Japan Distributed Energy Generation Market Assessment, By Technology (Diesel and Oil Gensets, Natural Gas Gensets, Mini Hydropower Grids, Gas & Steam Turbine, Fuel Cells, Solar Photovoltaic, Wind Turbine, and Biomass Generators), By End-user (Residential, and Commercial and Industrial), By Region, Opportunities, and Forecast, FY2017-FY2031

Market Report | 2024-04-19 | 86 pages | Market Xcel - Markets and Data

AVAILABLE LICENSES:

- Single User License $3300.00
- Muti-User/Corporate Licence $4500.00
- Custom Research License $7000.00

Report description:

With a forecasted CAGR of 10.86%, Japan distributed energy generation market is expected to expand from USD 8.12 billion in FY2023 to USD 18.52 billion by FY2031 driven by the expansion of renewable energy sources, rising adoption of rooftop solar panels in residential and commercial spaces, and government efforts for offering incentives and support programs for the construction of hydropower projects in rural areas. Japan is a country susceptible to natural catastrophes like earthquakes, typhoons, and tsunamis, and faces ongoing risks associated with these phenomena. Moreover, Centralized power plants are more susceptible to damage and disruption during these events, leading to widespread blackouts and extended power outages. Distributed energy generation, with a focus on renewable energy sources, can help decentralize the power grid and make it more resilient in the face of natural disasters which in turn is fuelling its demand all across the country. Moreover, Japan's main electricity distribution source is hydropower, followed by solar, wind, and biomass. Hence, the Japanese government has been actively promoting the development of small-scale hydropower projects as these projects utilize smaller streams and rivers and can be implemented at a lower cost compared to large-scale hydropower plants.
Alongside, financial incentives and support programs are available to encourage the construction of such projects, particularly in rural areas. For example - On Jan 2023, Mitsubishi Materials Corporation recently initiated the commercial operation of the Komatagawa New power plant, which boasts a capacity of 10.326MW. This power plant holds significance as it is the first hydroelectric facility to be built in Akita Prefecture, Japan, in the past 69 years. The primary objective behind the planning and construction of the Komatagawa New Power Plant was to enhance the hydropower distribution by optimizing the operation of the

existing Komatagawa power plants, which are situated along the Komata river water system near Moriyoshi Dam. Through the efficient utilization of previously untapped water resources, the power generation capacity of the Komata river system has increased by 2860 kW, resulting in an approximate annual power generation increase of 13,400 MWh. This, in turn, has accelerated the growth of distributed hydropower energy in Japan extensively.

Rise in Solar Power Capacity

Japan has witnessed a remarkable rise in solar power capacity over the past decade. Moreover, the introduction of the Feed-in-Tariff (FiT) program led to a solar power boom in Japan. Numerous solar power projects, including utility-scale and distributed generation systems, were developed across the country. Developers and investors capitalized on the favorable economic incentives and favorable regulatory framework to install solar power capacity. Thus, the Japanese government is taking crucial steps to increase the solar power capacity within the country. According to a recent analysis conducted by RTS Corporation, Japan is projected to have 111GW of solar power capacity installed by 2025 under a business-as-usual scenario. This capacity is expected to further increase to 154GW by 2030. However, if Japan adopts an accelerated scenario and sets more ambitious goals, it could reach 115GW of installed solar capacity by 2025 and exceed 180GW by 2030. The analysis suggests that Japan has the potential to achieve higher levels of solar power capacity with stronger efforts and commitments towards renewable energy expansion, thereby driving the market growth.

Development of offshore Wind Farms

Japan has numerous remote islands that are not connected to the main power grid. These islands often rely on expensive and polluting diesel generators for electricity. Offshore wind farms can be considered a sustainable alternative to meet the energy needs of these island communities. The generated electricity can be distributed to the islands via undersea cables, providing a cleaner and more reliable source of power. Japan has taken a significant step in its transition towards clean energy with the launch of a new offshore wind farm at Noshiro Port in Akita Prefecture. This milestone was achieved on December 22, 2022, as the 20 turbines of the wind farm became operational, making it the first large-scale facility of its kind in the country to commercially generate electricity. The project is operated by the Akita Offshore Wind Corporation, with support from major Japanese trading firm Marubeni and other stakeholders.

Government Regulations

Japan has implemented various schemes and programs to promote distributed energy generation. These initiatives aim to encourage the adoption of renewable energy sources, enhance energy efficiency, and support the development of decentralized energy systems. Moreover, the Japanese government provides subsidies and financial incentives for solar photovoltaic (PV) installations. These subsidies help homeowners offset the initial costs of installing solar PV systems, promoting distributed generation at the residential level. For example - The Ministry of the Environment in Japan has allocated a budget of USD 2.1 million (□300 million) to provide subsidies for solar power generation initiatives implemented on farmland, reservoirs, and waste disposal sites. The ministry has called for proposals for such projects, and systems ranging from 10 kW to 50 kW and those exceeding 50 kW can also participate and it can be installed on designated farmland, reservoirs, or waste disposal sites. Thus, it can be concluded that the initiative taken by the government to provide subsidies for solar power generation and distribution is fueling the market growth rate.

Impact of COVID-19

The COVID-19 pandemic had induced some positive as well as adverse effects on the Japanese market. Moreover, the economic impact of the pandemic has affected the financing and investment landscape for distributed energy projects. Uncertainty and financial constraints have made it more challenging for individuals, businesses, and communities to invest in renewable energy systems, thus slowing down the growth of distributed energy generation. On the other hand, the pandemic has also accelerated the adoption of digital technologies and remote monitoring solutions. This trend has the potential to enhance the monitoring, management, and optimization of distributed energy systems. Remote monitoring and control systems can facilitate the efficient operation and maintenance of distributed energy assets, improving their performance and reliability.

Key Players Landscape and Outlook

The continuously rising market for distributed energy generation in Japan has led Japanese companies to understand the importance of preserving their market presence and expanding globally by emphasizing quality and brand positioning. These companies are allocating more resources to testing and establishment of renewable energy plants, conduction of research and

development, expansion of distribution networks, engagement in mergers and acquisitions, etc. Additionally, Japanese manufacturers are actively researching consumer behaviour to gain a deeper understanding of their requirements and preferences, constantly introducing new products to meet changing demands.
On June 13th,2022, Panasonic Holdings Corporation unveiled plans to transform its Kusatsu manufacturing plant into a trial facility aimed at evaluating the feasibility of operating a manufacturing plant solely powered by renewable energy. This initiative reflects the company's intention to adopt a renewable energy-based system across its factories and eventually bring it to market by 2023. The endeavor will involve close cooperation among governments, industry associations, and other stakeholders, thereby fostering the expansion of renewable energy production and distribution .

Table of Contents:

Japan Distributed Energy Generation Market Assessment, By Technology (Diesel and Oil Gensets, Natural Gas Gensets, Mini Hydropower Grids, Gas & Steam Turbine, Fuel Cells, Solar Photovoltaic, Wind Turbine, and Biomass Generators), By End-user (Residential, and Commercial and Industrial), By Region, Opportunities, and Forecast, FY2017-FY2031

Market Report | 2024-04-19 | 86 pages | Market Xcel - Markets and Data

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$3300.00
	Muti-User/Corporate Licence	$4500.00
	Custom Research License	$7000.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	

Address*		City*	
Zip Code*		Country*	
		Date	2025-06-26
		Signature	