

Electricity Supply-Demand Outlook & Measures in Summer 2012

May 2012

Agency for Natural Resources and Energy
Ministry of Economy, Trade and Industry

Electricity Supply – Demand Review Committee

Mission of the Committee

- As an independent body, the Committee appropriately verifies and makes recommendations on the electricity supply-demand outlook.
- The outlook forms the basis for considering the target of electricity saving this summer, while maintaining objectivity and transparency.

Principles of the Study

- The members of the Committee acting as a third party shall review the outlook objectively from the public's viewpoint.
- The Committee's verification process shall be highly transparent through the disclosures of all the reference and proceedings of the Committee.
- The Committee shall utilize the information from a collection of reports based on the Electricity Business Act to maintain appropriateness of the study.

Proceedings of the Committee

- Six meetings were held from April 23 to May 12, 2012.
- The Committee conducted interviews with electricity utilities, companies, economic organizations, experts and others.

Results of the Study (Supply Capacity)

■ Supply capacity of nuclear power generation will decrease by 11.8GW compared to last summer while that of other power generation will increase by 10.7GW. Accordingly, supply capacity this summer is expected to be 170.3GW, almost at the same level as last year.

Verified Supply Capacity

	2010 Summer	2011 Summer	This summer
Nuclear power generation	34.8GW	11.8GW	0
Thermal power generation	125.4GW	125.1GW	137.8GW
Hydropower generation	13.7GW	13.8GW	12.7GW
Pumped power storage generation	21.4GW	20.6GW	19.7GW
Geothermal generation, Photovoltaic generation	0.3GW	0.3GW	0.7GW
Flexible interchange	0	0.7GW	0
Others	▲0.5GW	▲0.8GW	▲0.5GW
Total	195.2GW	171.4GW	170.3GW

Results of the Study (Supply Capacity (cont'd))

- 1) Thermal power generation (+12.7GW compared to 2011)
 - Following measures will be conducted.
 - Extending regular inspections (+1.7GW)
 - Restarting long-suspended thermal power stations (+1.1GW)
 - Installing power stations for emergency use (+2.3GW)
- 2) Hydroelectric power generation (+1.1GW compared to 2011)
 - This supply capacity was estimated by a mean value and other values of the discharged water of the lowest five days of each month over the last 30 years.
- 3) Power generation with pumped-up water (▲0.9GW compared to 2011)
 - Nighttime surplus power, pumping capacity, storage capacity, discharge periods, and other factors were examined.
- 4) Private power generation (+0.6GW compared to 2011)
 - Private power generators that are connected to transmission lines and are bigger than a certain size will be fully utilized.
- 5) Renewable energy (▲0.4GW compared to 2011)
 - Up to 10% of the installed capacity of solar power generation is expected to become part of the supply capacity while the supply capacity of wind power generation is not expected to be helpful since the possibility of zero output being generated even during the peak periods exists.

Results of the Study (Expected Demand)

■ Maximum electricity demand this summer could be 170.8GW, an increase of 14.2GW compared to 2011.

1) Basic point of view

- Temperatures are expected to rise to the same level of the scorching 2010 summer.
- Effects of economic upturn from 2010 to 2012 are to be considered.
- Maximum electricity demand is to be calculated as a deduction of firmly-established electricity saving from the sum of the baseline and effects of economic upturn.

2) Baseline

The baseline is 179.9GW in line with as the record peak of electricity demand in the scorching 2010 summer.

3) Economic impacts (increase by 2.4GW)

Economic forecasts and other factors of GDP and Industrial Production index were taken into consideration.

4) Firmly-established electricity saving (decrease by 10.8GW)

Firmly-established electricity saving was estimated from a questionnaire survey and other data based on a reference value of 15.2GW, which was calculated by deducting temperature effects of 4.6GW and economic impacts of 3.6GW from the 23.3GW decrease in demand from 2010 to 2011.

Electricity Supply – Demand Outlook

In western Japan, energy supply-demand balance this summer is expected to be tight, and the gap between supply and demand is expected to reach ▲2.8% throughout the area and ▲14.9% in the Kansai EPCO area. The gap will become wider if a reserve rate of 3%, which is necessary for responding to the daily fluctuation of supply and demand, is considered.

Electricity Supply – Demand Outlook This Summer

	Eastern Japan (50Hz)	Western Japan (60Hz)	Total
Supply Capacity	77.3GW	93.0GW	170.3GW
Expected Demand	74.5GW	96.2GW	170.8GW
Gap between Demand & Supply	+2.8GW	▲3.2GW	▲0.5GW
Reserve Margin	+3.7%	▲3.3%	▲0.3%
Peak Demand in 2010	80.0GW	99.7GW	179.6GW
Peak Demand in 2011	66.5GW	90.1GW	156.6GW

Electricity Supply-Demand Measures this Summer

1. Basic framework

1) Supply side

- Secured current supply capacity is considered to be a reference value, and the reference value will be adjusted upward when the capacity increase has been confirmed.
- The supply-demand balance should be maintained within the entire eastern and western Japan region respectively, by flexible interchange between utilities in daily operations.

2) Demand side

- Request customers to curb their maximum electricity consumption (electricity saving) during peak periods and times to resolve the gap between supply and demand.
- Restriction on using electricity based on the Electricity Business Act will not be applied.
- It is integral not to disturb critical facilities with essential functions, such as hospitals and railways, while requiring such facilities to carry out energy saving.
- Customers in the Hokkaido, Kansai, Shikoku, and Kyushu EPCO areas should prepare for rolling blackouts, considering the possibility of emergencies, such as large-scale power outages.

2. Requirements for consumers to save energy

- Customers will be requested to save electricity as below:
time & date: during 9:00–20:00 on weekdays from Monday, July 2 to Friday, September 28

*a target reduction rate will not be set.

in Kansai EPCO area: more than a 15%

in Hokkaido, Shikoku and Kyushu EPCO areas: more than a 7%

in Chubu, Hokuriku and Chugoku EPCO areas: more than a 5%

*a target of electricity consumption is compared to 2010

Electricity Supply-Demand Measures this Summer (cont'd)

3 Actions for promoting energy saving

- As a support measure for energy saving, the Government of Japan will accelerate efforts to implement budgets which relate to stable energy supply-demand and to promote energy sector regulatory reform steadily.
- New demand-response measures for controlling the supply and demand of energy using price signals and other indications will be introduced for the purpose of responding to the daily fluctuation of such supply and demand during peak periods, such as setting a new power charge during the peak periods and introducing a negawatt trade.
- A user-friendly energy saving menu will be presented to consumers and the Government of Japan and the utilities will take encompassing awareness-raising actions for disseminating information on energy saving for the various sectors of society through support from local governments and other organizations.

4. Countermeasures against cost increases

- If thermal power stations continue to be operated due to the suspension of generation from nuclear power plants, the risk of a power rate hike will rise from this fall due to the possible increase of fuel imports.
- As a countermeasure against such risk, the Government of Japan requests electric utilities to further rationalize their business. In the meantime, it will take further actions to ensure a stable supply of natural resources in the medium-term.