



## How effective was the Sendai microgrid after the earthquake?

Despite the extreme devastation, the Sendai Microgrid resumed supplying power and heat to customers after a short interruption, proving its effectiveness. This case study is an analysis of the operations of the Sendai Microgrid in the aftermath of the earthquake and will provide useful lessons for all microgrid operators and users around the world.

### What is the Sendai microgrid?

The Sendai Microgrid was initially designed in 2004 as a test bed for a demonstration project of NEDO. After the study was completed in 2008, the microgrid system has continued in operation under the management of NTT Facilities, Inc.

### What happened to Sendai microgrid in Tohoku?

As described above, the earthquake caused massive damage to the Tohoku district where the Sendai Microgrid is located. When the earthquake occurred, Tohoku EPC stopped supplying powerto the area surrounding the Sendai Microgrid, resulting in a three-day outage.

### Why did Tohoku EPC stop supplying power to the Sendai microgrid?

When the earthquakeoccurred, Tohoku EPC stopped supplying power to the area surrounding the Sendai Microgrid, resulting in a three-day outage. Nevertheless, the Sendai Microgrid was able to supply power to loads within its service area continuously.

Why did the Sendai microgrid switch to island mode?

Beginning several tens of seconds after the occurrence of the earthquake at 14:46 on March 11,there were a series of major voltage fluctuations in Tohoku EPC's commercial grid, then a gradual drop in voltage, leading to the outage. Accordingly, the Sendai Microgrid switched over to island mode.

### Who is the Electric Power Company in Sendai?

The electric power company in the Sendai area is the Tohoku Electric Power Company(Tohoku EPC). An agreement with the Tohoku EPC permits the Sendai Microgrid to supply power to loads within the area shown in Figure 4 (including the hospital and nursing care facilities located on the campus of Tohoku Fukushi University).

The Roppongi Hills and the Sendai microgrids have already shown that microgrids can improve the resilience of power systems when they disconnected from the main grid and functioned as ...

This case study describes the Sendai Microgrid, on the located campus of Tohoku Fukushi University in Sendai City in Tohoku the district in Japan, and focusses on its operation in the ...

# Japan Sendai Microgrid



Sendai project - Japan Sendai microgrid test system shown in Fig. 16, consist of two 350 kW gas engine generators, one 250 kW MCFC, 50 kW PV, battery energy storage and various types of compensating devices. There is also a ...

On March 11, 2011, an earthquake of unprecedented violence occurred in the Tohoku region, along Japan''s Pacific Coast. The extremely intense vibrations severely damaged electric utility ...

Download scientific diagram | Picture of the Sendai Microgrid, located on the campus of Tohoku Fukushi University in Sendai City, Tohoku district, Japan [6]. from publication: Towards Service ...

The HeQ objective was the central driver for the Sendai microgrid (SM) project at the Tohuku Fukushi University campus, led by NTT Facilities; nonetheless, the project included resilience ...

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