RECHARGE

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# How 'bananas and cars' could leave California's floating wind revolution low on ports

Thousands of new cars are stored for shipping in California. Where will floating wind fit in? Photo: Getty/Los Angeles Times via Getty Images

*ANALYSIS | With most of The Golden State's deepwater sites already taken for other cargo, its 25GW build-out might have to make do with two main staging and assembly points – neither of them ideal, writes Tim Ferry*

By **Tim Ferry**

Development of US offshore wind-ready port capacity is already a story of making do with less-than-ideal infrastructure, and that's nowhere more obvious than in California where options are limited and most ports doing very nicely, thank you, handling other types of cargo than giant floating turbines.

The Golden state is targeting 25GW of floating wind capacity by 2045 and already has **five active leases in two wind energy areas (WEAs)**. As yet, it has only one port tapped for the industry, the Port of Humboldt Bay, 430km (267 miles) north of the Port of San Francisco near the Humboldt WEA.

The sector is "basically figuring out what is the best scenario we could build out that the state [and] the US can afford, knowing that we are not going to get what we want," Joshua Singer, offshore windport development head for engineering firm Moffatt & Nichol, told *Recharge*.

The firm is involved in site assessment and detailed design for multiple offshore wind-linked port projects in the US.

Humboldt Bay has **already started to raise funds and begin design for the floating wind sector** and has signed a **memorandum of understanding with US maritime engineering firm Crowley** for a long term lease.

Humboldt Bay is some 800km from the larger Morro Bay WEA facing California's central coast, however, and lacks the capacity to handle the demands of assembly and staging for all five leases regardless. "Humboldt cannot do it alone," said Singer.

So, when Port of Long Beach threw its hat into the ring with its so-called **'Pier Wind' floating wind terminal proposal**, the offshore wind industry took note.

Port of Long Beach "can be part of the multi-port strategy that California needs to manufacture, assemble and service floating offshore wind turbines and towers," said Adam Stern, executive director for trade group Offshore Wind California.

The proposal would see 400 acres (162 ha) of land reclaimed through dredging in the port's outer harbour and developed into "the largest facility specifically designed to accommodate the assembly of offshore wind turbines in the US", the operator said.

It can be "a key piece" of the state's floating wind strategy, executive director Mario Cordero told *Recharge,* due to its unique attributes. These include proximity to the West Coast's largest skilled labour force, being at the centre of the US supply chain, deep water, no air height restrictions, and "a proven track record of successfully delivering large marine infrastructure", said Cordero.

The port, along with neighbouring Port of Los Angeles, is the busiest harbour complex in the US, serving as gateway to commerce with Asia. It is located 40km south of downtown Los Angeles. Long Beach faces several constraints, however.

It is some 446km from the closest leases at Morro Bay. Floating wind turbines towed from the port would need to pass through the heavily trafficked sea lanes of the Channel Islands while contending with potential height restrictions near Los Angeles International Airport (LAX) and Vandenburg Space Force Base.

Vessel operators will also need to take into account voluntary speed limits within state marine sanctuaries to mitigate the **possibility of whale collisions** – an increasing concern for the Atlantic sector – which will stretch transport time.

Towing each completed unit “will take 60 hours without any delays, but realistically will probably take over a week,” said Alla Weinstein, founder of Washington state-based developer Trident Winds and a pioneer in West Coast floating wind.

Port of Long Beach is “a potential solution for some elements of the floating offshore units, like foundations themselves, but I don't think it’s the best solution for final assembly of completed structures,” Weinstein told *Recharge*.

It might be the only solution, however. California has 11 deepwater industrial ports along its 1,352km coastline, nearly all of them already fully deployed for commercial, industrial, and military purposes.

If other commercial ports “wanted to play in offshore wind, they would have to displace bananas and cars” and other cargo, said Singer, which typically is “not what happens for wind. Wind is looking for the spots that are underutilised or not used”.

**Astronomical challenges**

Conversely, building a greenfield port would face astronomical challenges. California’s coastline is rigidly preserved by powerful state agencies, including both the lands and coastal commission, and permitting would take over a decade, according to Singer.

The state also lacks a single statewide agency with whom investors can work with to guide them through the lengthy permitting processes. Even siting would be difficult due to California’s strong winds and lack of protected, deep water harbours.

“You need the entity that’s going to be able to put in a $300m to $1bn project and control that and work it through their system, which is very difficult from ground zero,” said Singer. As of now, “there’s no authority” that can do that.

The scale of Long Beach’s floating wind terminal would outstrip the largest ports on the east coast, however, including the 206-acre New Jersey Wind Port and the 280-acre Portsmouth Marine Terminal. The proposal the port has put forward is “basically an ideal working platform for floating offshore wind”, said Singer, referring to its scale.

The California Energy Commission, charged with overseeing the state's energy sector, is collaborating with the state lands commission on a report detailing the port and coastal infrastructure needs of the sector expected this spring. Whether it gets what it needs is another question entirely.