Floating Offshore Wind Power - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Floating Offshore Wind Power Market size is estimated at 0.94 gigawatt in 2024, and is expected to reach 22.29 gigawatt by 2029, growing at a CAGR of 88.62% during the forecast period (2024-2029).

Though the COVID-19 pandemic negatively impacted the market in 2020, it reached pre-pandemic levels.

Key Highlights
-Long-term, the floating offshore wind power market is likely to grow because more people want to use offshore wind power. Also, increasing the water depth of offshore wind power projects is seen as a game-changing technology that can take advantage of the strong winds in deeper waters and help the market grow.
-On the other hand, more and more gas and solar power, which are both clean ways to make electricity, are being used. Since getting power from solar and gas is one of the cleaner ways to make energy, more people using these methods is likely to slow the demand for wind power.
-Also, offshore wind energy is becoming more popular in developing and untapped markets. This is likely to create growth opportunities for the floating offshore wind power market during the forecast period.
-The European region has the biggest share of the market and is also expected to register the highest CAGR over the next five years. This growth is due to the fast rise in offshore wind power investments and the fact that countries in this area, like Norway, the UK, and France, have policies that support wind power.

Floating Offshore Wind Market Trends

The Transitional Water (30 m to 60 m Depth) Segment is Expected to Grow

- Due to the greater water depth and favorable project economics, floating offshore wind turbine (FOWT) technology is more developed in transitional water depths (30-60 m). The barge variant is the most commercially viable floating wind turbine design at shallow depths. This model is appropriate for activities higher than 30 m and has the shallowest draft of any floating foundation. Barge-style floating wind turbines have a square footprint, while other designs incorporate a moonpool to lessen stresses brought on by wave-induced loads. A typical 6-megawatt floating barge wind turbine weighs between 2000 and 8000 tons, according to GWEC. However, BW Ideol, with its Damping Pool Barge Floating Substructure Technology, is the only company that has deployed barge-type FOWT at the MW scale.
- Since the water depth is shallower, FOWT technology is less practical from a business point of view than fixed-base technology. So, during the period of the projection, barge technology is expected to make up a small part of the FOWT market as a whole.The US EPA claims that only 5 MW of barge FOWT capacity was operating globally as of 2021. Just 1932 MW of FOWT capacity on barges, or 2.1% of all announced offshore wind substructure technologies for future projects around the world, were announced.
- Most companies attempt to market FOWT designs that can be used in deeper waters. However, some semi-submersible technologies can also be used at transitional water depths. They can function at transitional depths due to several commercial FOWT models that are built on the semi-submersible design. A few of these models were initially used in experimental projects, while others were modified for use in ventures for profit.
- The EolMed project is France's first floating pilot wind farm in the Mediterranean Sea. In May 2022, TotalEnergies announced the start of the project's construction, which is expected to be operational by 2024. The project will consist of three 10 MW floating turbines on the bathymetry of the 62-meter depth and anchored to the seabed. The turbines will use a barge design with a damping pool. Quadran Energies Marines, Ideol, Bouygues Travaux Publics, a company that specializes in civil engineering, and Senvion, a manufacturer of wind turbines, will run the project.
- In the area of transitional depth, both fixed and floating wind turbines can work, but the barge design is the most commercially viable.
- Between 2010 and 2021, the global average installed cost of wind energy decreased by 41%, from USD 4,876 per kW to USD 2,858/kW. At its peak in 2011, the global weighted average installed cost was USD 5,584 per kW, which was twice its value in 2021. In Europe, the weighted average LCOE of newly commissioned offshore projects decreased by 29% between 2020 and 2021, from USD 0.092/kWh to USD 0.065/kWh. Driven by project economies of scale, there was a 25% reduction in total installed costs year-on-year and an increase in new projects' weighted average capacity factor from 42% to 48% in 2021.
- Most of the FOWT projects in transitional depths are likely to be in Europe, especially in the United Kingdom, Scandinavia, and France, where large projects are in the planning stages. During the forecast period, most of the deployments in this market segment are likely to happen in these regions.

Europe to Dominate the Market Growth

- Europe holds the largest share of offshore wind energy installations globally. According to the European Union, Europe represents a quarter of global offshore wind installations. The country (primarily North Sea countries) is likely to be at the helm of the offshore wind market.
- Around 85% of offshore wind installations are globally in European waters. The governments of the European region, particularly in the North Sea area, have set an ambitious target for installing offshore wind farms in their territorial waters.
- Europe was expected to have 112 MW of floating offshore wind power capacity installed by 2022, with the UK, France, Norway, Ireland, and Spain being the region's biggest markets.
- In August 2022, an agreement was made between Cerulean Winds and Ping Petroleum UK about offshore oil and gas facilities that would be mostly powered by offshore wind.Under the agreement, Cerulean Winds and its group of Tier 1 industrial partners

will provide a large floating offshore wind turbine that will be connected by a cable to Ping Petroleum's floating production and storage vessel.The project is expected to go online by 2025. A grant enabled the project to go to Cerulean Winds through the Floating Offshore Wind Demonstration Program.
- In February 2022, Norway announced plans for its first auction for offshore wind. The tender, scheduled for the second half of this year, would first look for bids to develop at least 1.5 GW of offshore wind capacity to supply the country, with subsequent tenders designed to provide an economic boost by providing more electricity for export to Europe.
- During the forecast period, these trends should make Europe a great place to do business for people who are in the business of floating offshore wind farms.

Floating Offshore Wind Industry Overview

The floating offshore wind power market is moderately fragmented. Some major players in the market (in no particular order) include General Electric Company, Doosan Energy, Siemens Gamesa Renewable Energy, BW Ideaol SA, and Vestas Wind Systems AS, among others.

Additional Benefits:

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

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