

United States Hydro Turbine Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The United States Hydro Turbine market is expected to register a CAGR of more than 2% during the forecast period of 2022-2027. The COVID-19 pandemic disrupted the market by causing the electricity demand to crash, rendering the hydropower plants un-used and ultimately affecting the hydro turbine market also. The pandemic also caused delays in the construction and transportation of hydro turbines owing to disruption in the shipping industry, which accounts for significant movements of such goods. In terms of the growth of the market, factors such as increasing adoption of renewable energy sources to limit the emission caused by conventional sources coupled with upcoming projects is likely to drive the market. However, design challenges of turbines, ecological concerns related to dams, long gestation period, high installation cost, and increasing adoption of alternative renewable energy sources may restrain the market.

Key Highlights

The reaction turbine segment of the hydro turbine market is expected to dominate in the market during the forecast period, owing to the increased use of reaction turbines such as Francis turbines and Kaplan turbines.

The United States has a significant number of water resources to construct hydropower projects in the future to increase the share of renewables in the power generation mix. This is likely to present several opportunities in the United States hydro turbine market in the future.

Increasing adoption of alternative renewable energy sources, i.e., other than hydropower, may restrain the hydro turbine market in the country during the forecast period.

US Hydro Turbine Market Trends

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Reaction Turbines Expected to Dominate

A reaction turbine develops power from the combined action of pressure and moving water. These turbines are used to generate maximum power output from a low available water head and high velocities. Almost 60% of turbines used in hydropower plants are reaction turbines.

As of 2020, more than half of the turbines installed at the existing facilities in the United States are Francis turbines, one of the classes of reaction turbines.

Further, according to EIA, as of April 2021, there were about 1,450 conventional and 40 pumped-storage hydropower plants operating in the United States. The oldest operating hydropower facility is the Whiting plant in Whiting, Wisconsin, which started operation in 1891, while the largest US hydropower facility and the largest US electric power plant in generation capacity is the Grand Coulee hydro dam on the Columbia River in Washington with a total generation capacity of 6,765 MW.?

Hydroelectricity is the largest source of total US renewable electricity generation, and according to the US Department of Energy (DOE), the country has 50 GW of untapped hydropower potential, including 30 GW of pumped storage. Therefore, to meet the increasing demand for energy with low greenhouse emission fuels, hydropower is expected to play a significant role in the upcoming

As of January 2022, Xcel Energy has a low-tech plan to develop pumped-storage hydropower on the Western Slope in Unaweep Canyon south of Grand Junction. The project is likely to adopt reaction turbines owing to their significant advantages.

Thus, taking into consideration above mentioned points, reaction turbines are likely to dominate in the United States hydro turbine market during the forecast period.

Alternative Renewable Energy to Restrain the Market

The United States renewable power sector is receiving immense support from the government due to several reasons, which aims to boost domestic energy production. However, renewable energy sources other than hydropower are being rapidly adopted, which are shaving off the share of hydropower in the renewable energy mix, thereby negatively affecting the hydro turbine market.

In 2020, the electricity generation from hydroelectric power plants stood at 291.11 billion kilowatt-hours as compared to the 792.48 billion-kilowatt generated by all the renewable energy sources.

In March 2022, According to Energy Information Administration, solar power and batteries account for 60% of planned new US electric generation capacity from 2022 to 2023. This represents a decline in the growth of hydropower plants and thus a decline in the growth of the hydro turbine market in the country.

Thus, considering the above-mentioned points, increasing adoption of alternative renewable energy sources are likely to restrain the USA hydro turbine market during the forecast period.

US Hydro Turbine Market Competitor Analysis

The USA Hydro Turbine Market is partially consolidated. Some of the major players involved in the market are Siemens Energy AG, Kirloskar Brothers Limited, General Electric Company, Voith GmbH & Co. KGaA, and Andritz AG.

Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

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