SENATE COMMITTEE ON ENERGY, UTILITIES AND COMMUNICATIONS
Senator Steven Bradford, Chair
2023 - 2024 Regular

Bill No:	AB 3006	**Hearing Date:**	6/18/2024
Author:	Zbur		
Version:	4/8/2024 Amended		
Urgency:	No	**Fiscal:**	Yes
Consultant:	Nidia Bautista		

SUBJECT: Energy: offshore wind generation

DIGEST: This bill amends the definition of "infrastructure" for purposes of the Governor's annual infrastructure plan to include port infrastructure for offshore wind (OSW) energy development.

ANALYSIS:

Existing law:

1) Requires the State Energy Resources Conservation and Development Commission (California Energy Commission (CEC)), in coordination with specified agencies, to develop a strategic plan for OSW energy developments installed off the California coast in federal waters, and requires the CEC to submit the strategic plan to the Natural Resources Agency and the Legislature on or before June 30, 2023, as specified. (Public Resources Code §25991)

2) Requires the CEC, in coordination with relevant state and local agencies, to develop a plan to improve waterfront facilities that could support a range of floating OSW energy development activities, as specified. (Public Resources Code §25991.3)

3) Requires the Governor, the California Infrastructure Planning Act, to annually submit a five-year infrastructure plan to the Legislature in conjunction with the Governor's Budget. (Government Code §13102)

4) Defines "infrastructure" to mean real property, including land and improvements to the land, structures and equipment integral to the operation of structures, easements, rights-of-way, and other forms of interest in property, roadways, and water conveyances. (Government Code §13101)

This bill:

1) Amends the definition of "infrastructure" described above to include port infrastructure for OSW energy development, and would require the five-year infrastructure plan to include, beginning in the 2026–27 fiscal year, an assessment of funding needs for port infrastructure for OSW energy development.

2) Requires the Governor, in consultation with specified entities, to assess federal, state, and local funding opportunities, including general obligation bonds and funding from the private sector, that can help build port infrastructure for OSW energy development.

Background

California's clean energy goals. SB 100 (De León, Chapter 312, Statutes of 2018) established the state policy that renewable and zero-carbon resources should supply 100 percent of retail sales and electricity procured in the state by 2045. This policy was recently updated under SB 1020 (Laird, Chapter 361, Statutes of 2022) which accelerated the requirement on state agencies to 100 percent by 2035, and established interim targets to meet the 100 percent goal.

SB 100's Joint Agency Report. SB 100 established a target for renewable and zero-carbon resources to supply 100 percent of retail electricity sales by 2045 and includes a requirement for a Joint Agency Report as a first step to evaluate the challenges and opportunities in implementing SB 100. OSW was included as part of the core scenario in the *2021 SB 100 Joint Agency* report. The OSW system availability was limited to 10 gigawatts (GW) over four resource zones: Morro Bay, Diablo Canyon, Humboldt Bay, and Cape Mendocino. The model was given an input assumption of 2030 as the first available year for bringing OSW online, given the current California Independent System Operator interconnection queue and resource development needs of OSW, with costs for the different zones estimated between $69 and $82 per megawatt hour (MWh) for 2030. Given these input assumptions, nearly all 10 GW of OSW was selected when made available in the model, but this selection only occurred after 2035, regardless of the scenario, and the full 10 GW was selected only in 2045. OSW energy generation is projected to be an important component of the state's efforts to decarbonize energy generation and to achieve carbon neutrality by 2045, particularly as OSW can be a more stable and complementary resource to help integrate with variable renewable energy resources. The report notes "The preliminary findings [in the report] are intended to inform state planning and are not intended as a comprehensive nor prescriptive roadmap to 2045… future work will delve deeper into critical topics

such as system reliability and land use and further address energy equity and workforce needs." The next joint report will be released in 2025, and one every four years later.

OSW potential. As of 2019, almost six GW of installed wind capacity was generating in the state, the fifth largest amount of wind capacity in the United States, with all of it generated from land-based systems. Although California has no commercial OSW generation, the National Renewable Energy Laboratory has identified 112 GW of OSW technical potential for California. However, approximately 96 percent of this potential is located in water deeper than 60 meters, where the mature, fixed-bottom turbine technology is not technically feasible. Wind turbines are composed of: rotating turbine blades, the wind turbine tower or mast, and the nacelle (the 'head' of the wind turbine mounted on top of the support tower)**.** Floating turbines employ mooring (cabling) and an anchored substructure underwater which steadies a platform holding the wind turbine above water. The use of cabling to anchor the turbine allows floating platforms to operate at depths between 60 and 1,300 meters.

Off the coast of California, a steep continental shelf and increased wind speeds combine to make floating turbines the primary technically feasible option. Depending on the type of floating structure, some assembly of floating turbines may need to occur offshore, requiring naval cranes and vessels to stabilize such operations, and port infrastructure and specific port water depths. In contrast, most of the development of OSW globally has occurred via fixed turbine technologies where the turbines are anchored to the seabed through a solid foundation. Due to the water depth in areas with high ambient winds, much of the OSW energy projects serving California are likely to be composed of very large floating wind turbines (as tall as the Eiffel Tower) anchored to the sea floor in federal waters offshore. These projects will include components in state waters, such as cables transporting the energy onshore, vessels navigating state waters to serve the projects, and docking and support facilities onshore. Depending on the type of floating structure, some assemblage of floating turbines may need to occur offshore, requiring naval cranes and vessels to stabilize such operations, and port infrastructure and specific port water depths.

