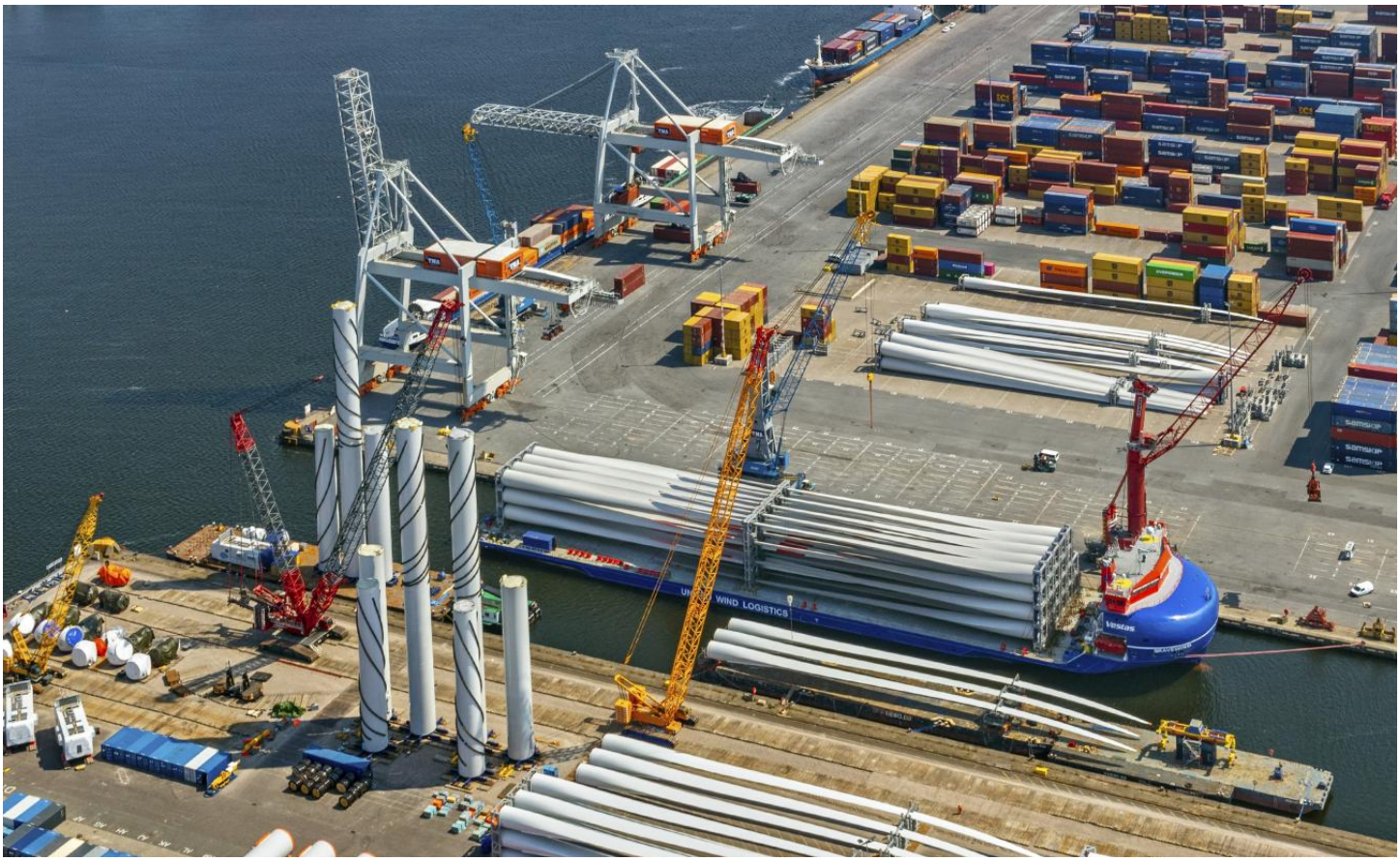
S&P Journal of Commerce

Reset for wind energy cargo reflects global supply chain realities



Deck carrier BraveWind working wind turbines in the Port of Amsterdam. Photo credit: UWL

Janet Nodar, Senior Editor, Breakbulk and Heavy Lift | Dec 11, 2023, 2:29 PM EST

Wind energy freight volumes have disappointed project cargo expectations during 2023, but the multipurpose and heavy-lift (MPV/HL) sector remains confident that wind will be a key element of the cargo mix for many years. Indeed, some say a reset of expectations increases the viability of the wind buildout, at least in the US.

The wind development "hockey stick" — slang for an economic forecast chart that signals massive growth — has flattened out for 2025 and 2026, said Christoph Puschmann, managing director with United Wind Logistics, which owns and operates three deck carriers and is part of Hamburg-based United Group.

That said, ambitious plans such as the Biden administration's goal of building 30 gigawatts (GW) of offshore wind (OSW) by 2030, "could never have been supported by the market. Now we are at a more realistic level," Puschmann told the *Journal of Commerce.*

Christoph Puschmann, Managing Director, United Wind Logistics. Photo credit: UWL

More largely, "we are optimistic with regards to the growth of offshore wind, but it's a very fragmented market," he said.

