

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

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

Rulemaking 20-05-003  
(Filed May 7, 2020)

**REPLY COMMENTS OF OFFSHORE WIND CALIFORNIA  
ON PROPOSED PREFERRED SYSTEM PLAN**

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Pursuant to the August 17, 2021 *Administrative Law Judge’s Ruling Seeking Comments on Proposed Preferred System Plan* (“Ruling”), Offshore Wind California (“OWC”)<sup>1</sup> respectfully submits the following reply comments on the proposed Preferred System Plan (“PSP”) and specific questions contained in the Ruling.

The federal investment tax credit<sup>2</sup> for offshore wind offers California a valuable, time-sensitive opportunity. California ratepayers can greatly benefit from federal and state policy support for offshore wind development to build a more diverse, more reliable portfolio of renewable energy assets *if* the California Public Utilities Commission (“Commission”) and other California state agencies act now to enable offshore wind developers to plan for and commence construction. Other states such as Oregon, Massachusetts, New York, and Rhode Island have begun implementing regulations to expedite development of offshore wind power. California

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<sup>1</sup> OWC is a nonprofit coalition of industry partners with a shared interest in promoting policies and public support for responsible development of offshore wind power in California. Its board member companies and organizations include Aker Offshore Wind, BP, Equinor, Magellan Wind, Mainstream Renewable Power, Ørsted, Pacific Ocean Energy Trust, Principle Power, Shell, and SSE Renewables. OWC’s members provide an independent voice and industry expertise to facilitate offshore wind deployment off California’s coast. OWC engages in public education and advocacy efforts to include offshore wind power as part of a comprehensive solution to California’s energy needs.

<sup>2</sup> The federal investment tax credits are critical to the economics of first-generation offshore wind projects in California and can save ratepayers \$3.6 to \$7.8 billion over the life of the wind farms. *See Offshore Wind Industry Responses to Questions from Staff of the California Public Utilities Commission* at 31, prepared by Offshore Wind California, American Clean Power – California, and Individual Companies (Mar. 2021), [Offshore Wind California Response to CPUC Comments \(squarespace.com\)](https://www.offshorewindcalifornia.com/wp-content/uploads/2021/03/OWC-Response-to-CPUC-Comments-2021-03-01.pdf).

also has an opportunity to ensure offshore wind infrastructure development happens in a manner most pragmatic and favorable for Californians.

The Commission should act expeditiously to plan for large-scale offshore wind development, work with other state agencies to set clear offshore wind targets for 2030 and 2045 (per the state’s recently enacted Assembly Bill (“AB”) 525), evaluate offshore wind as a vital and viable renewable resource for the near-term, and include it in the Transmission Planning Process (“TPP”) base case scenario. The Commission can facilitate determination of the best offshore wind transmission solutions through its role in setting assumptions and targets for the current integrated resource planning process, its direction to the California Independent System Operator (“CAISO”) in the TPP, and by leading and engaging in comprehensive assessments of long-term transmission solutions needed to achieve Senate Bill 100’s overall clean energy goals and to support large-scale offshore wind.

**I. THE COMMISSION MUST PLAN FOR OFFSHORE WIND AS A VIABLE AND NECESSARY COMPONENT OF THE RENEWABLE GENERATION PORTFOLIO NEEDED TO MEET CALIFORNIA’S CLIMATE GOALS (RESPONSE TO QUESTION 14)**

The Commission should appropriately and aggressively plan to include offshore wind because it is a viable and necessary element of California’s pathway to its climate goals and furthers the intent of AB 525. There are currently 162 offshore wind farms up and running worldwide and 26 more are under construction.<sup>3</sup> Of these wind farms, 11 projects are using floating platforms in deep waters off the coasts of the U.K. (Scotland), Portugal, Spain, Norway, France, and Japan, deploying floating offshore wind technologies that could be used in California. The National Renewable Energy Laboratory reports that globally there are over 26

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<sup>3</sup> See World Forum Offshore Wind, *Global Offshore Wind Report 2020* at 6-8 (Feb. 2021), [WFO Global-Offshore-Wind-Report-2020.pdf \(rocketcdn.me\)](https://www.wfoffshore.com/global-offshore-wind-report-2020.pdf).

gigawatts (“GW”) of floating offshore wind projects in the planning and permitting phases of development, with the first utility-scale projects expected to be operational in 2025.<sup>4</sup> The estimate of potential offshore wind energy production in California is 392 TWh/year: equivalent to one and a half times California’s 2014 energy consumption.<sup>5</sup> Opportunities for offshore wind energy in California will continue to expand as floating offshore wind technology rapidly advances.

