

# RECHARGE

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## 'A play for the future' | Why California's floating wind winners paid a northerly premium

Alla Weinstein at the Recharge Global Offshore Wind Summit in Washington, DC.  
Photo: Recharge



*ANALYSIS | Port availability and shallower waters drove prices in the smaller Humboldt leases – but long-term targets may have been the decisive factor, leading sector experts tell Recharge*

By **Tim Ferry**

The milestone California floating wind auction offered up several surprises for the US offshore industry, including the scant participation among numerous qualified bidders and relatively low lease prices awarded. Also startling were bids for the smaller leases of the remote Humboldt wind energy area (WEA) outpacing those of the central coast’s Morro Bay both in absolute and per acre terms.

“This was surprising since the lack of bulk transmission on the north coast is a significant barrier to deployment,” Walt Musial, offshore wind energy lead at the US’ National Renewable Energy Laboratory (NREL), told *Recharge*.

The grid adjacent to the Humboldt WEA has less than 150MW of spare capacity, and **floating wind plant would require \$5.3bn-\$8bn in high-voltage transmission lines**, according to the California independent systems operator (Caiso).

The highest price paid in the auction was \$173.8m by a Copenhagen Infrastructure Partners-led joint venture for Humboldt acreage holding just 838MW of capacity. German utility RWE took the second northern California lease with 769MW for \$157.7m, for an average \$2,500 per acre for the WEA.

The three Morro Bay lease winners were Central California Offshore Wind – led by French-Portuguese joint venture Ocean Winds, at \$150.3m, Norwegian energy group Equinor, for \$130m, and US renewables giant Invenergy, for \$145.3m, around 1,760/acre for the WEA.

“Humboldt... is the play for the future,” Alla Weinstein, founder and CEO of Trident Winds, told *Recharge*. Trident bid into the California auction in a joint venture with TotalEnergies, Castle Wind, but failed to win acreage at Morro Bay despite being a long-term advocate of west coast floating wind for almost a decade. Weinstein declined to comment further on the specifics of the auction result.

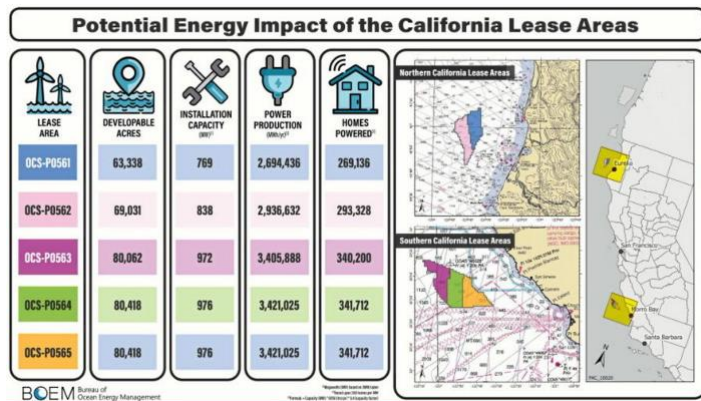
### California’s floating ambitions

California has the nation’s most ambitious offshore wind targets, aiming for 2-5GW by 2030 and 25GW by 2045, and with Morro Bay accounted for “that is not going to happen anywhere but in the northern areas”, said Weinstein.

California Energy Commission (CEC), the lead state agency on energy policy, has already targeted “areas with high wind speeds offshore Northern California” for further development. Caiso in its 20-year outlook published earlier this year tips two regions off northern California – Del Norte, with 6.6GW of potential offshore wind capacity, and Cape Mendocino, holding 6.2GW – as likely for floating wind.

Map of California's floating wind leases.  
Photo: Bureau of Ocean Energy Management

“If somebody establishes their capabilities and gets set up [in Humboldt], they will be ready to bid on the next set of leases in the same area and then they have more space [and] be more ready by the 2040 timeframe to meet the 25GW by 2045 targets,” said Weinstein. “It’s a real estate play.”



The long development horizon reduces transmission risk and might even drive the formation of new WEAs because “they’re probably going to need more lease areas” to drive grid investment, said Musial.

### **Ports and productivity**

Other factors came into play too, and BloombergNEF wind energy analyst Chelsea Jean-Michel cites higher capacity factors and lower technical risk pushing up Humboldt prices.

Humboldt leases will see capacity factors of 58.6% off winds blowing 10.6 metres per second (m/s), per National Renewable Energy Laboratory (NREL) estimates in its 20-year resource assessment, compared to Morro Bay’s 57.2% capacity factors on 10m/s winds.

Humboldt’s shallower water depths, ranging from 500-1,100 metres in contrast to Morro Bay’s 900-1,300, also lower costs, said Jean-Michel.

“Deeper waters indicate longer mooring lines and thus higher costs, so developers may have been taking this into consideration in their bidding,” she told *Recharge*.

Hilary Bright, US vice president for renewables at consultancy Xodus, noted crucial port availability and stakeholder support.

Humboldt Bay is the only port in California, and one of only two on the west coast, to be tipped for floating wind marshalling and installation.

**Humboldt has already received \$10.5m from the state** and is hoping to get another \$44m in federal matching grants for a \$124m conversion into the premier floating wind facility on the west coast. Maritime firm Crowley has already signed on as lead contractor for the Humboldt redevelopment and aims to be its operator as well.

“High level local investment potential [into port of Humboldt Bay] would mean lower costs associated with installation, which then translates into paying a little bit more for those sites,” said Bright, speaking to a briefing hosted by the Business Network for Offshore Wind.

Morro Bay, by contrast, has no floating wind-capable port anywhere in the vicinity, and with development along the state’s extensive coastline strictly regulated, building a new port will be arduous and time consuming.

Multiple large ocean ports in southern and central California can serve the emerging floating wind supply chain, but “there is no location yet identified for a large marshalling port that can assemble, commission, and service large floating turbines and substructures,” said Musial.

Stakeholder support in northern California is another boon for the region, Bright noted.

“There’s just a real motivation in the community to leverage the skills and the space that they have to be a large player in these projects,” said Bright.