California Infrastructure Planning Act. The Governor of California is required to annually submit a five-year infrastructure plan to the Legislature in conjunction with the Governor's Budget, pursuant to Government Code §13102. The plan is intended to complement the existing state budget process for appropriating funds for infrastructure by providing a comprehensive guideline for the types of projects to be funded through that process. This infrastructure plan contains among other things, information on support for infrastructure needs and an evaluation of the

impact of the new state debt on the state's existing overall debt position if the plan proposes the issuance of new state debt.

2022 Five-Year Infrastructure Plan. The plan submitted as part of the 2022-2023 budget witnessed historic investments. California was expected to receive about $14 billion of additional funding from the federal Infrastructure Investment Act. The Administration also proposed investments for clean energy projects in the 2022-23 budget that would make the state more resilient to climate change. This included $45 million from the General Fund that was ultimately approved by the Legislature which allows the CEC to fund activities that advance the development of OSW energy in federal waters off California. The CEC has yet to disburse this funding.

OSW Report. AB 525 (Chiu, Chapter 231, Statutes of 2021) required the CEC, in coordination with federal, state, and local agencies, California Native American tribes, and a variety of stakeholders, to develop a strategic plan for OSW energy development in federal waters off the California coast. In August 2022, the CEC approved a planning goal of 2,000 to 5,000 MW of OSW energy capacity by 2030, and 25,000 MW by 2045. In January 2024, the CEC released a long-awaited *Draft Strategic Plan for Offshore Wind Development* in three volumes, and is currently taking public comment on this plan. The draft plan includes, in Chapter 6 of Volume II, an assessment of the investments necessary at California's ports to enable the development of OSW energy.

Comments

Need for this bill. According to the author, "AB 3006 requires the Governor to include an assessment of funding for offshore wind port infrastructure in the Five-Year Infrastructure Plan to ensure the state meets its ambitious clean energy goals and the California Energy Commission's AB 525 seaport plan. Offshore wind brings many economic and environmental opportunities. However, the development of the industry faces unique challenges that require thorough planning and timeline accountability. Given the immense scale of offshore wind energy and prevailing budgetary constraints, a comprehensive, long-term analysis and financial planning are crucial to be able to meet our offshore wind development and clean energy goals."

OSW planning in California. The CEC has set a target of building up to five GW of OSW energy capacity by 2030 as part of California's plan to meet its clean energy and climate goals. Meeting this goal will require long-term strategic planning and investments. Given the current state budget deficit, it is important for the California to create opportunities to leverage federal and private funding for

OSW port infrastructure. Such efforts can complement the state's efforts and all may be well-suited to be included within the required five-year infrastructure plan required of the Governor.

Dual Referral. Should this bill be approved by this committee, it will be re-referred to the Senate Committee on Governmental Organization.

Prior/Related Legislation

AB 3 (Zbur, Chapter 314, Statutes of 2023) required, among its provisions, the CEC to develop a second-phase plan and strategy for seaport readiness, by December 31, 2026, that builds upon the recommendations and alternatives in the strategic plan for OSW energy developments that is due to the Legislature by June 30, 2023 (but has not been issued).

AB 525 (Chiu, Chapter 231, Statutes of 2022) required the CEC to establish, by June 1, 2022, planning goals, as specified, for the years 2030 and 2045 from electricity generated by OSW. The bill also requires the CEC, in coordination with specified agencies, to develop a strategic plan, as specified, for OSW developments and to submit the plan to the Natural Resources Agency and the Legislature by June 30, 2023.

AB 1473 (Hertzberg, Chapter 606, Statutes of 1999) required the Governor to annually submit a five-year infrastructure plan to the Legislature in conjunction with the Governor's Budget. The plan is intended to complement the existing state budget process for appropriating funds for infrastructure by providing a comprehensive guideline for the types of projects to be funded through that process.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

SUPPORT:

Offshore Wind California, Sponsor
American Clean Power - California
California Association of Port Authorities
California Wind Energy Association
Pacific Merchant Shipping Association
Port of Long Beach
The Climate Reality Project, Los Angeles Chapter
The Climate Reality Project, San Fernando Valley Chapter

OPPOSITION:

None received

ARGUMENTS IN SUPPORT: The sponsors of this bill, Offshore Wind California, state:

> Unfortunately, the state does not currently have the port capacity needed to support multiple commercial-scale offshore wind farms. As noted in the draft AB 525 Strategic Plan, "the state will need to strategically develop a port network that can efficiently, cost effectively, and reliably support staging and integration, manufacturing and fabrication, and operation and maintenance activities along the California Coast. The 1[st] SB 100 Joint Agency Report – Charting a Path to 100% Clean Energy Future, March 2021 2 Port Plan suggests that the state's collaborative port development strategy outline a funding plan to subsidize the various port upgrades needed, along with identification of funding sources at the state, federal, and local level." …While private sector funding will be essential, the state should prepare a long-term strategy of how to fund the necessary upgrades and should consider the use of multiple general obligation bonds at different stages throughout the years. AB 3006 is designed to complement these efforts by requiring the Governor, in consultation with key state agencies, to include an assessment of funding needs for offshore wind port infrastructure and integrating the resource into the state's existing Five-Year Infrastructure Planning Process. The bill also includes offshore wind within the definition of "infrastructure" for the purposes of implementing the Five-Year Infrastructure Planning Process.

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