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US goal of 30 GW of offshore wind energy by 2030 slipping out of reach: analysts

Wind turbines off the shores of Block Island, Rhode Island, US. Photo credit: Penny Pack Creative / Shutterstock.

Janet Nodar, Senior Editor, Breakbulk and Heavy Lift | Dec 18, 2023, 2:42 PM EST

The Biden administration's goal of 30 gigawatts (GW) of offshore wind (OSW) energy by 2030 is in serious trouble, market observers say, thanks to rising costs, supply chain bottlenecks and the glacial pace of permitting systems. Confusion over local content requirements and significant barriers on the construction side of the equation are also throwing up obstacles.

Because of those pressures, low wind cargo volumes have kept multipurpose and heavy-lift carrier rates softer than was expected back when 2023 began.

"We don't see 30 GW by 2030 being achieved," said John Murray, a senior research analyst with S&P Global Commodity Insights, a sister company of the *Journal of*

Commerce within S&P Global. "Based on recent industry events, the new offshore wind outlook will be revised downwards by 45% from our previous outlook of 22 GW by 2030," meaning down by about 12 GW.

"We expect the industry to continue building out, but at a much slower pace than previously thought," Murray added.

A global shortage of specialized offshore wind construction and installation vessels is slowing progress — and a unique set of circumstances is slowing the buildout in the US even more, according to Thomas Poulsen, a managing partner with Panticon, a Danish energy and transportation consultancy with extensive global experience in offshore wind and logistics.

The slowdown has two sides, "like a domino," Poulsen told the *Journal of Commerce.*

"On one side is inflation, transportation costs, commodity costs and interest rates — all [of them] increasing," he said. On the other side is an increase in barriers — not simple supply-and-demand bottlenecks, but substantial obstacles — that are challenging the US offshore wind buildout. A major factor? The Jones Act, according to Poulsen.

The work that must be done during the construction phase of offshore wind projects is complex and requires extremely specialized vessels and knowledge, Poulsen said. The crunch comes because very few vessels capable of installing offshore wind turbines or their foundations exist — and thus far not one of them are US-flagged, meaning Jones Act compliant.

The Jones Act factor

The term "Jones Act" refers to several laws — now over 100 years old — which reserve US domestic maritime trade to US-flagged vessels that must be built in the US and owned and operated by qualified US citizens, according to Washington, DC-based law firm Winston & Strawn.

Among other regulations, these cabotage laws prevent non-US-flag vessels from moving cargo or people between US ports or points. That includes transporting wind turbine components between ports and OSW sites after a foreign-flag installation vessel has anchored or jacked up there — which normally must be done to perform installation — because the action of anchoring or jacking up creates a "point" in the US.

In other countries, wind turbine installation vessels (WTIVs) come into port, pick up five or six sets of turbines, take them out to the installation site, jack up or anchor, install

them and repeat. In the US, however, foreign-flag WTIVs must remain at the construction site and use a feeder system, typically tug and barge, that deploys Jones Act vessels. This increases construction time, costs, and risk, industry stakeholders and analysts say.

In fact, Jones Act restrictions have increased demand for small barge manufacturers in the US, Murray told the *Journal of Commerce*. This feeder system is "a work-around for developers that's not used anywhere else in the world. It adds cost and increases risk for them," he said.

The single US-flag compliant WTIV under construction in the US, the *Charybdis*, is now two years behind schedule. That lag is one of the factors that led Danish OSW developer Ørsted, which had planned to hire the *Charybdis* to perform installation work, to pull out of two East Coast wind farm projects, Ocean Wind I and II, in late 2023.

If a foreign-flag foundation installation vessel (FIV) or WTIV shuttled monopiles or turbines from a non-US port — from Canada, for example, or even from Europe — to a US installation site, it would not cause a Jones Act violation. This solution was used to build the tiny 30-MW Block Island wind farm off the coast of Rhode Island.

Theoretically, OSW components could be produced and installed directly from Europe, but this would mean crossing the Atlantic using expensive FIVs or WTIVs not built for transporting cargo long distances.

Additionally, these components would not satisfy the strict local content and job creation requirements that form part of the US permitting and power purchase agreement (PPA) regime, Poulsen noted. Developers are required to support local manufacturing.

However, much of the wind-related manufacturing capacity to be added in the US was being built or supported by foreign developers who are now bailing on projects because they can't make the numbers work, he said.

The Jones Act essentially functions as a barrier between what a US-flag vessel must do and what a foreign vessel *is* permitted to do in US waters, Charlie Papavizas, head of Winston & Strawn's maritime practice, told the *Journal of Commerce*.

"It's not a solid barrier. Applications are varied based on interpretation," he said. "It's not always clear where that barrier lies … There are still issues about where and how the Jones Act applies in the renewable energy space. At present there is a dispute about installation of monopiles, for example."

Moving monopiles

Foreign-flag FIVs can transport monopiles, the turbine foundations that rest on the seafloor and weigh several thousand tons each, back and forth from US ports to installation sites and install them as long as the FIV remains floating, which requires a vessel with a dynamic positioning system (DPS). If the FIV anchors or jacks up, it triggers the same Jones Act rules that apply to turbine installation.

Prior to a September ruling from Customs and Border Patrol, FIVs that jacked up or anchored were allowed to transport an initial load of monopiles to the construction site and install them. That is no longer allowed. The new ruling says that anchoring or jacking up before installing the first round of monopiles establishes a US point and therefore the monopiles aboard the vessel violate the Jones Act. A feedering system must be used for the initial installation as well as all subsequent installation work.

The new ruling increases the Jones Act barrier further, Poulsen said. FIVs that use DPS are rare and very large; many ports on the US East Coast cannot support them due to height and draft restrictions, he said.

All of the construction vessels used to install OSW farms are difficult and time-consuming to build and very expensive, Poulsen said. The combination of the delay stalling the WTIV *Charybdis*, the lack of alternative US-flag construction vessels and the tightening of the Jones Act rules are creating a barrier to progress in the US, Poulsen said.

This creates a quandary for developers, especially foreign early movers such as Ørsted who have invested heavily in US OSW but are not able to fully benefit from Inflation Reduction Act (IRA) tax credits. That is one of the elements leading some developers to "fold and opt out," Poulsen said.

"It's a shame for the US, as it greatly delays installation activity," he said.

The long view

Despite the slowdown, there are reasons to be optimistic about offshore wind. "We are in the middle of a slowdown, but it's not existential," Papavizas said.

Even though Ørsted has backed away from the two New Jersey projects, "Vineyard Wind is still under construction," he said. "Southfork is under construction. CVOW, the giant project off the coast of Virginia being built by Dominion Energy, has not stopped."

Still, the construction phase is so difficult, "and it's not where all the jobs are," Poulsen said.

"If we want to get significant OSW built before 2030, we shouldn't pull the rug out from the folks who have the best chance of getting it done ... Extend the same basic ground rules to everyone and be lenient on the Jones Act during the construction phase for the next five years," he suggested. "We need more time for vessels to be built and for seafarers and project owners to become proficient."

In the long run, the OSW buildout will be a great boon for US-flag vessels, Papavizas said, because the vessels servicing the wind farms over the course of their 20- to 30-year lifespans — transporting personnel and equipment, doing maintenance — will all be US-flag.

"There's a short period of time in which foreign vessels are used, but overall you get a good Jones Act bang for the buck," he said.

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