ensure sufficient capacity to reliably meet electrification needs in that transmission-constrained area and enable (not require) the retirement of the dirtiest power plants in the basin. As Paths 15 and 26 are constrained, this more pro-active approach would promote the backbone upgrades that will almost certainly be needed to support the state's SB 100 goals.[32]

[28] The transmission capacity currently used by the nuclear power plant is assumed to be available in this analysis. Even so, a new substation at Morro Bay would be required if PG&E continues to object to the use of Diablo after the nuclear units retire.

[29] "Transmission Capability Estimates for use in the CPUC's Integrated Resource Planning Process" and "Attachment B2 – PGE Constraint Boundary Substation List." Available at: https://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=03DCF912-0ECF-4CF9-A304-A05F4ED5B2CD. CAISO estimated 5,203 MW of deliverability capacity, which equates to 6,268 MW installed OSW capacity at the assumed 0.83 capacity factor that CAISO is now using.

[30] For further detail on these issues, see CalWEA's Comments in CPUC R.20-05-003, on the Proposed 2023 Preferred System Plan and Transmission Planning Process Portfolios (Nov. 13, 2023) at Section IV.

[31] Unfortunately, because the CPUC effectively included only 2.9 GW of OSW capacity at the Central Coast in its 2023 Preferred System Plan, capacity which has no procurement assurances, 3 GW of storage capacity at the Central Coast in Cluster 14 could be awarded some of the available TPD capacity in the current TPD allocation cycle (January to May/June 2024), which would diminish the amount of capacity available to offshore wind.

[32] Note 30 *supra* at p. 26.

North Coast

The Draft Plan should likewise identify decisions that should be made promptly to ensure that the new capacity that is being planned to access North Coast OSW resources is reserved for those resources.

The statement in the Draft Plan that "North Coast offshore wind is not included in Cluster 15 as it requires policy-driven transmission projects approved through the California ISO's TPP"[33] is not accurate. There are two 1,150-GW OSW applications in Cluster 15. Thus, the sentence that follows – "This must happen before Generator Interconnection Deliverability Allocation Procedure (GIDAP) studies can be completed, which at the earliest will be in March 2024" – is unclear. The CAISO is currently poised to adopt transmission upgrades to accommodate 1.6 GW of North Coast transmission in its 2023-24 Transmission Plan.[34] However, in its normal course, CAISO would allocate this planned capacity to non-OSW resources in Cluster 14 in 2025. As discussed above for Central Coast resources, it is critical that CAISO follow through with its stated intention to ensure that transmission capacity is reserved for the resources that a transmission project is designed to serve.

Should CAISO not establish a capacity reservation policy for OSW and other location-constrained resources, or should FERC not approve such a policy, which would be unprecedented under FERC's open access policies,[35] the CPUC and the CAISO should work together to put the North Coast transmission project on hold until CAISO can award the capacity to Cluster 15 projects under normal procedures. This would require, as with Central Coast OSW resources, that the CPUC work with DWR to provide CAISO with procurement assurances to enable CAISO to award TPD capacity to North Coast OSW projects under forthcoming reforms to the CAISO's interconnection process.

Eliminating duplication in environmental review of transmission projects

The Draft Plan notes that "Eliminating duplication in need determinations and environmental reviews for transmission projects can help ensure they come online in a timely and efficient manner" but does not contain a recommendation on this point. The final plan should recommend that the CPUC use the authorization provided in AB 1373 to establish a rebuttable presumption in favor of the need for CAISO-approved transmission projects for offshore wind.[36]

[33] Vol. II at p. 226.

[34] CAISO Draft 2023-24 Transmission Plan (April 1, 2024) at p. 3 and Table ES-2.

[35] For a discussion, see CalWEA's October 14, 2022, comments on CAISO's Straw Proposal on Transmission Planning Process Enhancements (response to Question 3).

[36] Codified in P.U. Code Sec. 1001.1.

In addition, the report should recommend strengthening the rebuttable presumption provision by eliminating a redundant statutory requirement for the CPUC to consider "non-wires" alternatives to transmission projects already approved by the CAISO. (This could be accomplished by AB 2292, currently pending.) CAISO's transmission plans are already based squarely on the CPUC's resource portfolios, which fully consider resources that do not require transmission. Requiring the CPUC to second-guess CAISO's analysis therefore adds time (and cost) to a development timeline that stretches more than a decade on average.

DRECP

Chapter 9 contains a discussion of the Desert Renewable Energy Conservation Plan (DRECP).[37] While the discussion is in the Transmission Planning chapter, the discussion may be construed to suggest that a DRECP-like effort is appropriate for offshore wind. Setting aside the fact that the DRECP inappropriately all but ended wind development on vast federal lands in California,[38] the situation with offshore wind is not comparable to the situation at the outset of the DRECP, as the federal government has already screened for areas that are most appropriate for potential development and has leased those areas. The projects in these areas will undergo rigorous environmental review. This should be noted in this discussion. There should be no implicit suggestion in this report that a multi-year DRECP-like screening effort should further constrain these areas.

The Plan Should Fully Describe and Highlight the Substantial Benefits of Offshore Wind

The Overview Report asserts[39] that OSW "is poised to play an important role in diversifying the state's portfolio of resources," "can support grid reliability" and can "help California achieve its 100 percent renewable and zero-carbon energy goals." Likewise, Volume II briefly asserts the benefits of portfolio diversity and reliability benefits of offshore wind.[40] There is, however, little elaboration or quantification of these critically important benefits, despite the June 27, 2022, AB 525 workshop where many of these benefits were addressed.

Importantly, a UC Berkeley study presented at the June 2022 AB 525 workshop[41] found that 50 GW of offshore wind would cost-effectively reduce overall clean energy capacity requirements

[37] Vol. II at pp. 220-221.

