

Asia-Pacific Small Hydropower - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Asia-Pacific Small Hydropower Market is expected to register a CAGR of greater than 1.5% during the forecast period.

The market was negatively impacted by the COVID-19 pandemic in 2020. Presently, the market has reached pre-pandemic levels.

Key Highlights

- Over the medium term, factors such as the rising demand for reliable electricity, increasing investments for renewable and small hydropower projects in response to climate change, and policy initiatives are expected to drive the global small hydropower market during the forecast period.
- On the other hand, an unstable energy supply is expected to hinder market growth because the energy generated depends on seasonal highs and lows and can act as a deterrent for small hydropower installations during the forecast period.
- Nevertheless, the integration of IoT with hydropower and the positive outlook toward small hydropower dams to sustain lives in rural communities are expected to create significant opportunities for the global small hydropower market in the coming years.
- Vietnam is expected to have a significant share in the market during the forecast period due to factors such as government policies in developing small hydropower,

APAC Small Hydropower Market Trends

The 1-10 MW Segment Expected to Dominate the Market

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- The 1-10 MW segment is projected to be the most abundant small hydropower plant type by capacity in the market during the forecast period. This higher share of 1-10 MW plants (almost 80%) can be attributed to the small-scale decentralized projects deployed in developing nations, especially in China, India, Japan, Indonesia, and Vietnam, for rural electrification.
- According to the International Renewable Energy Agency (IRENA), in 2021, there was already 608.72 GW of hydropower capacity in the Asia-Pacific region, which is 4.1% higher than in 2020 (584.23 GW).
- Small hydro plays an essential role in rural and off-grid electrification in Indonesia. By the end of 2020, 286 SHP plants and mini-grid with a range of capacity from 5 to 400 kW have been installed to provide people in rural areas with access to electricity. Additionally, during 1992-2018, IBEKA, a local NGO, constructed 65 SHP plants in Sumatera, Java, Kalimantan, Sulawesi, and Nusa Tenggara. These plants range between 0.5 and 170 kW, with a total installed capacity of 2,636 kW.
- This has kickstarted the development of several small-scale hydropower projects all over Indonesia. For instance, in August 2022, Andritz Energy commissioned the 3 x 1.748 MW Cikaengan 1 Mini Hydropower Plant in Garut, West Java. Additionally, in November 2021, Andritz Energy's 2 x 3.82 MW Cikaengan 2 mini hydropower plant successfully obtained the TOC (Taking Over Certificate).
- India has set a national target of achieving 5 GW of small hydropower capacity in 2022 under overall targets of achieving a cumulative grid-connected renewable energy capacity of 175 GW. The country has already installed 4.67 GW of small hydropower capacity by the end of 2019 through 1,127 small hydropower projects.
- Therefore, with increasing support from several regional governments and a huge potential for SHP to be developed, the small hydropower market is expected to witness significant growth during the forecast period.

Vietnam to have a Significant Share in the Market

- Vietnam is one of the largest hydropower markets in Southeast Asia. According to the Electricity Authority of Vietnam (EVN), as of 2022, Vietnam had 20.774 GW of hydropower, accounting for nearly 29.9% of the country's total installed capacity.
- Traditionally, hydropower has accounted for a significant share of the country's gross electricity generation mix, accounting for nearly 30.77% of the country's total electricity generation. Traditionally, the Vietnamese economy has relied heavily on hydroelectricity to satiate domestic demand. However, as domestic demand has increased rapidly, the share of coal-fired generation in electricity has grown, along with other renewables that have also grown at a steady pace but occupy a relatively smaller share of the total electricity generation mix.
- As the Vietnamese government develops renewable energy capacity, over 13 GW of installations is anticipated to be installed in Vietnam within the next few years. Around 70% of this renewable-led transition is expected to be supported by solar PV and hydropower by 2020-2025. Thus, to achieve the renewable energy target and to develop its energy sector, the government has initiated various hydropower projects, which are expected to support the market's growth during the forecast period.
- According to IRENA, in 2021, there was already 42.72 GW of hydropower capacity in the Asia-Pacific, which is 11.3% higher than in 2020 (38.37 GW).
- Power Development Plan 8 (PDP8), published in 2021, targets a share of 75% for renewable energy by 2045. The total capacity of small hydropower sources is targeted to reach 4,800 MW in 2025, 5,000 MW in 2030, and nearly 6,000 MW by 2045. The government plans to invest USD 12-13 billion in the power sector, and hydropower would account for 17.7% -19.5% of the total installed capacity. The total installed capacity for the whole power system will come to around 130,370-143,839 MW by 2030.
- In April 2022, Flovel Energy announced the signing of the contract for Nam Tang 3 HPP (2 x 8.75 MW) in Vietnam with Horizontal Francis units. Truong Thanh Investment Construction Company Limited is developing the project. Nam Tang 3 Hydro Project is located in Yen Bai Province, Vietnam, and is the company's eighth Project in the Yen Bai province.
- Therefore, based on the above-mentioned factors, Vietnam is expected to have a significant share in the Asia-Pacific small hydropower market during the forecast period.

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The Asia-Pacific small hydropower market is fragmented. Some of the key players in the market (in no particular order) include Toshiba Energy Systems & Solutions Corporation, FLOVEL Energy Private Limited, Gesto-Energia SA, General Electric Company, and Power Construction Corporation of China, among others.

Additional Benefits:

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

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