A report jointly prepared by this Commission, the California Energy Commission and the California Air Resources Board shows that at least 10 GW of offshore wind will be needed in California’s 100% clean energy portfolio by 2045.<sup>6</sup> Ten GW of offshore wind would represent roughly 7% of the total capacity needed to meet 2045 requirements.<sup>7</sup> The report forecasts that offshore wind would drive \$900 million in total resource cost savings as compared to a portfolio without offshore wind. Thus, a planning target that includes 10 GW or more of offshore wind power would both save ratepayers money, and also position California as an offshore wind leader in the U.S. and Pacific Rim, and as a natural hub for the supply chain, jobs and port facilities to deploy this renewable energy technology on the West Coast and beyond.

AB 525 further states that offshore wind energy can play a critical role in California’s efforts to meet statutory renewable energy and climate mandates. AB 525 highlights that

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<sup>4</sup> Office of Energy Efficiency and Renewable Energy, *Offshore Wind Market Report: 2021 Edition*, U.S. Department of Energy at 48 (Aug. 30, 2021), [Offshore Wind Market Report: 2021 Edition \(energy.gov\)](#).

<sup>5</sup> See Walter Musial et al., *Potential Offshore Wind Energy Areas in California: An Assessment of Locations, Technology, and Costs* at 5 (No. NREL/TP-5000-67414); National Renewable Energy Lab (NREL): Golden, CO, USA (2016), [Potential Offshore Wind Energy Areas in California: An Assessment of Locations, Technology, and Costs \(nrel.gov\)](#).

<sup>6</sup> See California Energy Commission, California Public Utilities Commission & California Air Resources Board, *2021 SB 100 Joint Agency Report, Achieving 100 Percent Clean Electricity in California: An Initial Assessment* at 46-61 & 75-76 (Mar. 2021), [2021 SB 100 Joint Agency Report, Achieving 100 Percent Clean Electricity in California: An Initial Assessment | California Energy Commission](#).

<sup>7</sup> *Id.* The report estimates that California will need roughly 140 GW of new renewable energy and storage by 2045 to achieve 100% clean energy.

offshore wind can provide numerous economic benefits such as reducing total portfolio resource costs and attracting investment capital to realize community development, workforce and job creation benefits in California. In addition, offshore wind can provide significant climate and environmental benefits, by reducing transmission congestion through subsea electricity transmission, and improving air quality, particularly in disadvantaged communities. Offshore wind's transmission of clean power to coastal centers via undersea cables can also help reduce potential sources of wildfire ignition, as well as coastal pollution from undersea pipeline spills. AB 525 directs the California Energy Commission to establish offshore wind planning goals, denominated in megawatts of installed capacity for 2030 and 2045 to unlock these benefits, and the Commission must include consideration for how it will help California meet these offshore wind targets in its programmatic approach to greenhouse gas ("GHG")-beneficial procurement.

## **II. OFFSHORE WIND SHOULD BE INCLUDED IN THE 2022-2023 TPP BASE CASE AND THE COMMISSION SHOULD PRESERVE TRANSMISSION DELIVERABILITY RIGHTS FOR OFFSHORE WIND IN THE CENTRAL COAST AREA (RESPONSE TO QUESTIONS 21 AND 22)**

Certain parties argue that offshore wind should be omitted from the TPP Base Case<sup>8</sup>, or considered as a long-term rather than a near-term solution.<sup>9</sup> Some suggest that the Ruling inappropriately favors offshore wind at the exclusion of other resources.<sup>10</sup> Other parties argue

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<sup>8</sup> See Gridliance West LLC Comments on Administrative Law Judge's Ruling Seeking Comments on Proposed Preferred System Plan ("GridLiance West Comments") at 15; Southern California Edison Company Comments on Administrative Law Judge's Ruling Seeking Comments on Proposed Preferred System Plan ("SCE Comments") at 28.

<sup>9</sup> See The Public Advocates Office Comments on Administrative Law Judge's Ruling Seeking Comments on Proposed Preferred System Plan ("Cal Advocates") Comments at 15; California Community Choice Association's Comments on Administrative Law Judge's Ruling Seeking Comments on Proposed Preferred System Plan ("CalCCA Comments") at 18-19.