[38] See CalWEA Comments to BLM on DRECP Land Use Plan Amendments (March 22, 2018).

[39] Vol. I at p. 1.

[40] Vol. II at p. 260. See also p. 7.

[41] Goldman School of Public Policy, UC Berkeley, AB 525 workshop presentation "The Offshore Report: California" available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=243710&DocumentContentId=77544.

by 61 GW.[42,43] CalWEA recently performed RESOLVE modeling runs to evaluate how the CPUC's recently adopted Preferred System Plan[44] (PSP) would change with a more modest increase in offshore wind, compared to UC Berkeley's analysis. We found that adding 7.5 GW of offshore wind capacity to the 4.5 GW included in the PSP would result in a nearly 10-GW reduction in utility-scale solar resources and a 5.6-GW reduction in 8-hour battery resources, avoiding entirely the need for 8.3 GW of capacity to achieve the state's greenhouse gas goals.[45] Portfolio costs would increase by a modest 2.6%.

In addition to the generally inherent "not-all-eggs-in-one-basket" benefits of significantly diversifying the resources upon which California's electric grid will rely, specific associated resource diversity benefits of more offshore wind include:

- **Land-use benefits.** The avoidance of 10 GW of utility-scale solar projects (replaced in part by resources located at sea) represents a considerable reduction in land-use requirements, representing approximately 60 large projects and 60,000 acres of land use. The GridLab study presented in June 2022[46] noted the need to evaluate other very important, but harder to quantify, risks from a solar-heavy portfolio, such as limitations on, and conflicts over, land availability.
- **Reduction in materials use.** An overall reduction of 8.3 GW of primarily solar and battery capacity represents a significant reduction in the need for raw materials – e.g., lithium, copper, nickel, cobalt, rare earths – much of which is imported from around the world. This resource use and the associated environmental impacts of resource extraction represent a global equity issue that California should be mindful of. A reduction in needed capacity also translates to a reduction in waste at the end of the useful life of the projects.
- **Supply-chain, price, and operational diversity benefits.** A smaller, more resource- and technology-diverse portfolio will mitigate the supply chain, price, and operational risks that will be present with a grid that is heavily reliant on solar and batteries, and

[42] The UCB Study found that 50 GW of offshore wind in 2045 would reduce solar and storage deployments by 121 GW (77 GW and 44 GW, respectively). As 10 GW of offshore wind was in the base case, this capacity is replaced by 40 GW of offshore wind, and the overall capacity requirement is reduced by 61 GW (121 GW - 40 GW).

[43] CalWEA's September 5, 2023, comments in the Commission's SB 100 docket (at footnote 2) noted several other studies showing that a diverse resource portfolio lowers total capacity needs.

[44] CPUC Decision 24-02-047 (February 15, 2024).

[45] See appendix for complete modeling results.

[46] GridLab, Telos Energy and Energy Innovation's "Reliably Reaching California's Clean Electricity Targets: Stress Testing Accelerated 2030 Clean Portfolios" Available at: https://gridlab.org/wp-content/uploads/2022/05/GridLab_California-2030-Study-Technical-Report-5-9-22-Update1.pdf. Workshop presentation at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=243711&DocumentContentId=77543

that is dependent upon foreign sources of materials. To CalWEA's knowledge, California's energy agencies have not carefully considered these and other resource diversity benefits. In terms of operational risks, the UCB Study quantified one potential reliability impact of a solar-dominated portfolio: wildfire smoke could cause a potential 35-40 GW drop in solar production, with effects that could extend over a week. As was made clear most recently in the Legislature's 2022 passage of AB 205, which included funding a costly "Strategic Reliability Reserve" to ensure reliability during extreme weather events, a reliable grid is highly valued. A reliable supply of electricity will become more critically important as increasing temperatures increasingly jeopardize human health.

Again, CalWEA appreciates the substantial and productive efforts of staff and consultants in producing this valuable report. However, more direction for near-term strategic actions is urgently needed if the state is to realize the offshore wind planning goals envisioned in the Draft Plan.

Sincerely,

Nancy Rader
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California Wind Energy Association
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Appendix. CalWEA Resolve Run, PSP vs. PSP with Additional 7.5 GW Offshore Wind

RESOLVE-selected capacities based on the replicated Core 25MMT scenario (Resolve_Public_Release_01-12-2024)

	RESOLVE-selected Capacities [GW], based on the replicated Core_25MMT_Sens		
Planned & Resolve-Selected Capacity (GW)	Replicated Offshore 4.5 GW Onshore 21 GW	Scenario 2 (High Wind) Offshore 12 GW Onshore 20.9 GW	delta = Scenario2 - Replicated
Resource Type	Year =2045	Year =2045	Year =2045
Geothermal	2.0	1.7	-0.3
Biomass	0.2	0.2	0.0
In-State Wind	9.0	8.3	-0.7
Out-of-State Wind	12.0	12.6	0.6
Offshore Wind	4.5	12.0	7.5
Solar	57.3	47.4	-9.9
Li-ion Battery (4-hr)	15.7	15.7	0.0
Li-ion Battery (8-hr)	19.5	14.0	-5.6
Pumped Hydro Storage	0.5	0.5	0.0
Long Duration Storage	0.5	0.5	0.0
Shed DR	0.0	0.0	0.0
Shift DR & VGI	0.0	0.0	0.0
Total [GW]	**121.1**	**112.9**	-8.3
Total Resource Cost (Million $)	$65,742	$67,457	1,715
Change in Clean Resources (GW)	0.0		-8.3
Change in Total Resource Cost (%)		2.6%	

Note that different "solvers" lead to small deviations in results that could not be resolved in discussions with CPUC staff