



Offshore Wind Opportunities for California

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About AWEA-California

We are a project of the American Wind Energy Association, supported by a team of policy experts on the ground in California. Participating companies develop, own, and operate utility-scale wind, solar, storage, offshore wind, and transmission assets.

Our mission is to drive immediate and sustained development of new utility scale renewable energy to propel California toward a carbon-free electric future. We advocate for procurement processes and market structures that fully value and deploy the energy and capacity attributes of renewables to achieve an affordable, reliable, resilient, and carbon-free grid.

Offshore wind is on the horizon in California, and it presents an opportunity for California to advance its position as a clean energy leader while realizing additional economic and workforce benefits associated with the clean economy.

California has a robust offshore wind resource along its coast, which presents significant economic and environmental opportunities.

- California has 112 GW of technical offshore wind resource potential, which UC Berkeley Labor Center winnowed down to 21 GW of total potential in a study of five sites along California's coast.¹
- *The California Offshore Wind Project* finds that California could install 18 GW of offshore wind capacity and support over 17,500 jobs in the offshore wind industry, related downstream industries, and surrounding economy in 2045.
- In 2018, the Bureau of Ocean Energy Management issued a call for interest and nominations in three 'call areas' along California's Coast: Humboldt, Morro Bay, and Diablo Canyon. Together these call areas could support 8 GW of offshore wind development. BOEM received expressions of interest from fourteen companies.²
- Offshore wind can complement California's generation and load profile, moving us toward 100% clean energy. The wind resource off California's coast is phenomenal both in terms of speed and profile. Wind speeds off the coast of California tend to pick up in the evening and continue to blow through the night, when we will need it most as the solar generation drops and people

¹ <http://laborcenter.berkeley.edu/pdf/2019/CA-Offshore-Wind-Workforce-Impacts-and-Grid-Integration.pdf>

² <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/CA/CA-Call-Nominations-for-website-2019-05012019-%282%29.pdf>



come home to charge cars, and turn on appliances. This is the time of day that has been most difficult for the state to address in the transition to clean energy.

- Offshore wind is one of the best ways to assist with decarbonization – it will help the state electrify the building sector by powering nighttime heating loads and electrify the transportation sector by providing a reliable source for nighttime fleet and vehicle charging.

Various studies have assessed the ratepayer benefits, workforce opportunities, and greenhouse gas reduction value of offshore wind in the past several years. Now it is time for the State to act by developing a plan to realize these benefits while avoiding or minimizing the potential for conflict.

Statewide Planning is necessary to address the challenges and realize the opportunities associated with offshore wind.

California's state agencies should work together to develop a statewide plan to achieve at least 10,000 MW of offshore wind by 2040. The plan should include four elements: Stakeholder engagement and site identification,

1. Stakeholder engagement and site identification

State and federal agencies should work with stakeholders, including industry, to identify suitable sea space for wind energy areas in federal waters both within and beyond the Bureau of Ocean Energy Management (BOEM) Offshore Wind Call Areas (Call) sufficient to achieve the 10 GW development goal. Analysis of economic and workforce development opportunities.

This should include information from environmental groups and the commercial fishing industry and provide a forum for coordinating existing and future research and monitoring programs to advance understanding through collaboration and partnerships. This would be additional to the level of communication that already exists between industry and the fishing industry, and would support the BOEM process, which currently strives to balance site-specific factors and feedback from the public, including the fishing community.

AWEA strives to minimize disruption to fishing activity near offshore wind farms – that is the best outcome for developers and fishermen.

This element should also encourage coordination with tribal governments to assess and address potential cultural resource impacts and advance cooperation with tribes in coastal regions close to potential offshore wind developments.

2. Assessment of ecological and cultural resources and permitting

Efforts among stakeholders and agencies are underway, which we would like to build upon, to compile existing and available data on potential interactions between floating offshore wind installations and ocean species, habitats, or other ocean-users in the U.S. BOEM identified Call Areas, as well as in



potential wind development areas beyond those Call areas.

Once the data is collected, state agencies should make recommendations on additional data collection and survey needs, as appropriate, which would support project siting and permitting, and as informed by environmental NGOs, industry, and scientists; identify public and private resources to support these activities.

Permitting an offshore wind project will require roughly 32 state and federal agencies. We suggest that the State convene a working group with one agency taking a convening and leading role, to collectively develop and produce guidelines, timeframes, and milestones for a coordinated, comprehensive, and efficient permitting process for offshore wind facilities and associated electricity and transmission infrastructure off the coast of California.

3. Transmission and procurement planning

Transmission and procurement planning are already significant tasks for the state's energy agencies. Since offshore wind is a long lead-time resource that will require new transmission build-out, we suggest working with the CAISO to assess the transmission investments and upgrades necessary to support a 10 GW offshore wind goal, including through a Transmission Planning Process Special Study considering existing transmission capacity, near-term least-regrets transmission investments, and long-term investments in new transmission infrastructure.

We are also calling on the CEC, CPUC, and CAISO to conduct an assessment of standard and alternative approaches to funding new transmission to support offshore wind, and to include offshore wind as a resource for full consideration in CPUC Integrated Resource Planning effort and the joint agency report required by SB 100.

4. Economic development, workforce development, and community benefits

In this process, relevant state agencies would assess existing waterfront facilities that could support a range of floating offshore wind development activities including construction and staging of foundations, manufacturing of components, and long-term operations and maintenance facilities.

This is also an opportunity for the State to analyze workforce development needs for the California offshore wind industry, including occupational safety requirements, and the need to require the use of a skilled and trained workforce.

We'd also like to see consideration of in-person classroom and laboratory advanced safety training for workers at high-hazard facilities.

California needs an action plan to achieve environmental, economic, and social benefits of an offshore wind industry.



Offshore wind presents an opportunity for California to realize triple bottom line gains for the economy, environment, and California’s workforce. The State can commit to these gains by setting a clear goal for at least 10 GW by 2040, and then develop an action plan to guarantee success.