Residential Solar Energy Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 125 pages | Mordor Intelligence

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Report description:

The residential solar energy market is expected to register a CAGR of more than 10.5% during the forecast period of 2022-2027. The COVID-19 pandemic slowed down the growth of solar energy, including residential installations, due to supply chain disruption amid lockdowns in various nations during Q1 and Q2 2020. With the ongoing pandemic, multiple countries also witnessed delays in solar modules and associated equipment trading, which restrained the market growth. However, factors such as the declining cost of solar photovoltaic (PV) systems owing to technological upgradations and competition in the market globally, coupled with supportive government policies and incentives, are expected to drive the market studied during the forecast period. However, the lack of financing options coupled with the difficulties in integrating residential solar PV systems in the regions like Africa is expected to restrain the growth of the market.

Key Highlights
The technological advancements and upgrades in the residential solar energy market, which reduce the cost of modules, are expected to drive the market during the forecast period.
Several nations, like the United States, the United Kingdom, Germany, and India, have set up ambitious targets to increase the renewable share in their energy mix. Governments across these nations have also planned to increase the renewable energy share through the deployment of residential solar PV systems in the coming years. This, in turn, is expected to act as an opportunity to the residential solar PV manufacturers and suppliers during the forecast period.
Asia-Pacific is expected to dominate the market primarily due to the increasing demand for clean electricity from major developing countries such as China, India, and ASEAN countries, over the forecast period.

Residential Solar Energy Market Trends

Increasing Rooftop Solar Installations to Drive the Market

The increasing adoption of solar PV systems in the residential sector is primarily driven by expected savings in electricity costs, the need for an alternative source of electricity, and the desire to mitigate climate change risk.
During the forecast period, the demand for rooftop solar PV is expected to increase, on account of decreasing solar PV costs, supportive government policies for residential solar PV, FIT programs and incentives, and targets set by various governments for solar energy.
The cost of electricity for residential rooftop solar PV applications has witnessed a rapid decline in recent years. The declining cost has resulted in a massive increase in the residential PV capacity globally. Many countries are increasing their residential rooftop targets. For instance, in India, the Ministry of New and Renewable Energy is aiming for 4 GW of residential PV installations by 2022.
Furthermore, in the United States alone, the annual residential PV capacity increased significantly from 2.8 GW in 2019 to 3.1 GW in 2020. The capacity is further expected to increase in the coming years.
The cost reductions are driven by continuous technological improvements, including higher solar PV module efficiencies. The industrialization of these highly modular technologies has yielded impressive benefits, from economies of scale and greater competition to improved manufacturing processes and competitive supply chains.
All the above-mentioned factors have been driving the demand for residential solar energy over the study period.

Asia-Pacific to Dominate the Market

Asia-Pacific accounted for more than 30% of the global residential solar PV market, and it is expected to continue its dominance during the forecast period.
In India, the residential PV installation cost is at USD 1,000 per KW, which is higher when compared to its commercial counterpart (USD 692 per KW). However, the Indian costs of installations are cheaper when compared to the global installations.
Moreover, China's Ministry of Finance (MOF) allocated a total subsidy of CNY 1.5 billion (USD 214 million) for solar PV in 2020, and CNY 500 million of this fund is allocated for residential rooftop PV only. Moreover, the subsidy budget was slashed by 50% from CNY 3 billion (in 2019).
Also, in 2017, the South Korean government decided that in Seoul, the country's capital, it will implement solar panels in one-third of all the households by 2022. This, in turn, is expected to increase the country's existing residential solar capacity in the coming years. According to the plan, all new buildings would be required to install solar PV. Meanwhile, the existing buildings would be offered incentives to opt for solar PV. Furthermore, it is estimated that about 1 million solar power systems will be deployed in Seoul by 2022, among the 630,000 apartment verandas, 150,000 houses, and 220,000 buildings.
Owing to the above-mentioned factors, the demand for residential solar energy is expected to increase over the forecast period in the Asia-Pacific region.

Residential Solar Energy Market Competitor Analysis

The residential solar energy market is fragmented. Some of the major players operating in this market include Trina Solar Co. Ltd, Canadian Solar Inc., JinkoSolar Holding Co. Ltd, Hanwha Q Cells Co. Ltd, and Tesla Inc.

Additional Benefits:

The market estimate (ME) sheet in Excel format
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