

# Global Microgrid Market Size to Grow USD 35.8 Billion by 2031 with an expanding CAGR of 19.08% (2023 – 2031)

*Rising Demand for Distributed Energy Resources Across Developing Economies is Driving the Global Microgrid Market, states TNR*

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/EINPresswire.com/ -- A microgrid is a localised collection of electrical sources and loads that may function

independently or in tandem with the

regular power system. Solar panels, wind turbines, batteries, and backup generators are common components. Microgrids are meant to deliver electrical power to a specific area or community and can function independently or in conjunction with the main grid.

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Microgrids are becoming more popular in a variety of situations, including as villages, industrial complexes, military posts, and isolated places. They have the potential to increase independence from energy sources, minimise environmental impact, and improve electricity supply dependability. Microgrids are in the early phases of deployment, with roughly 458 microgrids now in operation and over 225 proposed microgrids scheduled to come up between 2021 and 2023, representing a nearly 50% growth. Furthermore, as renewable energy technologies progress, microgrids become more cost-effective and scalable, making them a vital component of the shifting energy environment and propelling the global microgrid market forward.

Future of Global Microgrid Market

The way humans produce and consume energy will change dramatically in the future. As the primary drivers of this transition, many businesses are turning to microgrids, small-scale, self-sustaining power networks free of linkages to centralised power plants.

The demand for clean, sustainable energy is accelerating the implementation of microgrids. Microgrids are progressively adding solar, wind, and other renewable energy sources into their electricity mix to reduce carbon emissions as renewable energy technologies become more

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inexpensive and effective. Microgrids are a crucial step towards a more sustainable future and resilient energy systems, and their use is lowering future energy prices while also reducing carbon emissions.

Moreover transportation and vehicle electrification remain critical considerations for consumers attempting to meet their carbon emission targets. As a result, the greater integration of electric cars and charging stations will undoubtedly have an influence on the microgrid market during the forecast period.

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Based on type, remote microgrids are estimated to be the fastest growing segment in the global microgrid market.

Energy demand in nations that are developing, including Asia, Africa, the Middle East, and Latin America, is predicted to rise in parallel with projected population growth. While remote microgrids are the most economically mature microgrid industry, they continue to fly under the radar for many investors and providers. Countries such as Singapore, Indonesia, and Thailand are heavily investing in remote microgrids to help with the growth and market penetration of energy technologies, recognising that remote microgrids shall grow increasingly important in addressing the need for better and more affordable energy access.

Furthermore, remote microgrids are becoming the primary source of power delivery to worldwide locations that are either difficult to access or where the main grid is unreliable. And some businesses are finding this to be an appealing business strategy, not only because it allows them to minimise their initial capital outlays, but also because it allows them to gradually scale up their projects. Thus the above factors contribute to the growth of the global microgrid market.

The gas generator set & CHP segment had the highest share in the microgrid market in 2022. Combined Heat and Power (CHP) may play a critical role in the development and widespread acceptance of microgrids by providing stability and resilience, as well as assuring uninterrupted operation for host facilities such as buildings, campuses, and communities in the case of grid disruptions. College/university campuses, business buildings, cities/communities, hospitals, military sites, and multi-family structures are the most popular locations for microgrids with CHP. CHP systems work consistently and continuously even during multi-day power outages, making them suitable where energy resilience is critical.

Today, however, projects are increasingly relying on more environmentally friendly resources such as solar power and energy storage. When economically accessible, microgrids can be powered by renewables, natural gas-fueled combustion turbines, or developing sources such as fuel cells or even tiny modular nuclear reactors.

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North America dominated the microgrid market in 2022.

Microgrids provide a substantial amount of power in the United States. By the start of 2023, the United States had constructed 692 microgrids with a total capacity of almost 4.4 gigatonnes. Over the previous four years, more than 212 of those with capacities over 419 MW have come up. Alaska, California, Georgia, Maryland, New York, Oklahoma, and Texas have the most microgrid projects.

Many significant U.S. corporations are interested in working on their own or in collaboration with governments to transition to a sustainable low-carbon economy. NRG Energy, one of the country's major independent power providers, has converted its headquarters in Princeton, New Jersey, into a fully-islandable microgrid demonstration project laboratory where the business may test concepts for real-world applications. NRG is also working with grid operator PJM to investigate how microgrids might assist improve macrogrid operations.

Major vendors in global microgrid market include

- o ABB
- o Caterpillar
- o Eaton
- o Emerson Electric Co.
- o ENGIE
- o GE
- o Honeywell International Inc.
- o Rolls-Royce plc
- o S&C Electric Company
- o Scale Microgrid Solutions LLC
- o Schneider Electric
- o Siemens
- o Toshiba Energy Systems & Solutions Corporation
- o Other market participants

Recent Development in Global Microgrid Market

In March 2023, ABB has forged a strategic agreement with Direct Energy Partners (DEP), a firm that uses digital technology to accelerate the adoption of Direct Current (DC) microgrids.. ABB's venture capital arm, ABB Technology Ventures (ATV), has made a minority investment in DEP as part of the collaboration.

In March 2022, Siemens AG will partner with Qatar Solar Energy (QSE) to build the Middle East's first industrial microgrid in order to reduce carbon emissions, lower electricity costs, and provide a more consistent power supply.

Global Microgrid Market Segments

By Type

- o Remote Microgrids
- o Grid Connected Microgrids
- o Networked Microgrids

By Offerings

- o Products
- o Solutions
- o Services

#### By Power Source

- o Diesel Generator Set
- o Gas Generator Set & CHP
- o Solar
- o Wind
- o Biogas
- o Battery storage

#### By Application

- o Educational Institutes
- o Remote Areas
- o Military
- o Utility Distribution
- o Commercial and Industrial
- o Community
- o Others

#### By Region

- o North America (U.S., Canada, Mexico, Rest of North America)
- o Europe (France, The UK, Spain, Germany, Italy, Nordic Countries (Denmark, Finland, Iceland, Sweden, Norway), Benelux Union (Belgium, The Netherlands, Luxembourg), Rest of Europe)
- o Asia Pacific (China, Japan, India, New Zealand, Australia, South Korea, Southeast Asia (Indonesia, Thailand, Malaysia, Singapore, Rest of Southeast Asia), Rest of Asia Pacific)
- o Middle East & Africa (Saudi Arabia, UAE, Egypt, Kuwait, South Africa, Rest of Middle East & Africa)
- o Latin America (Brazil, Argentina, Rest of Latin America)

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