Increasing Amounts of Renewable Energy Used

Our Approach

Furthering the spread of renewable energy in society has reached a new level of importance from the perspectives of combating global warming, securing stable energy supplies through diversifying our sources of energy, and growing our economy with energy as a pillar of support.

In the Fujitsu Group, we see energy supply and demand issues as one of the links of the fight against global warming. Our Environmental Action Plan (Stage VII) actively aims to expand our use of renewable energy, adopt solar panels at our business sites, and purchase power generated from renewable energy sources.

Summary of FY 2013 Achievements

Targets under the Fujitsu Group Environmental Action Plan (Stage VII) (toward FY 2015)	Increase generation capacity and procurement of renewable energy
FY 2013 Key Performance	Installed new solar power generation facilities: **210 kW** Purchased green power: **approx. 23,000 kWh**

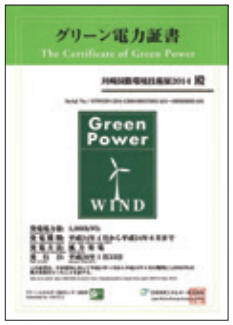
FY 2013 Performance and Results

Created Guidelines for Adopting Renewable Energy

In trying to increase our adoption of renewable energy, we set up an in-house working group to survey changes in new technology and equipment, and to conduct a review of whether these could be installed at our businesses sites. We summarized these results and findings in our Guidelines for Adopting Renewable Energy, and standardized the process toward adoption at each business site. In addition, we created Optimum Installation Maps & Power Generation Estimation Tools based on the conditions (environmental parameters such as amount of sunshine, wind, etc.) for each business location.

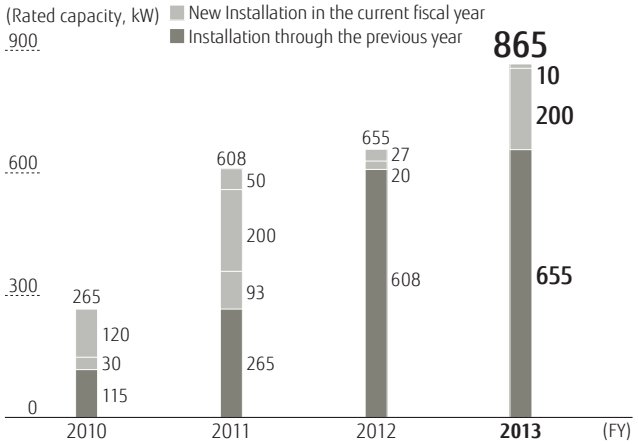
Installed Solar Power Generation Facilities at Two Business Sites

We adopted solar power facilities capable of generating 200 kW at Fujitsu Wireless Systems Limited and 10 kW at the Fujitsu Akashi Plant. As a result, we have 865 kW of cumulative generation capacity as of the end of FY 2013. In addition, we purchased green power of approximately 23,000 kWh for our FY 2013 exhibitions and events.



Green power certificate

Cumulative Total Installed Solar Power Generation (renewable energy)



FY 2014 Targets and Plans

Promote Expanded Use of Renewable Energy

We aim to further increase our use of renewable energy by utilizing the Guidelines for Adopting Renewable Energy and the Optimum Installation Maps & Power Generation Estimation Tools, and by reviewing renewable energy adoption at business sites. We will also strive to continually offset our power usage by actively using green electricity at our exhibitions and events.

Main Activities in FY 2013

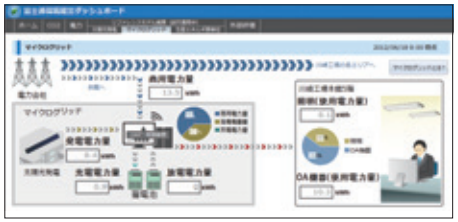
Microgrid Verification Tests at the Kawasaki Plant

Solar power generation that has rapidly spread in recent years has the advantage of addressing peak periods of power consumption because it generates more power during the high demand times of mid-day and during the summer. However, power output changes greatly with fluctuations in the weather, making it difficult to effectively use solar power to meet demand. With this challenge in mind, Fujitsu developed technology for optimizing battery usage so that solar power can be effectively used to mitigate peak periods of power consumption.

This technology predicts over 10,000 scenarios simulating a variety of possible supply and demand situations based on the weather. Using these scenarios, plans for optimum battery usage are created in advance and stored in a database that selects and changes plans in response to supply and demand for power. In verification tests of the system at the Kawasaki Plant, peak periods of power consumption were mitigated an average of 23% during the operation period from July 2012 to June 2013. We were also able to confirm that repeatedly altering battery usage plans can steadily improve the effects of mitigating peak periods.

This battery optimizing and control technology is one of the results of projects that Fujitsu has quickly adopted in-house as part of our effort to effectively utilize a microgrid for bringing about local production and local consumption of green energy. The microgrid makes use of small, dispersed power sources, combined with batteries and other technology. Going forward, we will strive to develop further technology for effectively utilizing inherently intermittent natural energy.

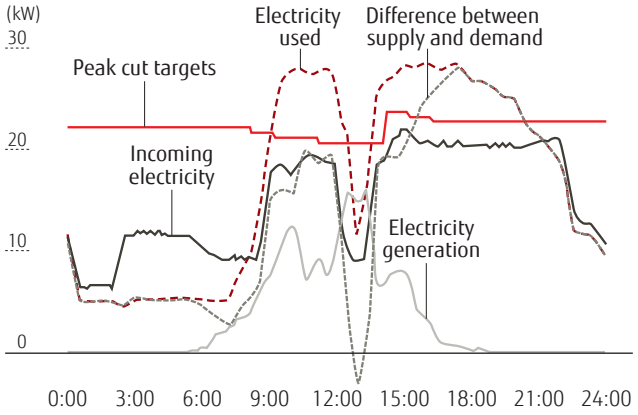
Solar panels and batteries used in the verification tests



Dashboard showing the operating status of our microgrid

The Verification System in Operation

Despite two instances of marked decrease in generation due to fluctuations in the amount of sunlight, the system was able to achieve an approximate 23% decrease in peak electricity consumption, and an approximate 8% reduction in incoming electricity, through the control system's use of the operating plan database to adjust "peak cut" targets.



Installing Solar Power Generation Facilities

In October 2013, we installed solar power generation facilities with generation capacity of 200 kW at the Kumagaya Plant, Fujitsu Wireless Systems Limited, in order to reduce our amount of power consumption and limit peak periods of consumption. We are trying out various approaches, such as spreading water on the solar panels to keep their surfaces from overheating, to maintain maximum power generation efficiency. As a result of installing the facilities, we have been able to reduce power usage at the entire plant by approximately 10%.

Solar panels at Fujitsu Wireless Systems Limited