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## **AWEA-California Comments on OSW Workshop**

Attached please find AWEA-California's comments on the IEPR Commissioner Workshop on Offshore Wind

Please let me know if you have any trouble accessing the attachment.

Many thanks!  
Danielle Mills

*Additional submitted attachment is included below.*

October 18, 2019

California Energy Commission  
1516 9<sup>th</sup> Street  
Sacramento, CA 95814-5512



Docket # 19-IEPR-07

**RE: AWEA California Comments on October 3 IEPR Commissioner Workshop on Offshore Wind**

The American Wind Energy Association of California (AWEA-California) appreciates the leadership of the Energy Commission in convening the October 3<sup>rd</sup> IEPR Commissioner Workshop on Offshore Wind. Workshop participants demonstrated strong enthusiasm for the potential for offshore wind to help California achieve electric sector decarbonization in line with SB 100 mandates while stimulating economic development in the state. Participants also acknowledged certain challenges to the development of offshore wind and suggested approaches for overcoming those challenges. In these comments, AWEA-California recommends three strategies to advance offshore wind in California: a state target for offshore wind deployment, comprehensive state-wide infrastructure planning, and complimentary policies.

**I. A statewide target for offshore wind will stimulate industry investment and expedite development processes.**

To achieve SB 100 mandates, California will need up to 165 GW of renewable generation online by 2050.<sup>1</sup> The future electricity portfolio will need to include diverse and innovative technologies which provide capacity to replace the natural gas and nuclear resources which we rely upon today. Offshore wind, which typically generates consistent energy beginning in the evening hours when net load ramps up, will be a crucial component of the future power mix. Further, offshore wind can provide valuable resource adequacy and serve as a clean alternative to conventional generation, particularly in the evening hours. In Europe, floating offshore wind currently has potential to operate with a capacity factor of 45-60%, as has been observed at the Hywind project in Scotland. Along the Central Coast, offshore wind could provide system resource adequacy and potentially local RA value in addition to RPS value that is complementary to solar PV in both the medium and longer-term, and at a levelized cost that compares to rooftop PV.

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<sup>1</sup> <https://www.ethree.com/wp-content/uploads/2018/06/Deep-Decarbonization-in-a-High-Renewables-Future-CEC-500-2018-012-1.pdf>

In light of the global growth of offshore wind, technology advancements are occurring in real time around the world. AWEA-California suggests continued refinement of the cost assumptions for floating offshore wind technologies based on known cost reductions and recent generation and cost data from recently contracted east coast projects and European floating offshore wind projects.<sup>2</sup>

However, as the recent proposed decision by the California Public Utilities Commission to extend the life of up to 3,750 MW of Once-through-cooling plants by three years demonstrated,<sup>3</sup> California is not currently prepared to rapidly replace flexible capacity, and we risk missing carbon-reduction goals if we don't incorporate better long-term planning into existing procurement processes.

Specific resource targets and goals have proven highly effective for stimulating long-term development of clean energy technologies and spurring rapid cost declines. Nearly two decades ago, California's landmark renewable portfolio standard created stimulus for utility-scale wind and solar developments. In 2007 the California Solar Initiative provided funding for distributed solar installation toward the goal of "1 million solar roofs" – a target which was exceeded before the 2016 program end date. More recently, AB 2514 (2010) mandated procurement of 1,325 MW of energy storage by the IOUs by 2020, and, like the solar mandate, helped accelerate deployment of energy storage and drove down the costs of batteries.

On the east coast, state mandates and targets have led to the nation's first offshore wind developments: the 800 MW Vineyard wind project will help fulfill Massachusetts' 3.2 GW offshore wind mandate,<sup>4</sup> New Jersey Governor Murphy's 2018 Executive Order setting a 3.5 GW target has stimulated new development, and New York's 9 GW<sup>5</sup> target has driven Governor-lead offshore solicitations as well as workforce and port investments. Developments and solicitations have also occurred in Rhode Island, Virginia, Connecticut, and Maryland.<sup>6</sup>

AWEA-California recommends that California establish a target of 10 GW of offshore development by 2040. We believe this target is achievable given the state's 20+ GW of development potential<sup>7</sup> and overall clean energy resource additions required between 2020 and 2050. This target is also consistent with finding from the Castle Wind study by E3, which found that 7-9 GW of offshore wind are part of the 2040 least-cost portfolio.<sup>8</sup> Finally, a 10 GW target aligns with the roughly 9 GW of offshore wind development which is necessary to achieve the economies of scale and market potential will bring offshore wind manufacturing and port revitalization benefits to the state.<sup>9</sup>

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<sup>2</sup> The 20-year average cost of long-term contracts for Massachusetts' 800 MW Vineyard Wind Project in is \$84.23 per MWh in levelized nominal dollar terms. This is equivalent to a levelized net present value price in 2017 dollars of \$64.97 per MWh. <https://macleanenergy.files.wordpress.com/2018/08/doer-83c-filing-letter-dpu-18-76-18-77-18-78august-1-2018.pdf>

<sup>3</sup> <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M312/K522/312522263.PDF>

