Asia-Pacific Solar Photovoltaic (PV) - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 100 pages | Mordor Intelligence

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Report description:

The Asia-Pacific Solar Photovoltaic Market is expected to register a CAGR of greater than 10.38% during the forecast period.

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

Key Highlights
- Over the long term, the major factor driving the global solar PV market is the declining cost of solar PV module prices. This, in turn, is likely to have a positive impact on the growth of the solar photovoltaic (PV) market in the region.
- On the other note, the high installation cost and poor maintenance practices are restraining factors for the growth of the solar photovoltaic market. Moreover, the increasing deployment of alternative renewable energy sources is expected to hinder the market's growth.
- Nevertheless, commercial and industrial sectors are showing a growing interest in distributed solar power generation due to various economic benefits and a constant source of energy to eliminate downtimes and equipment damage due to voltage fluctuations in conventional power grids. This is expected to create a huge opportunity for distributed solar PV market in the region in the near future.
- China is expected to dominate the market over rising environmental concerns and economic benefits of domestic solar power generation.

Asia-Pacific Solar Photovoltaic Market Trends

Ground Mounted Segment to Dominate the Market

- Ground-mounted solar panels are solar arrays that are installed at the ground level. These systems are usually more expensive than rooftop installations but could maximize energy production at a larger level. In 2021, the market share of ground-mounted solar PVs was more than 50% of the total installed solar PV capacity, as they are mainly deployed for commercial and utility purposes.
- Ground-mounted solar for commercial or utility projects is economical due to the economies of scale, large-scale installations, and operation and maintenance efficiencies. On the other hand, rooftop solar is used in small residential projects, less than 1 MW.
- Increasing competition and technical advancements in large-scale utility projects have led to cost reductions in both installation and operation & maintenance prices. As of 2021, Asia has reached 484.93 GW of solar PV installed capacity, which has grown 18.49% more compared to 409.25 GW installed in 2020.
- Going forward, in December 2021, the Indian Ministry of New and Renewable Energy (MNRE) invited applications for the Expression of Interest (EOI) to evaluate Phase II of the Grid Connected Rooftop Solar Program. The program is a part of the National Solar Mission (NSM), which aims at installing 40 GW capacity of grid-connected solar rooftop installation systems by the end of 2022.
- In January 2022, Reliance Industries signed an agreement with the Gujarat government to invest USD 603 billion in Gujarat over 10-15 years to set up 100 GW renewable energy power plants and a green hydrogen ecosystem. Renewable energy power plants include solar power plants at a utility-scale. RIL is expected to invest INR 60,000 crore in setting up manufacturing facilities for solar PV modules, electrolyzers, batteries, and fuel cells for the upcoming renewable projects.
- Moreover, in September 2022, Hitachi Astemo installed India's first solar PV plant at the Jalgaon manufacturing plant in Maharashtra. The 3 MW solar power plant will be built in an area of 43301 sqm. The ground-mounted solar power plant will consist of 7128 ground-mounted solar panels and ten inverters and is expected to get commissioned by 2023.
- Owing to the above points, the ground-mounted segment is expected to dominate the Asia-Pacific Solar Photovoltaic (PV) Market during the forecast period.

China to Dominate the Market

- China is the largest market for solar PV across the globe, with a cumulative installed capacity that accounted for more than 40% of the global market in 2021. The solar power share in China's renewable power generation mix was recorded as 282 million kilowatts at the end of 2021. The government has envisaged various initiatives to increase this share of solar energy in the near future.
- As of 2021, China recorded a solar PV capacity of 306.403 GW, which has grown 20.91% higher than the 253.418 GW installed in 2020. Also, China revealed new solar and wind policies for subsidy-free projects. The policy was introduced to take advantage of a rapid fall in construction costs and to resolve payment backlog issues and grid logjam projects.
- In the year 2021, the country hit a breaking record of solar power capacity with 54.9 gigawatts to its grid. According to China's energy authority (CEA), the country managed to increase its capacity by 14 per cent compared to the capacity made by the previous year while gaining 31 percent of its total capacity additions over the year. By the end of the year 2021, China obtained a total solar capacity of 306.56 GW, which can cover the power generation of Germany, based on the National Energy Administration.
- Moreover, in June 2022, Concord New Energy connected a new 70 MW solar plant to the grid in China. The project, which is situated on a pond, also supports fish and shrimp aquaculture. Trina Solar supplied 670 W solar panels for the installation.
- Furthermore, in October 2022, State Power Investment Corp. (SPIC) announced that it had completed the pilot solar power plant near the town of Zhengdou in China's Sichuan province. The Xingchuan Demonstration Photovoltaic Power Station is the first unit of a 600 MW project that SPIC is building in the area at a planned cost of USD 444.2 million.
- Owing to the above points, China is expected to dominate the Asia-Pacific Solar Photovoltaic (PV) market during the forecast

period.

Asia-Pacific Solar Photovoltaic Industry Overview

The Asia-Pacific Solar Photovoltaic (PV) Market is fragmented. Some of the key players in this market (not in a particular order) include JA Solar Holdings Co., Trina Solar Ltd, Adani Green Energy Ltd., Azure Power Global Limited, and First Solar Inc.

Additional Benefits:

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

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