

# Japan smart micro grids

Does Japan have a smart grid?

Japan has had much success with implementation of some of the core technologies necessary for microgrids, e.g. smart meters. This study investigates the interplay of smart grids and integration of renewable energy in Japan on the intersection between policy, legislation, technology and market.

Are smart grids a key element of Japan's Energy Strategy?

Chapter 2 finds that while smart grids are an important element of the Japanese energy strategy, no single legislative act is primarily dedicated to promoting smart grids as such. Instead, different strategic documents and legislative acts address different aspects.

How will the microgrid market expand in Japan?

Catch up on the already published parts of the series in the link section below. The microgrid market in Japan is expected to expand dramatically. Micro-grid design and modeling capabilities, and specialized control software to manage and balance micro-grids are required, as well as asset control software and hardware.

Why should Japan invest in microgrids?

In addition, Japan's energy policy sees safety as one of the primary objectives since the Fukushima disaster of 2011. One approach is to improve resilience against disruptions. Here, microgrids as the technological foundation for smart communities play an important role.

Could DC microgrids be a feature of smart energy grids?

With the price falling for both rooftop solar and high-capacity lithium-ion batteries for energy storage, DC microgrids -- with a second socket for DC devices -- could become a feature of future smart energy grids.

How will Japan improve the reliability of the grid system?

The Japanese government is aiming to increase the reliability of the grid system by introducing sensor networks and to reduce losses by introducing smart meters. The introduction of the smart grid will promote the use of renewable energy by introducing a demand response system.

This analysis provides an overview of Japan's major initiatives in deploying smart grids, including smart communities, large-scale smart grid pilot projects in four major cities, as well as overseas collaboration.

Grid stability has traditionally been one of the top priorities in Japan, and smart grids are considered a key measure that can contribute to grid resiliency.

Situation in Japan  
oThe electric supply system in Japan has been already very "Smart" as far as electric transmissions and distributions.  
oThe smart grid in Japan is not a technology issue but a policy/regulation issue.  
oIt will be realized by the Market Deregulation that will introduce here after. International

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Kazuyuki Takada is Deputy Director for Smart Community Department, NEDO, focusing on developing and disseminating Smart Community related technologies based on Renewable Energy with collaborating worldwide.

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A small town in Chiba Prefecture has created a microgrid--a decentralized electric power system--utilizing locally produced natural gas and solar energy. This innovation ...

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The contribution of this research to the literature is to provide information on the requirements of Japanese smart communities as an example for warm countries to municipalities, city planners, developers, and other stakeholders in similar regions with warmer climates (i.e., lower heating demands) or in countries where there are few precedents ...

The existing power system in Japan cannot fully utilize the potential of renewable energy. Due to the limited capacity of power grids, there are some cases where electricity generated by renewables cannot be supplied to the transmission lines.

INTELLIGENT ENERGY GRIDS FOR SMART CITIES A CLEVER INITIATIVE IN JAPAN is reforming



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the way power is distributed amid rapid growth in decentralized renewable energy and storage.

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