<sup>4</sup> <https://www.mass.gov/service-details/offshore-wind>

<sup>5</sup> <https://www.nyserdera.ny.gov/All%20Programs/Programs/Offshore%20Wind>

<sup>6</sup> [https://www.awea.org/Awea/media/About-AWEA/U-S-Offshore-Wind-Fact-Sheet-September-2018\\_2.pdf](https://www.awea.org/Awea/media/About-AWEA/U-S-Offshore-Wind-Fact-Sheet-September-2018_2.pdf)

<sup>7</sup> <http://laborcenter.berkeley.edu/pdf/2019/CA-Offshore-Wind-Workforce-Impacts-and-Grid-Integration.pdf>

<sup>8</sup> <https://efiling.energy.ca.gov/GetDocument.aspx?tn=229890&DocumentContentId=61342>

<sup>9</sup> <http://laborcenter.berkeley.edu/pdf/2019/CA-Offshore-Wind-Workforce-Impacts-and-Grid-Integration.pdf>

## **II. A state master plan for offshore wind will facilitate efficient development**

The Energy Commission, in collaboration with the CPUC, State Lands Commission, Coastal Commission Ocean Protection Council, and CAISO should spearhead a comprehensive planning effort (a “state master plan for offshore wind”) to support the development of offshore wind in the state. Since floating offshore wind energy will be new to California, the development process for offshore wind remains relatively amorphous and uncertain. State leadership through robust planning and coordination will help overcome potential uncertainties regarding permitting requirements, authority, and sequencing which could unnecessarily stall or halt the development process.

The permitting process for offshore wind will be both extensive – requiring permits or mitigations from multiple agencies and input from many competing stakeholder interests – and uncharted, with no off-the-shelf permitting process that can be easily adapted for this new resource. Offshore wind projects will require approval and/or input from the federal government, including BOEM and the Department of Defense, as well as state agencies. It remains unclear who will have lead authority over project siting and permitting and in what order a developer should pursue various approvals and permits. As the permitting process for offshore wind will be extensive and expensive – costing tens of millions of dollars – investors in these projects will require a greater level of regulatory certainty regarding the permit process in California in order to make these necessary upfront investments. AWEA-California recommends that the Energy Commission continue to serve as a convener, working with BOEM and state agencies to bring together permitting agencies and stakeholders to chart out a complete and efficient permitting process that extends from lease award to final approval. This upfront planning process will help avoid lengthy and expensive delays which would otherwise arise from a “trial-and-error” approach to permitting for the first offshore projects.

Achieving a 10 GW offshore wind target will also require new investments in the bulk transmission system. Neil Millar’s presentation on behalf of the CAISO highlighted the limitations of the Generation Interconnection Process for offshore wind developers requiring major transmission upgrades, the capacity constraints in the North Coast transmission system, supporting transmission pathways which will require upgrades to deliver offshore wind to load centers, and the importance of the Transmission Planning Process (TPP) to realizing necessary infrastructure investments. As AWEA-California has advocated across proceedings at the CPUC and CAISO, the TPP has been severely hamstrung in recent years due to the iterative nature of the Integrated Resource Planning and TPP processes, and the cyclical interactions between procurement and transmission planning where procurement is challenging without transmission certainty, and transmission development and cost allocation is challenging without procurement.

For all renewable energy development, the state could consider conducting an analysis of successful strategies employed in other jurisdictions to expand transmission to enable large-scale renewable energy development. The Competitive Renewable Energy Zone (CREZ) process, in particular, serves as a highly relevant case study example. Since its implementation, CREZ has enabled development of more than 18 GW of wind energy capacity while overcoming technical issues such as curtailment and

transmission congestion.<sup>10</sup> California of course had its own version of this effort with the Renewable Energy Transmission Initiative (RETI) and RETI 2.0, both of which resulted in valuable information to inform renewable energy development.

In addition, the Commission may consider with the CAISO and the CPUC whether the standard interconnection queuing process is appropriate for offshore wind, or if refinements may be necessary in order to assess the full and accurate capacity needs on the points of interconnection on the coast. As with other long-lead-time clean energy resources poised to provide cost-savings, offshore wind will require substantial improvements to the state's long-term transmission planning processes and the state master plan for offshore wind should provide recommendations to this effect.

Finally, given potential project size and the division of load in the state, offshore wind will require a financially solvent load-serving entities and a planning and procurement regime that can support several capital-intensive offshore wind projects.

### **III. Complimentary policies will incentivize more robust development**

In addition to target setting and comprehensive planning, California should also support the offshore wind industry by setting complimentary policies which incentivize industry. Assessments, planning and investment in workforce training and port revitalization will be especially important for maximizing the economic development potential of offshore wind in California.

### **Conclusion**

AWEA-California commends the Energy Commission for its initiative in hosting the IEPR workshop. The Commission's ongoing and persistent leadership will be critical to the success of offshore wind in California.

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<sup>10</sup> Competitive Renewable Energy Zones in Texas, National Renewable Energy Lab (2018)  
[https://www.michigan.gov/documents/mpsc/tx-crez-background\\_258398\\_7.pdf](https://www.michigan.gov/documents/mpsc/tx-crez-background_258398_7.pdf)