

Floating Wind Turbines Market Trends: Valued at US\$ 4.9 Bn in 2023, Projected to Reach US\$ 83.4 Bn by 2034

The global floating wind turbines market, valued at \$4.9 billion in 2023, is projected to grow at a 29.4% CAGR, reaching \$83.4 billion by 2034.

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EINPresswire.com/ -- The global [floating wind turbines market](#) was valued at US\$ 4.9 billion in 2023 and is poised for significant growth. The market is estimated to advance at a CAGR of 29.4% from 2024 to 2034, reaching US\$ 83.4 billion by the end of the forecast period. This growth is driven by the increasing demand for renewable energy sources, advancements in offshore wind turbine technologies, and the need to reduce dependency on fossil fuels.



Floating Wind Turbines Market

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Analyst Viewpoint: Market Drivers and Emerging Trends

The reduction in fossil fuel dependency is a primary driver of the floating wind turbines market. Governments worldwide are heavily investing in renewable energy technologies to mitigate carbon emissions and enhance energy security. The expansion of floating offshore wind farms (FOWFs) is a key focus area, with stakeholders increasingly funding and developing environmentally friendly solutions.

Additionally, new market entrants are contributing to the innovation in low-cost floating wind

turbine technologies. As energy production needs grow, these companies are exploring novel ways to reduce costs while maximizing energy efficiency.

Market Introduction: What Are Floating Wind Turbines?

Floating wind turbines are designed to float in deeper waters, allowing offshore wind development in areas previously inaccessible to conventional turbines. These turbines are mounted on floating structures and stabilized by moorings and anchors. The primary types of floating wind turbine foundations include:

- Spar-buoy foundation: A cylindrical structure that ensures stability with a low water plane area, reducing wave-induced motion.
- Semi-submersible foundation: Made up of multiple columns and pontoons, providing stability in deeper waters.
- Tensioned leg platform (TLP): A floating structure with vertical ties to the seabed, designed for even deeper waters.

These designs are crucial in improving turbine capacity and reducing installation costs, making floating wind turbines more viable as the industry expands.

Market Drivers: Reducing Fossil Fuel Dependency and Increasing Investment

Reduction in Fossil Fuel Dependency

A global shift towards renewable energy sources is essential to combat climate change. Wind power plays a significant role in this transition. For instance, in 2023, the U.S. produced 52,687 MW of offshore wind energy, marking a 15% increase compared to 2022. Wind energy reduces carbon emissions by displacing fossil fuel-based power generation, with each megawatt-hour of wind energy avoiding approximately 75 tons of CO₂ emissions.

Increase in Funding for Environmentally Friendly Floating Wind Farms

The development of floating offshore wind farms is receiving substantial funding, as these farms provide a sustainable and scalable solution to global energy needs. For example, the Floatfarm project, launched in January 2024 with a EUR 6 million grant from the European Commission, focuses on reducing the environmental impact of marine life while improving the public acceptability of floating wind farms.

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Regional Outlook: Europe and Asia Pacific Leading the Charge

Europe currently holds the largest market share for floating wind turbines. Increased funding for offshore wind projects and innovative initiatives like the BATSO project (funded with EUR 2.9

million by the French government) are boosting the market in this region. The project aims to reduce the cost of offshore wind turbines by optimizing the replacement of key components, improving sustainability.

In Asia Pacific, the surge in floating wind farm installations is driving market growth. For example, Equinor, a Norwegian energy company, received approval in June 2024 for a feasibility study for Australia's first floating wind development.

Key Players and Developments in the Market

Prominent companies in the floating wind turbines industry, such as Siemens Gamesa, Vestas, Mingyang Smart Energy, and GE Vernova, are focusing on enhancing the rotor design, mooring and anchoring systems, and wind farm control technologies. These companies are at the forefront of innovations that increase the efficiency and competitiveness of floating offshore wind farms.

Key developments include:

- Skyborn Renewables, in collaboration with Siemens Gamesa, signed a Master Supply Agreement for 63 wind turbines with a 15 MW capacity for a 945 MW offshore wind project in Germany's Baltic Sea.
- Vattenfall and BASF have partnered with Vestas to supply 15 MW turbines for the Nordlicht offshore wind project in Germany.

These developments demonstrate the continued evolution and scaling of floating wind technology.

Market Segmentation

- By Type: Spar-buoy foundation, Semi-submersible foundation, TLP foundation, Others
- By Deployment: Shallow water, Deep water
- By Capacity: Up to 3 MW, 3 MW to 5 MW, Above 5 MW
- By Region: North America, Europe, Asia Pacific, Latin America, Middle East & Africa

Future Outlook

With advancements in technology and increasing investments, the floating wind turbines market is expected to grow exponentially over the next decade. By 2034, the market is expected to reach US\$ 83.4 billion, driven by global efforts to transition to renewable energy, reduce carbon emissions, and enhance energy security.

The future of the floating wind turbine market looks promising, with innovative solutions and competitive technologies paving the way for a sustainable energy future.

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