According to S&P Global Commodity Insights, a sister company of the *Journal of Commerce* within S&P Global, 11 GW of new onshore wind energy were installed in North America in 2023, a slide of 15% from 2022's 13 GW of new capacity. Next year will be a repeat of 2023, with another 11 GW installed.

Additions are expected to increase about 35% to slightly less than 15 GW in 2025. Globally, new onshore wind installations were 89 GW in 2022 and forecast to be 93 GW in 2023, 99 GW in 2024 and 107 GW in 2025.

No new capacity was added to North America's existing .042 GW of OSW during 2022. Expectations are that 0.5 GW of new capacity will have been added during 2023. The forecast for 2024 is an additional 2.4 GW and 3 GW for 2025. Globally, 12 GW of new OSW capacity was built in 2022. Forecasts are for 14 GW to be built in 2023, 22 GW in 2024 and 25 GW in 2025.

'Grain of salt' for US announcements

Northern Europe OSW is growing quickly and is supported by a strong political will to continue investing, Puschmann said. The EU supply chain has been well-tested compared with other OSW markets, and Poland, Germany and the UK are planning large developments.

"There are good projections, and we think these will be realized," he said.

Asia is another area where Puschmann expects to see significant OSW growth, specifically in South Korea, Japan and Taiwan. However, South Korea's value chain is likely to be "home grown. South Korea will manufacture towers, foundations and so on," he said, adding nacelles may be imported.

The US market is less robust, a reality reflected in supply chain bottlenecks and rising costs that are affecting developers' margins, Puschmann said. As these increased costs, driven by a range of supply chain and macroeconomic factors, do not seem to

be "digestible" for many of the states involved in the US wind buildout, or ultimately for US energy consumers, they are adding question marks to the overall OSW trajectory in the US, he said.

In contrast to Europe and Asia, project announcements in the US or other frontier markets tend to be taken with a grain of salt by the MPV/HL carrier community, Puschmann said.

Project forwarders make a distinction between new onshore wind projects, new offshore wind projects and operations and maintenance (O&M) cargo, generally related to turbine service, Felipe Cecilio, manager of Regional Project Logistics/Renewable Energy with forwarder Kuehne + Nagel, told the *Journal of Commerce.*

From his perspective, the 2023 slowdown was related to onshore wind, Cecilio said. In contrast, offshore projects have maintained expected volumes despite market volatility, and O&M cargo volumes have met or slightly surpassed forecasts. This can be attributed to original equipment manufacturers (OEMs) maintaining, repairing and replacing turbines, he said.

Felipe Cecilio, Regional Project Logistics Renewable Energy Manager, Kuehne + Nagel. Photo credit: Kuehne + Nagel.

Split markets

Offshore and onshore wind markets are "split," said Capt. Ruslan Mosolov, head of sales with Hamburg-based MPV/HL carrier dship, which primarily moves turbines for onshore wind farms. While the last two years were good for onshore wind at dship, "the cargo moving was for projects fixed three years ago."

"We are seeing much less wind cargo in 2023 and it does not look good for 2024. It may increase in 2025," Mosolov told the *Journal of Commerce*. "The main change is simply that the wind farm [activity] is down so opportunities for transport are down."

Sea transport costs have gone up in some cases because OEMs have relocated their fabrication yards, Mosolov said. This and other cost increases mean that developers "are now fixing much less."

"We talk directly with the main players, the EPCs [engineering, procurement and construction companies] and EPCI contractors … They won't fix the project if it's not profitable," he said. "They won't move ahead if the margins are too thin."

Blades can also be a logistics bottleneck for wind transport, Mosolov said.

"Like offshore blades, onshore blades are becoming bigger and bigger," he said. "We used to transport 3 megawatt [MW] blades; now they are 6+ MW. They can be 80 meters long or longer. [Few MPV] vessels on the market can accommodate blades of this length under deck."

Newbuilding designs are being adapted for wind turbines with a focus on maximum blade intakes. That means a long cargo hold, a forward superstructure — for better visibility when there is a full load of blades on deck — and cranes to the side so blades can be stowed in one block from side to side, Mosolov said. This is particularly important in the Great Lakes, one of dship's key trading areas, where strict visibility requirements must be met already, he noted.

Capt. Ruslan Mosolov, Head of Sales, dship. Credit: dship

UHL, a sister company of United Wind Logistics within the United Group, has been delivering turbines for GE for the Vineyard Wind project under construction off the coast of Massachusetts, as well as several other OSW projects now under construction in the US Northeast, Puschmann said.

"There was a huge learning curve with first deliveries, [as well as a] first strike almost immediately," he said of the Vineyard Wind project, noting installations are running slower than was originally scheduled and the port is now full of wind components. Thus, turbine delivery has been temporarily paused.

"UHL has a large fleet of sister vessels, and we are able to pause delivery and start again later rather flexibly for our client GE," Puschmann. "We'll restart in April with delivery."

Contact Janet Nodar at janet.nodar@spglobal.com.