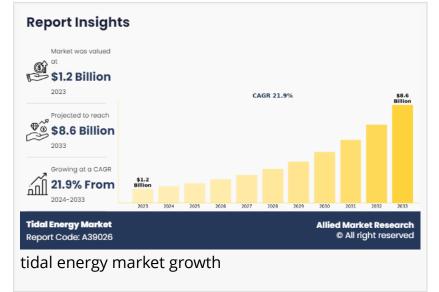


Tidal Energy Market to Witness Robust Expansion By 2033 With Prominent Key Players: Minesto AB, Andritz AG

WILMINGTON, DE , UNITED STATES, May 2, 2024 /EINPresswire.com/ -- <u>Tidal</u> <u>energy</u> is considered renewable because the tides are predictable and occur daily due to the gravitational relationship between the Earth, Moon, and Sun. It is also environmentally friendly compared to some other forms of energy generation, as it produces no greenhouse gas emissions once operational.

The tidal energy market was valued at \$1.2 billion in 2023, and is estimated to



reach \$8.6 billion by 2033, growing at a CAGR of 21.9% from 2024 to 2033.

The global tidal energy market is witnessing growth due to technological advancements, and the presence of abundant marine resources. The tidal barrage segment, which accounts for more than two-fifths of market revenue, is expected to grow faster. Sustainable technologies, export potential, renewable energy, and zero carbon emissions are key trends for the tidal energy market growth. The power generation segment is projected to grow at a CAGR of 20.1% from 2024 to 2033. The Europe region is expected to dominate the market by 2033, accounting for over two-fifths of market revenue. The region's demand for green energy and the low presence of natural conventional resources for power generation positively impact the tidal energy market.

Tidal energy harnesses the natural power of ocean tides, presenting a significant driver in the renewable energy market. With approximately 71% of the Earth's surface covered by water, tidal energy offers a vast and renewable resource. The predictability and consistency of tidal patterns ensure a reliable energy source, making it an attractive option for sustainable power generation.

As technology advances, tapping into this abundant resource becomes increasingly feasible, driving further investment and innovation in the tidal energy market trends.

Despite its promise, the tidal energy market faces restraints due to environmental impact concerns. While tidal energy is renewable and emits minimal greenhouse gases during operation, the construction and deployment of tidal energy infrastructure can disrupt marine ecosystems. Potential negative effects include changes in water flow, habitat disruption, and risks to marine life. Mitigating these impacts through careful site selection, technology refinement, and comprehensive environmental assessments is essential for the sustainable growth of the tidal energy sector.

Coastal communities present a unique opportunity for the expansion of the tidal energy market. Situated near the ocean, these communities often face energy challenges and are susceptible to the impacts of climate change, such as sea-level rise and extreme weather events. Tidal energy offers a locally sourced and resilient power solution, reducing dependence on imported fossil fuels and enhancing energy security. Furthermore, investment in tidal energy infrastructure can stimulate economic growth, create jobs, and foster technological innovation within coastal regions, positioning them as hubs for sustainable development and renewable energy expertise.

The patent landscape in China for tidal energy presents a rich tapestry of innovation, with notable patents including CN 1.102725517 by Tidal Energy Ltd. and inventor Richard Ayre, showcasing a tidal flow energy generation system with predictive control mechanisms. Another significant patent, CN 2.1868112 by Ramez Atiya, introduces a Tidal Energy System capable of extracting energy from various marine sources, developed by Atiya Ramez.

The tidal energy market analysis is segmented into method, application, and region. On the basis of method, the market is divided into tidal stream, tidal barrage, tidal turbine, and tidal fences. On the basis of application, the market is bifurcated into power generation and desalination. On the basis of region, the tidal energy market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

On the basis of method, the tidal turbine segment is expected to grow at a CAGR of 21.6% during the tidal energy market forecast period. Tidal currents are a reliable, predictable renewable energy source with a high energy density, enabling efficient turbine operation in harsh marine environments. Technological advancements have improved efficiency and reliability, making them an attractive solution for countries transitioning to cleaner energy sources. The tidal energy industry is maturing, with increased investment from governments and private investors, leading to larger-scale projects and more turbine deployment. Tidal energy is a clean and renewable energy source with minimal greenhouse gas emissions.

On the basis of application, the desalination segment is expected to grow at a CAGR of 22.4% during the tidal energy market outlook period. The presence of demand for fresh water in developed, developing, and low freshwater resource countries will drive the market growth. The development of a desalination process to convert seawater to fresh water requires a huge amount of continuous power which led to the utilization of tidal energy to power the desalination equipment to produce fresh water. Middle East countries such as Saudi Arabia, UAE, and others, have a high demand for freshwater resources, which is expected to provide ample opportunities for the development of the tidal energy market in desalination.

On the basis of region, Asia-Pacific is expected to be the growing market with a CAGR of 21.9% during the forecast period. In this region, South Korea leads the tidal energy market globally with a total installed power capacity of 511 MW of tidal power plants. Furthermore, China has recently deployed various pilot projects to develop the potential of marine energy and also improve marine security. In addition, the presence of developing countries in this region such as India and other Southeast Asian countries has a keen interest in tidal energy due to its long-lasting and unlimited power generation capability. The presence of upcoming tidal energy projects in this region from India, China, Philippines, South Korea, Japan, and other APAC countries is expected provide ample opportunities for the development of the tidal energy market.

By method, the tidal turbine system segment dominated the market accounting for more than two-fifths of the tidal energy market share in 2023.

By application, power generation segment dominated the market accounting for more than fourfifths of the tidal energy market size in 2033.

By application, the desalination segment is expected to be the fastest growing segment growing with a CAGR of 22.4% from 2024-2033.

By region, Europe is expected to dominate the market during the forecast period.

David Correa Allied Market Research +1 503-894-6022 email us here Visit us on social media: Facebook Twitter LinkedIn Other

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