

Microgrid Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The microgrid market is anticipated to reach USD 24.85 billion by 2027, registering a CAGR of more than 14.2% during 2022-2027. In 2020, the market was negatively impacted due to the COVID-19 pandemic. In Q1 2020, key countries like the United States and India witnessed the lowest microgrid installations in the last four years. The microgrid market is expected to have a robust growth during the forecast period, primarily due to two main factors, i.e., the global demand for clean energy generation and a self-sufficient source of power generation in times of crisis or grid disconnection. However, the microgrid market is likely to be hindered by high capital cost and technical design problems as the developers have to ensure a symbiotic relationship between the main grid and the microgrid if the microgrid is connected to the grid.

Key Highlights

The off-grid systems are projected to dominate the microgrid market, particularly to address the issue of interconnection approvals from the utilities.

The innovation-oriented endeavors and the funding feasibility studies in many countries are the biggest opportunities for the microgrid market. Apart from independent power generation, microgrids have evolved with high-speed control platforms and forecasting systems that make them more sophisticated. Several national and international forums are in contention on many variables, like cost and funding issues, to develop the market.

The Asia-Pacific region is expected to dominate the market during the forecast period due to a high rate of electrification, mainly for rural or semi-urban areas.

Microgrid Market Trends

Remote Off-grid Communities Systems Expected to Witness Growth

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The demand for off-grid power networks has been stimulated in many parts of the world, particularly from sectors like defense, commercial places, data centers, and campuses.

According to the US Department of Energy, as of 2021, the off-grid microgrid installed capacity was around 4225 MW (4.2GW). The country has planned more off-grid microgrid projects in cities and other strategic locations to make the energy infrastructure more resilient.

In September 2021, Alphastruxure started the construction of a 5.6 MW microgrid with distributed energy generation, energy storage, and over 2 MW charging capacity at Brookville Smart Energy Bus Depot in Montgomery County, Maryland. The project is expected to serve the city's public transport by 2023. The initiative to decarbonize the transportation sector with microgrids is a part of a major goal to reduce carbon emissions by 2035.

In January 2022, Ameresco Inc. announced that it had been awarded a microgrid project in Prince Edward Island, Canada. The "Slemon Park Microgrid Project" will be developed by the joint effort of Ameresco and Prince Edward Island Energy Corporation. The project is expected to be completed by the end of 2022. It consists of a 10 MW solar facility with DC-coupled energy storage, and both of them will share the same interconnection.

Due to such developments, the off-grid microgrid segment is expected to dominate the microgrid market in the future.

Asia-Pacific is Expected to Dominate the market

Around 35% of Asia-based utility companies have predicted that microgrids will lead to new revenue streams in the next two years due to the high power demand from rural communities. For instance, the Rockefeller Foundation installed around 160 microgrids in four states of India, namely, Bihar, Uttar Pradesh, Odisha, and Rajasthan. Through this program, more than 70,000 people living in remote areas now have access to electricity.

Due to high power demand and governments' push to integrate renewables in the power generation mix in many Asian countries, the nations are prompted to look for more microgrid installations. Even in 2020, the renewable share of power generation in India was about 9.7%, which is far from the required targets. Thus, many energy companies are involved in project development activities for microgrid technology.

In April 2021, HIP, Pepco, and Emera Technologies were provided with a financial grant to power a division of the residential sector in Fairmount Heights, Maryland, United States. About USD 200,000 was granted for the project, which is expected to get completed by the early 2022s. It is a part of the state's major program, "Resilient Maryland Program", which aims to develop a solar plus storage network for middle-income households.

In November 2021, the United Kingdom earned another microgrid project for the housing and business development of the Grove Park area in Lewisham East, UK. The project includes a 500 kW renewable energy system and energy storage, coupled with a smart grid management controller. It will be developed by SNRG smart grids and Centrica energy company. The project is expected to be completed by 2025.

Such developments strongly support the dominance of the Asia-Pacific microgrid market in the coming years.

Microgrid Market Competitor Analysis

The microgrid market is moderately consolidated. Some of the major players include Hitachi Energy Ltd, General Electric Company, Siemens AG, Eaton Corporation PLC, and Schneider Electric SE.

Additional Benefits:

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

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