

# RECHARGE

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## US estimates unlocking 55GW of west coast floating wind will require \$30bn ports revamp

California funds Humboldt Port. CGI rendition of completed Humboldt Port offshore wind renovation. California Offshore. California .Photo: Getty



By **Tim Ferry**

A new study finds that an ambitious 55GW floating wind deployment along the US West Coast would require some \$30bn in port and supply chain investment but generate thousands of jobs and billions in economic activity.

The study, [\*The Impacts of Developing a Port Network for Floating Offshore Wind Energy on the West Coast\*](#), found that reaching the full scenario for floating wind in the deep Pacific Ocean coastal waters would require up to nine staging and integration (S&I) ports and 17 operations and maintenance (O&M) sites along California, Oregon, and Washington, for around \$11bn.

An additional 28 manufacturing sites would be needed to fully develop the West Coast supply chain, at a cost of up to \$19bn, the report by the Department of Energy's (DoE) National Renewable Energy Laboratory (NREL) and Wind Energy Technologies Office found.

“Clearly, a floating wind port network would require a significant investment and would take time (potentially 10 years or more to plan, permit, and construct),” the report said. “Although these are large investments, they could enable hundreds of billions of dollars’ worth of floating offshore wind energy to be deployed on the West Coast,” it added.

### Floating ambition

Due to the steep drop-off of the outer continental shelf along most of the US West Coast, floating platforms will be required for nearly all offshore wind projects.

The US is making a big push into the nascent sector with the administration of President Joe Biden setting its 15GW by 2035 [\*\*“Floating Wind Shot”\*\*](#) last year. The initiative aims to reduce levelised cost of energy (LCOE) for the sector by 75% to \$40/MWh.

California is spearheading the domestic rollout by targeting 2-5GW of capacity by 2030 and 25GW by 2045. Oregon has also put its hat into the ring with state law to investigate 3GW of floating wind potential.

Federal offshore energy regulator Bureau of Ocean Energy Management (BOEM) has already established two WEAs off the Beaver State’s southern coastline at Coos Bay and Brookings that together cover 219,568 acres (888.5km<sup>2</sup>) and hold at least 2.6GW of potential capacity. Washington State has yet to initiate offshore wind development, although there is growing interest as the state ramps its climate targets.

Despite the ambition, [\*\*last year's auction for five California leases\*\*](#) in the Morro Bay and Humboldt wind energy areas (WEAs) hosted by BOEM didn’t garner as much interest as had been anticipated, with only six developers participating for a total price of \$757m. Lack of port capacity was a factor contributing to industry hesitancy in the sector.

### Port bottleneck

Port infrastructure presents a major bottleneck for the entire US sector but particularly on the West Coast as floating platforms will require much larger facilities. The industry expects to assemble the massive turbines at large coastal staging and integration (S&I) facilities which trade group [\*\*Business Network for Offshore Wind \(BNOW\)\*\*](#) reckons will cover some 80-acres, compared to 20-acres or so for fixed bottom marshalling ports.

Despite the lengthy Pacific coastline, the West Coast lacks significant deepwater ports of the scale needed for the floating wind sector. Only two ports so far – in [\*\*Humboldt Bay\*\*](#), Northern California, and [\*\*Coos Bay, Oregon\*\*](#) – have been tipped for the sector.

The [\*\*Port of Long Beach in southern California\*\*](#) has thrown its hat in the ring with its \$7bn Pier Wind proposal for a 400-acre combined S&I and manufacturing facility. The port is more than 446km from the closest leases at Morro Bay, though, and the report noted that distance from the lease site is a significant factor in overall project LCOE.

“A project with ports 400 km away could have a 15% higher LCOE than a project with ports 50 km away,” the report said. “Strategic planning for floating offshore wind infrastructure should consider many factors, including the LCOE,” it added.

Although the investment needs are substantial, the report emphasises that development of local supply chain would benefit from reduced transportation costs compared to shipping in components from cheaper markets in Asia.

Tax incentives in the Inflation Reduction Act (IRA) would also be key to cost-competitiveness, and the report adds that a domestic supply chain would reduce lifecycle emissions by 40% for the entire industry.