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May 10, 2023

California port plans 'largest US offshore wind terminal' at cost of up to \$7bn

The Port of Long Beach in California. Photo: Shutterstock



Golden State's 25GW sector ambitions face costly bottlenecks and development constraints, as Long Beach unveils ambitious proposal

By **Tim Ferry**

The Port of Long Beach in southern California unveiled its proposal on Tuesday for what it said would be the US' largest offshore wind infrastructure project, a 400-acre (162-ha) floating wind marshalling and assembly terminal that could cost as much as \$7bn.

The so-called **Pier Wind proposal** would see land reclaimed through dredging in the port's outer harbour developed into "the largest facility specifically designed to accommodate the assembly of offshore wind turbines in the US", the operator said. "Existing port infrastructure on the US West Coast, including California, is not adequate to support the development of the offshore wind industry, and significant port investment is required," the report said.

The proposal was prepared for the port's owner, the city of Long Beach, by engineering consultancy Moffat & Nichol, which estimated costs at \$4.7bn but warned they could range from \$3.1bn to \$7bn on global economic uncertainties.

Port of Long Beach executive director Mario Cordero said: "Our harbour is ideally located for such an enterprise – with calm seas behind a federal breakwater, one of the deepest and widest channels in the US, direct access to the open ocean and no air height restrictions. No other location has the space to achieve the economies of scale needed to drive down the cost of energy for these huge turbines."

California has the nation's largest offshore wind ambitions, aiming for 2-5GW by 2030 towards 25GW by 2045, but faces multiple constraints, including lack of grid capacity and port and supply chain infrastructure.

Last December, the Bureau of Ocean Energy Management, the regulator of energy development in federal waters, **auctioned five leases in two separate wind energy areas** (WEAs) facing the central California coastline at Morro Bay and off the northern reaches of Humboldt County.

The state has 11 deepwater ports including San Francisco and San Diego, but only the Port of Humboldt Bay located near the Humboldt WEA has been tipped for floating wind marshalling and installation.

Morro Bay has no floating wind-capable port in the vicinity, and with development along the state's extensive coastline strictly regulated, building new port infrastructure would be very difficult. The Port of Long Beach, along with neighbouring Port of Los Angeles, is among the busiest harbour complexes in the US, serving as gateway to commerce with Asia. It is located 25 miles (40km) south of downtown Los Angeles.

At more than 241 nautical miles (446km) from the closest leases at Morro Bay, though, floating wind turbines assembled at the port would need to be towed through the heavily congested sea lanes of the Channel Islands while contending with potential height restrictions near Los Angeles International Airport (LAX) and Vandenberg Space Force Base.

The California Energy Commission is collaborating with the state Lands Commission on a report detailing the port and coastal infrastructure needs of the sector **per state law AB525** signed by governor Gavin Newsom in 2021 mandating exploration of floating wind development to help meet goals.

Construction on the project could potentially start in January 2027, with the first 100 acres operational in early 2031, the second 100 acres operational in late 2031, and the last 200 acres coming online in 2035.

The Port of Long Beach is participating in the *Pacific Offshore Wind Summit* in Sacramento, California, this week and is expected to share more its plans in a panel presentation.