

Off-Grid Solar Energy - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2020 - 2029

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Report description:

The Off-Grid Solar Energy Market size is estimated at 9.13 gigawatt in 2024, and is expected to reach 13.12 gigawatt by 2029, growing at a CAGR of 7.51% during the forecast period (2024-2029).

COVID-19 negatively impacted the market in 2020. Presently the market is likely to reach pre-pandemic levels.

Key Highlights

- Over the long term, factors like decreasing the price of solar panels and batteries are expected to drive the market.
- On the other hand, high installation costs and poor maintenance practices hinder the market's growth.
- Nevertheless, nations like the United States, the United Kingdom, Germany, China, India, and others 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 by deploying residential and off-grid solar PV systems in the coming years. These are expected to create enormous opportunities for the off-grid solar energy market.
- Middle-East and Africa region is expected to dominate the market growth primarily due to the increasing demand for electricity due to the lack of a central grid and reliable electricity supply, mainly in the African region.

Off-Grid Solar Energy Market Trends

Residential Segment Expected to Dominate the Market

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- The off-grid solar system has been gaining popularity in recent years for the residential sector as it is self-sustaining. Although installing off-grid systems and associated parts is relatively expensive, the consumer becomes more self-reliant and is unaffected by power shortages due to grid failures and shutdowns.
- As of 2021, the global off-grid installed capacity was at 5.51 GW compared to 5.13 GW in 2020, registering a growth rate of almost 7.5%. This growth rate is expected to increase during the forecasted period.
- Moreover, the off-grid system provides power solutions to remote areas where grid connectivity is a major restraint in the region's electrification. Mainly end-users from residential sectors are present in those areas. Off-grid solar systems can facilitate independent and sustainable electricity generation.
- During the forecast period, the demand for off-grid solar systems 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 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.

Middle-East and Africa Expected to Dominate the Market Growth

- The demand for off-grid solar systems is expected to witness significant growth in the Middle East and Africa, mainly because these countries primarily generate electricity from fossil fuels. These fossil fuels generate carbon emissions that pollute the environment.
- The increasing pressure of reducing carbon emissions and the high solar energy potential in most of the countries in these regions is expected to make way for the off-grid solar energy system. The unreliable power distribution system in many countries has increased the demand for off-grid solar systems.
- Historically, the region has relied on diesel generators for electricity supply. Still, recently there has been a significant shift towards solar energy mainly due to declining prices of solar panels and solar inverters in recent years. According to the World Bank, an estimated 600 million Africans have no access to electricity. Given the high cost of extending transmission lines into remote areas, off-grid solar has witnessed a significant rise in the region.
- For instance, in September 2022, German sustainability energy service provider Kowry Energy announced the successful commissioning of decentralized solar systems in three countries of West Africa. Kowry Energy has designed and commissioned four off-grid solar energy systems in Senegal, Nigeria, and Mali. The recently installed projects are the first of several forming portfolios in these countries that will be completed within three years.

Off-Grid Solar Energy Industry Overview

The Off-grid solar energy market is fragmented. Some of the key players in the market (in no particular order) include ABB Ltd, Canadian Solar Inc., JinkoSolar Holding Co., Ltd, SunPower Corporation, and Trina Solar Ltd, among others.

Additional Benefits:

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

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