<sup>10</sup> See GridLiance Comments at 15; Comments of Hydrostor, Inc. on the Administrative Law Judge's Ruling Seeking Comments on Proposed Preferred System Plan ("Hydrostor Comments") at 12; Comments of Vote Solar, Solar Energy Industries Association and Large-Scale Solar Association to the Administrative Law Judge's Ruling Seeking Comments on Proposed Preferred System Plan ("Joint Solar Parties Comments") at 10; Opening Comments of LS Power Development, LLC on the Administrative

the Commission should not preserve transmission deliverability rights for offshore wind for cost-competitiveness reasons.<sup>11</sup> However, the Commission should continue to plan for large-scale offshore wind development and work to preserve transmission rights, in particular on the Central Coast, to meet California’s climate goals and provide benefits that California ratepayers deserve.

The Commission should accept American Clean Power – California’s (“ACP-CA”) recommendation that between 3,000-4,600 MW of offshore wind in 2032 be included in the TPP base case for 2022-2023, and include a higher quantity of offshore wind in 2030 to better align transmission planning with future market developments and procurement opportunities.<sup>12</sup> The Commission should also follow the recommendation of parties that advocate increasing the amount of offshore wind in the PSP.<sup>13</sup>

Specifically, when the Commission receives the CAISO’s draft analysis of the 8,351 MW offshore wind sensitivity portfolio that was included in the 2021-2022 TPP inputs, which the CAISO expects to complete in November 2021, the Commission should promptly reassess its work on the 2022-2023 TPP inputs. Once the CAISO issues its draft analysis, the Commission’s reassessment will allow more immediate and effective transmission planning to incorporate offshore wind into the California clean power mix.

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Law Judge’s Ruling Seeking Comments on the Proposed Preferred System Plan (“LS Power Comments”) at 14-15.

<sup>11</sup> See The Protect Our Communities Foundation Comments on the Administrative Law Judge’s Ruling Seeking Comments on Proposed Preferred System Plan at 26-27.

<sup>12</sup> See American Clean Power – California Opening Comments on Administrative Law Judge’s Ruling Seeking Comments on Proposed Preferred System Plan (“ACP-CA Comments”) at 10.

<sup>13</sup> See e.g., Opening Comments of Defenders of Wildlife on Administrative Law Judge’s Ruling Seeking Comments on Proposed Preferred System Plan at 10-11.

Several parties advocate that the Commission preserve transmission deliverability rights in the Central Coast area.<sup>14</sup> The Commission should, in particular, accept ACP-CA's recommendations that the Commission: (1) work with the CAISO to preserve the transmission deliverability rights for offshore wind provided by the retirement of the Morro Bay gas plant and planned retirement of Diablo Canyon Nuclear Power Plant ("DCNPP"); (2) recognize the expected federal auction for offshore wind siting leases in that area by the federal Bureau of Ocean Energy Management ("BOEM") in fall 2022<sup>15</sup>; and (3) request that the CAISO seek a limited waiver allowing it to reserve transmission capacity at DCNPP in the upcoming deliverability allocations.

The Commission could then take this additional offshore wind capacity into account for the reliability and CAISO policy-driven base case analysis as part of the 2022-2023 TPP.<sup>16</sup> Furthermore, as the California Wind Energy Association's ("CalWEA") comments recommend, the Commission should request that the CAISO acquire the necessary deliverability rights for the 1.7 GW of offshore wind in its PSP from PG&E and its retiring DCNPP and ensure that Central Coast offshore wind projects have obtained power purchase agreements ("PPAs") by the time the DCNPP deliverability rights become available.<sup>17</sup>

The Commission should take these actions for three important reasons:

*First*, including offshore wind in planning is essential for resource diversification and grid reliability (noting offshore wind's highly complementary power generating profile with

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<sup>14</sup> See Comments of Environmental Defense Fund on the 2021 Preferred System Plan Ruling at 17; Opening Comments of The Utility Reform Network on the Administrative Law Judge Ruling Seeking Comments on Proposed Preferred System Plan at 15-16; Comments of the Natural Resources Defense Council on Administrative Law Judge's Ruling Seeking Comments on Proposed Preferred System Plan at 11.

<sup>15</sup> See ACP-CA Comments at 7-10.

<sup>16</sup> See ACP-CA Comments at 7-10.

<sup>17</sup> See CalWEA Comments at 22-23.

solar) and will prove highly beneficial particularly when land-based resources face regulatory or administrative and physical constraints.

*Second*, offshore wind can help reduce GHG emissions and climate risks while providing important protection and security during California's increasingly challenging and damaging fire seasons.

*Third*, offshore wind can help relieve the environmental and public health burdens imposed on economic and environmentally disadvantaged communities.

