

Offshore Wind Construction Vessel - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Offshore Wind Construction Vessel Market size is estimated at USD 24.54 billion in 2025, and is expected to reach USD 49.49 billion by 2030, at a CAGR of 15.06% during the forecast period (2025-2030).

Key Highlights

- Over the medium term, factors such as increasing offshore wind energy installations and the global renewable energy imperative are expected to be among the most significant drivers for the offshore wind construction vessel market during the forecast period.
- On the other hand, the cost of building and operating offshore wind construction vessels is high, which will pose a threat to the market during the forecast period.
- However, continued advancements in vessel design, propulsion systems, and automation led to more efficient wind construction vessels. This factor is expected to create several opportunities for the market in the future.
- The Asia-Pacific region dominates the market and will likely register the highest CAGR during the forecast period. China, Vietnam, Japan, and others drive it due to the growing number of offshore wind energy installation projects in these countries.

Offshore Wind Construction Vessel Market Trends

Normal Jack-Up Vessels Expected to Witness Growth

- Normal jack-up vessels are units designed to operate in harsh offshore environmental conditions. They have hulls and several cylindrical or lattice legs that can be extended to the seabeds, allowing the vessel to be jacked up and providing a stabilized

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platform for performing installation, maintenance, or various other activities from above the water surface. Due to their relatively more straightforward designs and operations, they are ideal for offshore wind farm construction and maintenance activities.

- One of the primary advantages of jack-up vessels is their ability to provide a stable and elevated working platform in offshore locations. This stability is critical for accurately positioning and installing wind energy components, such as tower sections, nacelles, turbines, and blades. The elevated platform also facilitates safe and efficient access to the turbines for maintenance and repair work, even in challenging weather conditions.
- As the number of offshore wind installations rises, the demand for normal jack-up vessels is expected to increase significantly. Various countries are exploring offshore wind energy installations, and compared to their counterparts, normal jack-up type vessels offer far less complexity in terms of operating and maintaining while also being relatively cheaper.
- According to the International Renewable Energy Agency 2023, the cumulative offshore wind energy installation globally was 72.66 GW in 2023 compared to 61.96 GW in 2022, registering a CAGR of over 17%, signifying the growing traction of offshore wind energy installation, which, in turn, drives the demand for normal jack-up vessels.
- To meet these market demands, jack-up vessel operators and shipyards have invested heavily in designing and constructing new, state-of-the-art vessels. These vessels are equipped with advanced technologies, such as dynamic positioning systems, motion-compensated cranes, and integrated control systems, to enhance their operational efficiency and safety.
- For instance, in May 2023, Danish installation firm Cadeler announced that the company worked on a new series of normal jack-up offshore wind installation vessels. The company teamed up with MAN Energy Solutions to develop a small engine that would reduce the weight of these vessels by 50%. This is expected to create room for a more advanced propulsion system without increasing the vessel weight, which leads to advanced vessels at a similar price to traditional vessels.
- Hence, the normal jack-up vessels are expected to grow significantly during the forecast period due to increased technological advancements and exploration of offshore wind energy.

Asia-Pacific to Dominate the Market

- Asia-Pacific is poised to dominate the offshore wind construction vessel market, driven by various countries setting ambitious renewable and offshore wind energy targets. Countries in the region, such as China, Vietnam, India, Japan, and South Korea, are experiencing a surge in energy demand due to rapid economic growth and urbanization. Offshore wind energy has emerged as an ideal solution to meet the growing energy demand while controlling carbon emissions and tackling space constraints.
- According to the International Renewable Energy Agency, offshore energy capacity in Asia-Pacific has risen significantly in recent years. It is one of the largest in the world. In 2023, the region's installed offshore wind energy capacity was 40.25 GW, which was more than 55% of the global installed capacity. This signifies the increased adoption of offshore wind energy in the region, propelling the market growth.
- Governments across the Asia-Pacific have implemented ambitious renewable energy targets and supportive policies, creating a conducive environment for offshore wind farm development. For instance, China has set a target of installing 40 gigawatts (GW) of offshore wind capacity by 2030, while Japan aims for 10 GW, and South Korea targets 8.2 GW by the same year. They are further driving the offshore wind construction vessels market in the region.
- Additionally, the region's well-established manufacturing capabilities in sectors such as shipbuilding, steel production, and heavy machinery provide a solid foundation for developing a robust offshore wind supply chain, including producing wind turbine components, vessels, and support infrastructure.
- Thus, the Asia-Pacific region will dominate the market during the forecast period.

Offshore Wind Construction Vessel Industry Overview

The global offshore wind construction vessel market is semi-consolidated. Some of the key players in this market are Lamprell

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Energy Ltd, Pella Sietas GmbH, Japan Marine United Corporation, Seafox, and Nantong Rainbow Offshore & Engineering Equipments Co. Ltd.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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