

Hydro Generators Market - Growth, Trends, and Forecasts (2023 - 2028)

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Report description:

The hydro generators market is expected to register a CAGR of more than 8% during the forecast period.

The market was negatively impacted by COVID-19. Presently the market has now reached pre-pandemic levels.

Key Highlights

The primary factors that drive the market are the growing focus on renewable energy to reduce CO2 emissions and the growing focus on alternative fuels to achieve an imperishable form of energy.

However, factors such as high CAPEX requirements, especially in the key markets, limited economical sites, and the extra expenditure, that arise to address social and environmental impacts, are expected to hinder the market growth during the forecast period.

The initiatives to reduce carbon emissions in countries are expected to create opportunities shortly. For instance, Indonesia has developed a strategy for hydropower development to boost its industrial growth and reduce carbon emissions by 29% by 2030. The Asia-Pacific region is expected to continue to dominate the hydro generators market, with the highest installed hydropower capacity. China and India are the prominent countries in the region that are dominating the market with majority of the total installed global hydropower capacity.

Hydro Generators Market Trends

Large Hydro Generator as a Prominent Segment

Large hydro generators include generators, with a capacity of more than 30 megawatts, that primarily use Francis and Kaplan turbines to capture maximum energy from the flowing water to generate electricity.

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In 2021, a total of 25 GW of hydropower capacity was added, which increased the global hydropower capacity to nearly 1360 GW. The total hydropower capacity was estimated to be from the large hydro plants, that use a series of large hydro generators and backup generators for backup during any emergency scenario.

Pumped storage hydropower continues to be the largest contributor to U.S. energy storage, accounting for nearly 93% of all commercial storage capacity in the country in 2021. Hydropower generated 31.5% of the country's renewable electricity which is expected to increase in the forecast period.

Moreover, In May 2022, The U.S. Department of Energy today announced USD 8 million in financing to assist initiatives that would increase the electric grid's stability and the flexibility of the country's hydropower fleet. Thus, with the increase in the capacity and supportive government policies hydropower is expected to increase, which, in turn, will drive a large hydro generator market in the forecast period.

With the rising demand for electricity around the world, a significant number of large hydropower projects are expected to come online in the coming years. Wudongde Hydropower Project in China and the Dasu hydropower project in Pakistan are a few under-constructions large power plants that are estimated to have a capacity of around 10.2 GW and 4.3 GW, respectively. Both projects are expected to get commissioned during the forecast period.

Asia-Pacific Dominating the Market

Asia-Pacific is dominating the hydropower market, with approximately 594 GW of installed capacity as of 2021. The region held its position as the fastest-growing during 2021, with total capacity addition of around 24 GW.

China is the dominating country in the region and around the world. It has a market share of 65%, concerning the installed capacity in the region. During the recent year, annual capacity growth slowed down in the country due to a weaker economy and reduced power demand, due to overcapacity and renewables curtailment.

Moreover, The 22.5 gigawatt Three Gorges Dam in China is the largest hydropower facility in the world. It generates between 80 and 100 terawatt hours annually, sufficient to power between 70 million and 80 million households.

Apart from China, India and Japan are the prominent countries in the region that have a cumulative market share of around 18%, concerning total installed capacity in the region. Mangdechhu hydroelectric project is one of the prominent under-construction hydro-project in Bhutan that is being built by India and Bhutan. The project is expected to have an installed capacity of around 720 MW by 2022.

In May 2022, according to officials, India and Nepal will construct a 695 MW hydropower facility as the Himalayan country tries to take advantage of its vast potential to produce renewable energy in order to alleviate electricity shortages. The Satluj Jal Vidyut Nigam (SJVN) Ltd. of India and the Nepal Electricity Authority (NEA), which owns 51% and 49% of the project, will jointly construct the Arun IV project on the Arun River in eastern Nepal.

The addition of the projects and increasing hydropower capacity is expected to help the hydro-generator market to grow during the forecast period.

Hydro Generators Market Competitor Analysis

The hydro generator market is consolidated. Some of the key players in the market (not in a particular order) include General Electric Company, Voith GmbH & Co. KGaA, Hitachi Mitsubishi Hydro Corporation, Toshiba America Energy Systems Corporation, Andritz AG, Nidec Industrial Solutions, OJSC Power Machines, WEG SA, Global Hydro Energy GmbH, and Siemens AG.

Additional Benefits:

The market estimate (ME) sheet in Excel format

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