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## Going With the Wind

Power: Renderings of the Port of Long Beach's floating turbine project, dubbed Pier Wind.

By Zane Hill

The **Port of Long Beach** is angling to become a major player in the offshore wind turbine market that California is seeking to bring to reality.

The facility recently unveiled plans for a 400-acre floating platform to be installed in port waters. Turbines would be manufactured on that platform and towed out to sea, to be installed in areas of strong wind activity. The turbines would generate dozens of gigawatts of electricity.

"Imagine fully assembled wind turbines capable of generating 20 megawatts of energy towed by sea from the Port of Long Beach to offshore wind farms in Central and Northern California," **Mario Cordero**, the port's executive director, said in a statement. As currently projected, the facility — named Pier Wind — is expected to cost around \$4.7 billion and could be partially online as soon as 2031.

### Big goals

The installation of more offshore wind turbines is among the latest energy goals identified by the federal and state governments.

The federal government hopes to deploy 30 gigawatts of offshore wind generation nationwide by 2030, and 110 gigawatts by 2050. Meanwhile, Gov. **Gavin Newsom** has lobbied for the state to have 20 gigawatts of wind-power generation by 2045. Because of the great depth of the Pacific Ocean's continental shelf, where these turbines are slated to be situated, the floating options are the only realistic ones, according to experts consulted for the project study.

And because of the physical requirements of constructing floating turbines — which are, at 1,100 feet tall, comparable to the Eiffel Tower in height — there are only so many waterfronts that can accommodate such a facility. The Port of Long Beach — with sufficiently deep waters and unobstructed skies — is among those spots.

"As society transitions to clean energy, our harbor is ideally located for such an enterprise — with calm seas behind a federal breakwater, one of the deepest and widest channels in the U.S., direct access to the open ocean and no air-height restrictions," Cordero said. "No other location has the space to achieve the economies of scale needed to drive down the cost of energy for these huge turbines."

As proposed in the plan's concept report, Pier Wind calls for a 400-acre floating platform to be assembled in the port's outer harbor. Under an aggressive schedule, the platform would be constructed in increments beginning in 2027, with the first half ready for operation in 2031 and the second half in 2035. The operation would require some dredging work and the construction of rock revetments within the outer harbor itself, on top of the facility construction.

If Pier Wind moves forward, it would be the latest in a portfolio of capital and infrastructure investments undertaken at the Port of Long Beach in recent years, as it and its neighbor, the **Port of Los Angeles**, seek to improve efficiency and achieve net-zero emission status.

"Building Pier Wind lays the foundation for a zero carbon-energy future, not only for the public but for our operations as well," **Long Beach Harbor Commission** President **Sharon Weissman** said. "Offshore wind is essential to the Port of Long Beach's own goals to transition to zero emissions, and ensuring there is a ready supply of reliable, resilient, and renewable power is vital for the work we do moving commerce."

### More jobs

The project carries enormous job potential as well — both for its construction and for the turbines it would produce.

Both look to involve local electrical workers, ironworkers, carpenters, painters, rebar and concrete workers and dredgers. The port also envisions the project contributing to the state's goal of creating 500,000 apprenticeships by 2029.



“It’s hard to put a number behind it, but for us as an electrical trade, this is going to be a huge endeavor for us,” said **Tommy Faavae**, an organizer with the Local 11 chapter of the **International Brotherhood of Electrical Workers**. “It’s going to have a huge impact when it comes to job creation, and it’s not just going to be electrical. You’re going to have multiple trades from all affiliates of the building trade building out this huge terminal.”

Faavae said he was in the midst of collecting additional relevant data on job creation and other factors from his East Coast counterparts, who have experience with the fixed wind turbines built there, which is shallower than the Pacific Coast.

Outside of construction, Faavae added that maintenance would be an obvious source of work for his union. Once the turbines are built and towed to their location, they’ll also need to be linked into the grid, and the grid itself would probably require infrastructure updates and new substations to handle the transmission of power.

“The port is in a unique position,” he said. “Obviously, when it comes to floating offshore wind, we’re not going to install any of them in the waters in Southern California because the wind patterns aren’t as strong. What’s unique is that it could be a central hub terminal where you can construct and ship it out to every port that’s in the West Coast or it could be another lane to take them to the East Coast, if they start to become more popular.”