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California's flag. Photo: Ed Uthman/Flickr

California bill for 10GW offshore wind target is 'once in a generation' chance

Lawmakers say 2040 goal would help meet stretching climate mandates for state where floating turbines will move centre-stage

By Richard A. Kessler in Fort Worth

California lawmakers have launched a bill that requires state agencies to develop a strategic plan to spur at least 10GW of offshore wind capacity into commercial operation by 2040, with an interim 3GW target by 2030.

“We have a once in a generation opportunity,” said assemblyman David Chiu, a Democrat, who introduced the bill on Thursday. “The wind off California’s coast has enormous potential to meet clean energy goals, combat climate change and provide good-paying jobs.”

Chiu said there is a compelling need for offshore wind development to help California meet its statutory renewables and climate goals, including 100% clean energy by 2050 and a carbon-free grid by 2045.



Floating wind 'could make up 25%' of US' total offshore fleet by 2035: Aegir

California’s outer continental shelf quickly drops off to deep waters that will require use of floating platform technology rather than bottom-fixed turbines, and several major developers are already scoping out potential projects off the state. New Orsted CEO Mads Nipper cited the state's floating potential earlier this month, when he said the global offshore wind giant would “look seriously” at opportunities in the sector.

The California Energy Commission (CEC), the state’s primary energy policy and planning agency, would lead the process in consultation with executive branch entities, the Public Utilities Commission and US departments including the Bureau of Ocean Energy Management (BOEM), the federal industry regulator.

The bill (AB 525) sets a 1 June 2022 deadline for CEC to submit the strategic plan to the Legislature and state Natural Resources Agency whose secretary is a member of Governor Gavin Newsom’s cabinet.



California offshore wind believers put faith in Biden pushing button on first lease sale in 2021

With existing technology, each 1GW of offshore wind energy capacity will require between 259 -310 square km (100 – 120 square miles) of sea space for development, according to the bill’s authors.



'US offshore wind may be starting slow but it is going to be quite a party'

In the current legislative session, Democrats have a three-quarters supermajority of 59 seats in the Assembly, while Republicans control a minority of 19 seats with one seat held by an independent. Democrats also hold 30 of 40 seats in the Senate, also a supermajority. This improves the bill's chances of passage.

The legislation won support from Offshore Wind California, an industry group that includes various project developers.

"To realise a large-scale offshore wind industry over the next two decades, the state must set a goal and begin planning today," said executive director Adam Stern. "AB 525 would send a strong signal to the market and to the federal government that California needs and is preparing for offshore wind."

Naval opposition

As reported by Recharge, the US Navy is opposed to offshore wind development in most waters off central California where developers want to locate projects given greater availability of onshore electrical grid infrastructure.



California 'closer to a floating wind boom than it thinks'

The industry hopes that the Department of Defense under President Joe Biden will reach agreement with BOEM and the state on where turbines can be responsibly sited at sea to allow an initial 10GW of development.

Another requirement in the bill is for CEC to assess and develop a subsequent plan to improve existing waterfront facilities that could support a range of floating sector development activities. Given the amount of potential demand for offshore wind energy, turbine OEMs and some of their suppliers will likely want to locate production facilities there, as the bill indicates.



Democrats revive sweeping green bill as route to law opens in new-look Congress

The state will need "at least" 140GW of new renewables capacity and energy storage developments by 2045 and 150GW by 2050, according to the legislation. California has technical potential for 112GW of offshore wind power capacity.

Solar favoured so far

Until now, the state has favoured solar PV development over onshore wind and geothermal, but this presents challenges. Solar energy production peaks in the early afternoon when demand is relatively low, forcing arrays to either go off-line or export energy to neighbouring states, sometimes at heavily discounted prices.



Record worldwide offshore wind build gears up on sector's 'dynamic momentum'

Then, as solar output tapers off in the late afternoon, people return home after work and demand for electric power surges. The so-called "duck curve" could be partly addressed with energy storage but many more large-scale facilities will be necessary.

Offshore wind, in turn, is available in the late afternoon and transmission lines to bring it ashore would not be at risk from wildfires that ravaged power lines and substations last year in northern California.