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Uncertainty over Inflation Reduction Act slows US onshore, offshore wind projects

A multipurpose vessel in Portugal loading wind tower sections bound for the Vineyard Wind project under construction off the coast of Massachusetts. Photo credit: UHL.

Janet Nodar, Senior Editor, Breakbulk and Heavy Lift | Dec 22, 2023, 8:00 AM EST

Financing and permitting bottlenecks, inflation and confusion over the Inflation Reduction Act (IRA) are combining to slow progress — onshore and off — with the US wind buildout. Wind turbines are a key breakbulk cargo, and lower cargo volumes have dampened breakbulk expectations during 2023.

"Several factors have contributed to the slowdown in the US wind industry," Felipe Cecilio, regional project logistics renewable energy manager with Kuehne+Nagel, told the *Journal of Commerce.*

Since the IRA was passed in August 2022, it has required extensive clarifications, causing a gap in the project development cycle and slowing project execution, Cecilio

said.

That need for clarification still exists.

“The industry is struggling to understand how it’s all to be put together,” a wind equipment manufacturer who did not want to be identified told the *Journal of Commerce*.

Wind energy developers are unclear about how to reap the full benefits of the IRA and are having difficulty getting new projects moving in the US. On the other hand, services and after-sales are keeping original equipment manufacturers (OEMs) very busy, the source said.

Using the IRA

The IRA creates several levels of tax credits for onshore wind energy projects, said Andrew Berg, a senior research analyst for North America Power & Renewables with S&P Global Commodity Insights, a sister company of the *Journal of Commerce* within S&P Global.

Utility-scale projects that meet requirements for paying prevailing wages and meeting apprenticeship standards during construction can earn a base credit of 2.75 cents per kilowatt (kw) produced, Berg told the Journal of Commerce. Beyond that, projects can earn an energy community tax credit bonus, an increase of 10% over that initial 2.75 kilowatt-hour (kwh) tax credit for projects located in certain “metro statistical areas,” he said.

A local content tax credit earns another 10% over the 2.75 kw tax credit. Eligible projects must use 100% US-made steel and iron, meaning that wind towers must be made of 100% US steel. There’s no ambiguity here, Berg said: Developers must meet this requirement, or the project will not receive the local content tax credit. Additionally, beyond meeting the 100% steel and iron requirement, another 40% of every turbine must consist of products manufactured in the US, he said.

Problems? Yes. First, there is not enough steel-making capacity in the US to meet potential demand, and towers that are built with US-made steel are very expensive compared with imported towers, so much so that the cost can negate the value of the local content credit, the OEM executive told the *Journal of Commerce*. Project developers want their OEMs to make the IRA work by charging them less for turbines, but US steel manufacturers show no sign of dropping their prices and OEMs can’t absorb the difference, the source said.

Beyond the 100% US steel and iron requirement, another 40% of the turbine must consist of products manufactured in the US. This is a less transparent requirement than it sounds. "The steel requirement is very clear. But the requirement for manufactured products is not as clear," Berg said. "Do these parts need to be manufactured in the US? Assembled in the US?

"It can be difficult to prove that all the parts of an assembly were made in the US," he added. "Developers want clarity. This is a confused area. We've heard from developers that the [local content] economics [often] don't make sense."

More broadly, achieving that 40% domestic content requirement could be a lot of effort expended for no purpose, because the developer might be better off importing tower sections and giving up the local content tax credit thanks to the short supply and higher cost of US-made towers.

"They will already have the base-level tax credit and might be eligible for the energy community bonus credit," Berg said. "Importing the steel could be cheaper and faster."

From onshore to off

A similar quandary complicates offshore wind investment. US Treasury Department rules require offshore wind towers to be built with US-made steel to receive certain IRA tax credits — but these towers are not yet manufactured in the US. The first manufacturing facility was scheduled to open in 2025, but is delayed and over budget, according to Reuters.

Turbine foundations such as monopiles and jackets must also meet local content requirements to receive the related IRA tax credit. Here again, developers and manufacturers often find the regulations confusing.

According to an August report on the IRA and offshore wind from S&P Global Commodity Insights, monopiles are considered "manufactured" and thus do not have to be 100% US-made steel to qualify to the IRA credit.

In contrast, jackets, a type of latticed turbine foundation, are not considered manufactured and must be made of 100% US steel, even though they are a "highly manufactured item," according to Seth Kaplan, director of government and regulatory affairs for Ocean Winds SL, as quoted in the S&P Global report.

The 'A' team and the 'B' team

The developers who were first on the US offshore wind (OSW) scene are now in a tough position if their power purchase agreements (PPAs) can't be renegotiated with states and utilities, since offshore wind development costs have risen so dramatically, Thomas Poulsen, a managing partner with Panticon, a Danish energy and transportation consultancy with extensive global experience in offshore wind and logistics, told the *Journal of Commerce.*

Developers who came in post-IRA have a "significant comparative advantage," Poulsen said.

"The IRA has created an 'A' team and a 'B' team," he said. "The early movers were not given the same benefits as the ones submitting bids for power purchase agreements now."

A few of these early-mover offshore wind developers have begun walking away from projects completely or paying fines and canceling existing agreements so they can rebid, including Ørsted, Iberdrola (Avangrid), Shell and Ocean Wind, and the same may happen with Equinor and BP, Poulsen said.

Projects where developers have been able to reprice their PPAs, such as Virginia utility Dominion Energy's massive offshore wind project, are able to move forward, according to environmentally focused trade publication *GreenBiz*. When PPAs can't be renegotiated, projects are threatened, Charlie Papavizas, head of maritime practice at Washington, DC-based Winston & Strawn, told the *Journal of Commerce*.

The US offshore wind permitting process takes so long that outcomes are affected by macroeconomic events such as changes to interest rates and rising inflation, Papavizas said.

"PPAs are set and then seven or eight years later it's time to build, and meanwhile costs have risen and in some cases the project no longer makes economic sense," he said. "A lot of things happen in these long time periods."

Additionally, a fragmented approach to building wind energy supply chains undercuts the drive to develop local content. New manufacturing facilities cannot be built based on a single project, Poulsen said. They must have an anchor contract but also be able to manufacture for many projects.

"When the projects are terminated and the developers walk away, the economies of scale that make the factories viable also evaporate," he said.

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