



# Island microgrids tokyo

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Ogasawara-Hahajima (Hahajima means "Mother Island" in Japanese) is located about 50 km south of Chichijima (Chichijima means "Father Island" in Japanese), which is 1000 km south of central Tokyo. It is a quiet, green island with a subtropical tree forest. At the 35th session of the World Heritage Committee held in Paris in June 2011, it was evaluated as meeting the "Ecosystems" evaluation criteria for a World Natural Heritage Site, and on June 29 of the same year, it was registered as a World Natural Heritage Site.

As part of the Tokyo Metropolitan Government's efforts to realize a zero-emission island and Ogasawara Village's efforts to realize a sustainable island in harmony with nature, Tokyo Metropolitan Government, Ogasawara Village, and TEPCO Power Grid have concluded an agreement, and the three parties are working together to implement the project. This demonstration aims to establish a power supply technology with 100% renewable energy and off-grid technology.

The system will basically consist of a combination of photovoltaic power generation sites and a battery energy storage system to supply 100% renewable energy. During the day, electricity will be supplied by photovoltaic power generation sites, and excess electricity will be used to charge a battery storage system. When there is a shortage of solar power generation, such as at night or in bad weather, electricity will be supplied via discharge from the battery storage system. If the battery charge is exhausted, diesel generators will supply backup power.

In this demonstration, solar power generation facilities, storage batteries combined with a new power conditioning system (PCS), and an integrated energy management system (EMS) to manage the entire distribution system will be newly installed in the existing distribution system. The following technological elements are necessary. They have been researched and developed in order to realize a 100% renewable energy power supply.

By incorporating these technological elements into existing distribution systems and establishing verification technologies, we aim to further expand the introduction of renewable energy and become an electricity transmission and distribution company that contributes to a sustainable society.

The United States Air Force (USAF) will celebrate the completion of a new microgrid on Saturday when officials host a ribbon-cutting ceremony at Yokota Air Base in Japan.

The base's new 10.72-MW combined heat and power (CHP) microgrid is part of a \$406 million infrastructure improvement project that also includes energy and water saving efforts. The completed project will modernize the energy resilience and security of the base, which is located roughly 30 miles outside of Tokyo and is a critical part of the U.S. military's operations in the Pacific.



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Schneider Electric began construction on the project in 2021.

The microgrid is capable of powering the entire base during an outage, enabling Yokota to disconnect, or island, from the utility grid with no impact on base operations. During normal operations, the microgrid's controller allows the base to optimize its energy use, lowering costs and reducing emissions.

The Yokota Air Base project joins a growing list of U.S. military bases with microgrid installations, including Marine Corps Air Station Miramar, White Sands Missile Range and Kirtland Air Force Base.

"We are proud to partner with the U.S. Air Force in their efforts to enhance mission readiness through energy assurance, working alongside the Yokota Air Base team to implement new technologies and system upgrades that will dramatically improve efficiency, resiliency and environmental responsibility," said Annette Clayton, CEO of Schneider Electric North America.

The microgrid was developed and implemented by Schneider Electric under a 25-year self-funding energy savings performance contract (ESPC), which required no upfront investment from the base or American taxpayers. The energy savings provided by the new system will cover the cost of the contract over its life cycle.

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