

S&P Global Commodity Insights

May 17, 2023

US offshore wind power development expanding beyond the East Coast in 2023

- East Coast has 25 GW under development
- Cost increases challenging some projects

By Jared Anderson, Kassia Micek, John Siciliano and Josephine Sajbel

As the US works to meet a federal goal of installing 30 GW of offshore wind power capacity by 2030, states on the US East Coast currently have about 25 GW of offshore wind projects under various stages of development, although cost increases have challenged some projects. Additionally, development activities are picking up along the West Coast and federal regulators plan to hold a Gulf of Mexico lease auction in 2023.

After Maryland passed legislation in April to expand the state's goal to 8.5 GW of offshore wind power capacity by 2013 from about 2 GW, the total offshore wind procurement target for states along the East Coast had reached 41.3 GW.

The country will see two significant milestones in 2023, as the first two large-scale offshore wind farms reach and near completion. Specifically, the 132-MW South Fork Wind project supplying New York is expected to be online by the end of the year and construction on the 806-MW Vineyard Wind 1 project off Massachusetts is progressing, with the project on track to deliver its first power later this year and reach commercial operations in 2024.

South Fork is a 50-50 joint venture between US utility Eversource Energy and Denmark's Ørsted, and Spain's Iberdrola subsidiary Avangrid Renewables is jointly developing Vineyard Wind with Denmark's Copenhagen Infrastructure Partners. The onshore export cable system for South Fork was installed in May, according to the developers. Also in May, Avangrid and CIP commemorated the construction of operations and maintenance facilities on Martha's Vineyard that will provide support services for Vineyard Wind.

With over 4,200 GW of "technical resource potential," offshore wind power could meet current US electricity demands by more than three times, according to a report from the US Department of Energy report.

Development challenges

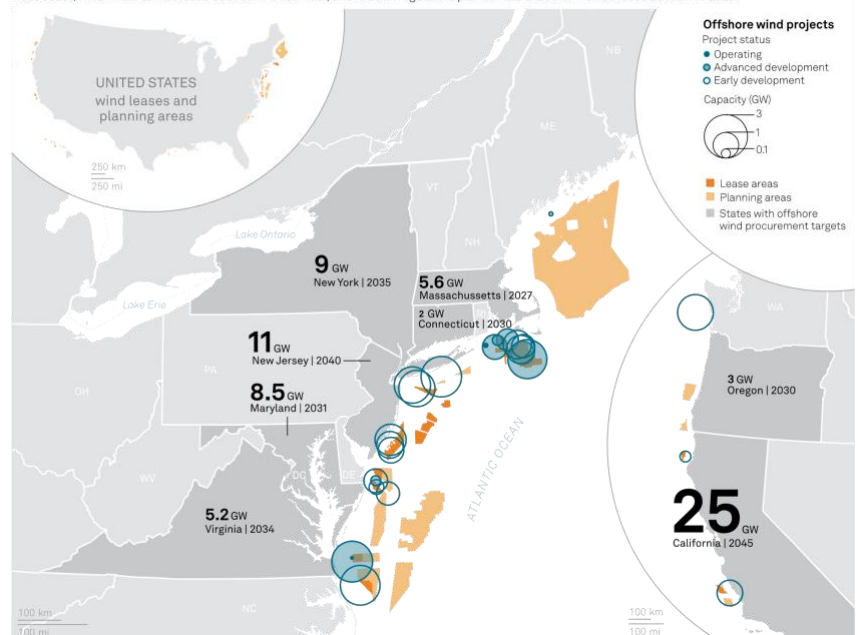
Developing offshore wind projects remains expensive compared with other power generation resource construction costs, however, and developers have warned that higher inflation, higher commodity costs, supply-chain bottlenecks, and other challenges could delay projects that are in earlier stages of development.

Renewable energy cost increases over the past year have challenged the global energy transition with many offshore wind projects awarded through auctions **currently facing economic risk** and potentially not getting built, executives said in April.

"We are investing \$7 billion in renewable energy this year" and there is "phenomenal" growth potential but the adverse impacts over the past 12 months are serious, with interest rates almost doubling in some cases, Mads Nipper, CEO of Ørsted, said at Columbia University's 2023 Global Energy Summit.

US offshore wind power development expanding beyond the East Coast in 2023

As the US works to meet a federal goal of installing 30 GW of offshore wind power capacity by 2030, US East Coast states currently have approximately 25 GW of offshore wind projects under various stages of development. Additionally, development activities are picking up along the West Coast, which had its first lease auction in December, and federal regulators plan to hold a Gulf of Mexico lease auction in 2023.



Source: S&P Global Commodity Insights, S&P Global Market Intelligence, Bureau of Ocean Energy Management, individual companies, state and federal agencies

Offshore wind costs have fallen by half in 10 years, but steel and copper costs have doubled or tripled, Christian Bruch, CEO of Germany's Siemens Energy, said at the conference, adding that Siemens' offshore wind business lost \$1 billion last year and could lose another \$1 billion this year.

Ørsted currently has 10 GW of awarded offshore wind development capacity from competitive auctions with power purchase agreement prices locked in, but several of those projects may be challenged and might risk delays, Nipper said. The amount of time it takes from when sales prices are locked-in to when the company makes a final investment decision is a "huge challenge," he added.

Avangrid has maintained that because of global economic headwinds the **PPAs for its 1.2-GW Commonwealth Wind** project offshore Massachusetts do not allow the company to secure the financing needed and thus the project cannot proceed under these contracts.

Despite facing the same economic headwinds as Commonwealth Wind, another Avangrid project, Mayflower Wind, told Massachusetts regulators in late December that it remained committed to the 2.4-GW project, although it also said it wanted to renegotiate its offtake contracts with the same three utilities that Commonwealth signed with—Eversource, National Grid, and Unitil.

West, Gulf Coast activity

The first federal offshore wind energy **lease auction in the Pacific region** drew competitive bids from five companies that totaled \$757.1 million, exceeding the first lease sales in the Atlantic region, the Department of the Interior said in December.

The auction offered five lease areas off the California coast that have the potential to produce more than 4.6 GW of offshore wind power. It was the third Bureau of Ocean Energy Management lease sale in 2022 and the first that will require floating turbine technology to develop.

Unlike the East Coast, the West Coast drops off and gets very deep very quickly, so offshore wind in California and its coastal neighbors has to be floating and installed at pretty significant depths.

Invenergy California Offshore and Central California Offshore Wind won the largest lease areas of 80,418 acres each. OCS-P 0565 was won by Invenergy California Offshore for \$145.3 million, while Central California Offshore Wind won OCS-P 0564 for \$150.3 million.

Also, near Morro Bay, the 80,062-acre parcel OCS-P 0563 was won by Norway's Equinor Wind US for \$130 million. Off the northern coast, the 69,031-acre parcel OCS-P 0562 was won by California North Floating for \$173.8 million, while Germany's RWE Offshore Wind Holdings won the 63,338-acre parcel OCS-P 0561 with a bid at \$157.7 million.

In Washington, Seattle-based developer Trident Winds is developing the 2-GW Olympic offshore wind project located over 40 miles off the coast of Grays Harbor. Trident Winds has submitted an "unsolicited lease request" to BOEM, according to the company's website.

In February 2023, the Interior Department announced a proposed offshore wind lease sale for three proposed lease areas in the Gulf of Mexico off the coasts of Galveston, Texas, and Lake Charles, Louisiana.