Realizing these benefits, however, will require preserving the transmission deliverability rights and building the necessary transmission capacity, understanding that offshore wind is a large-scale, capital-intensive industry with long development times. Developers need certainty for planned or existing grid connections to take the risk of investing and delivering the full benefits of offshore wind development.

**A. Planning for Offshore Wind as a Part of the Renewable Energy Portfolio Is Essential for Resource Diversification and Grid Reliability**

Cal Advocates discusses BOEM permits as a concern and an impediment to near-term capacity potential.<sup>18</sup> While permitting offshore wind in California will undoubtedly require compliance with the federal and California permitting processes, much of this work can be performed concurrently. More important, Cal Advocates and other parties fail to consider the benefits and protection offshore wind energy will provide when the permitting and physical challenges of land-based energy resources make these resources less viable. Including offshore wind energy in the energy portfolio will contribute to portfolio diversification and improve system-wide reliability through resource and locational diversity of generation projects.

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<sup>18</sup> See Cal Advocates Comments at 15.



Offshore wind should be included in planning for the near term and should be thought of as a necessary and complementary piece of the total renewable energy portfolio, rather than as a replacement or as exclusionary of other renewable energy resources. Costs for floating offshore wind farms have been rapidly declining in recent years and are expected to decline further during the next decade.<sup>19</sup> By treating offshore wind as an important part of the portfolio, the Commission can protect the State’s ability to benefit from resource diversification when on-shore resources face challenges and limitations posed by land-specific natural disasters and constraints, let alone the impediments to siting and building new high voltage transmission capacity to serve constrained load centers.

California has long recognized that to have a mature market in new technologies, a ramp-up period for a new technology must be provided. To allow offshore wind to compete with other resources, the Commission should treat offshore wind as it does storage; the Commission must include it in planning to ensure that it is a viable future option. Given offshore wind’s long development lead-times, including it in the Commission’s planning *now* is necessary for the technology to be available in the near future when it will be needed. Thus, the Commission should also accept CalWEA’s recommendation for the Commission to promptly enforce a resource diversity requirement and require all Load Serving Entities (“LSEs”) to share in the achievement of the resource mix in the Preferred System Plan (“PSP”) by having proportionate offshore wind offtake obligations.<sup>20</sup>

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<sup>19</sup> See *supra* note 4, *Offshore Wind Market Report: 2021 Edition* at 81.

<sup>20</sup> See CalWEA Comments at 17.

## **B. Offshore Wind Can Provide Important Wildfire Resilience and Security Benefits**

One important advantage of offshore wind, overlooked by other commenters, is improved wildfire safety and resiliency. Damages caused by wildfires in California due to poorly maintained overland transmission line failures have increased significantly in recent years, and curtailment of electric service in areas under fire threat has been implemented to avoid wildfires. A 2020 report found that 24% of California's cities are at risk of wildfire, while 52% are at risk of blackout, with associated financial losses and risks to life and health.<sup>21</sup> Where offshore wind power can reach end users using a combination of new subsea transmission and repurposed, well-maintained overland transmission built for retiring thermal plants, it offers significant resiliency and safety advantages over resources that require new, long stretches of new overhead transmission. Offshore wind resources can be particularly beneficial given that they would reduce reliance on land-based power lines and poorly maintained transmission lines at risk of impact from wildfires and blackouts.

California, one of the most wildfire prone states in the nation, is home to some of the best offshore wind energy resources in the United States. Offshore wind advances wildfire resilience efforts, given that offshore turbines are not at risk of land-based wildfires and the transmission lines connecting offshore wind will be under the ocean rather than over the land for most of the transmission route. Transmission lines under the ocean will be both resistant to fire and also less likely to cause fires. Offshore wind can be even more valuable given that wildfire smoke can reduce solar production. By ensuring the inclusion of offshore wind in the renewable energy

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<sup>21</sup> See Francisco Haces-Fernandez, *Wind Energy Implementation to Mitigate Wildfire Risk and Preemptive Blackouts* (May 12, 2020). <https://doi.org/10.3390/en13102421>.

portfolio, the Commission can further its wildfire mitigation and planning efforts and better ensure long-term resiliency.

**C. Offshore Wind Can Relieve Environmental and Public Health Burdens Imposed on Economically Disadvantaged Communities**

California Environmental Justice Alliance and Sierra Club advocate that the Commission consider greenhouse gases (“GHGs”), other air pollutants, and disadvantaged communities in procurement planning.<sup>22</sup> Offshore wind can address important environmental justice issues and relieve environmental and public health burdens imposed on disadvantaged communities by combustion emissions, much of which comes from natural gas plants. Offshore wind energy also complements solar and battery assets, providing needed power during periods of high net load.

As the chart below demonstrates, for much of the summer in California, the current mix of renewables, primarily solar and onshore wind, starts to rapidly decline in the late afternoon. To support grid reliability, dispatchable thermal plants, many powered by natural gas, are used in increasing numbers, so that by 8:00 pm, up to 60% of the state’s electricity supply emits GHGs and other pollutants. These emitting resources are near communities with high cumulative socioeconomic and environmental burdens. To illustrate, 50% of California’s emitting power plants are sited in communities that rank among the 25% most disadvantaged.<sup>23</sup> Adverse health effects of emissions from these emitting resources are borne disproportionately by those disadvantaged communities.

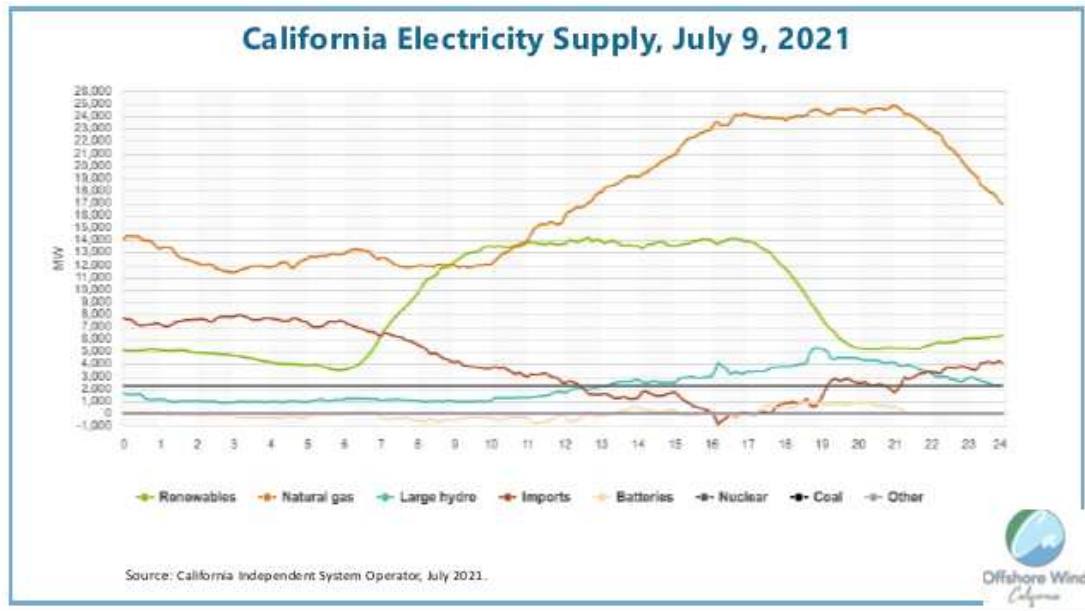
Increasing short and long-duration storage will help with the situation, although these technologies likely cannot be deployed fast enough to close the gap affordably. Supply chain

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<sup>22</sup> See Comments of California Environmental Justice Alliance and Sierra Club on the Proposed Preferred System Plan at 14.

<sup>23</sup> See *Natural gas power plants in California’s disadvantaged communities*, PSE Healthy Energy (Apr. 2017), [https://www.psehealthyenergy.org/wp-content/uploads/2017/04/CA.EJ\\_Gas\\_Plants.pdf](https://www.psehealthyenergy.org/wp-content/uploads/2017/04/CA.EJ_Gas_Plants.pdf).

disruptions have also severely impacted commercial online dates of these storage facilities. The planned closure of the DCNPP in 2025 will likely increase short-term emissions as more thermal resources are required to ensure system reliability. To prevent emissions increases, more renewable resources, in particular renewables with complementary generation profiles, and storage are needed to maintain affordable and reliable service. Offshore wind is an effective way to cost-effectively and reliably serve customers in the near-term and provide tangible long-term social, environmental and public health benefits.



### III. CONCLUSION

Offshore wind energy can contribute to a resource- and technology-diverse, secure, and affordable renewable energy resource portfolio that will serve the reliability needs of California ratepayers, alleviate public health burdens imposed on disadvantaged communities, and provide important protections from increasingly damaging climate risks. Accordingly, offshore wind should be included in the 2022-2023 TPP Base Case and the Commission should preserve transmission deliverability rights for offshore wind, especially in the Central Coast area.

Respectfully submitted,

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