

4. Electricity supply immediately after the Eastern Japan Great Earthquake

Situation of electricity supply immediately after the earthquake on March 11

Tohoku Electric Power Company

Tokyo Electric Power Company

4.86 million homes without power
(Sendai City and others)
(about 66% of the 7.4 million contracted homes)

4.046 million homes without power
(Mito City and others)
(about 14% of the 28.73 million contracted homes)

At 4 pm on April 7, 27 days after the earthquake
→ the number of homes without power decreased to 160,000

At 1 am on March 19, 8 days after the earthquake → the power failure was resolved.

On the night of April 7 → aftershocks occurred

4.01 million homes were again left without power.

At 11:03 am on June 18, power failures in all areas where reconstruction work could be carried out were restored.

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2. The damage situation caused by the Eastern Japan Great Earthquake

Damage caused by the powerful tsunami 1



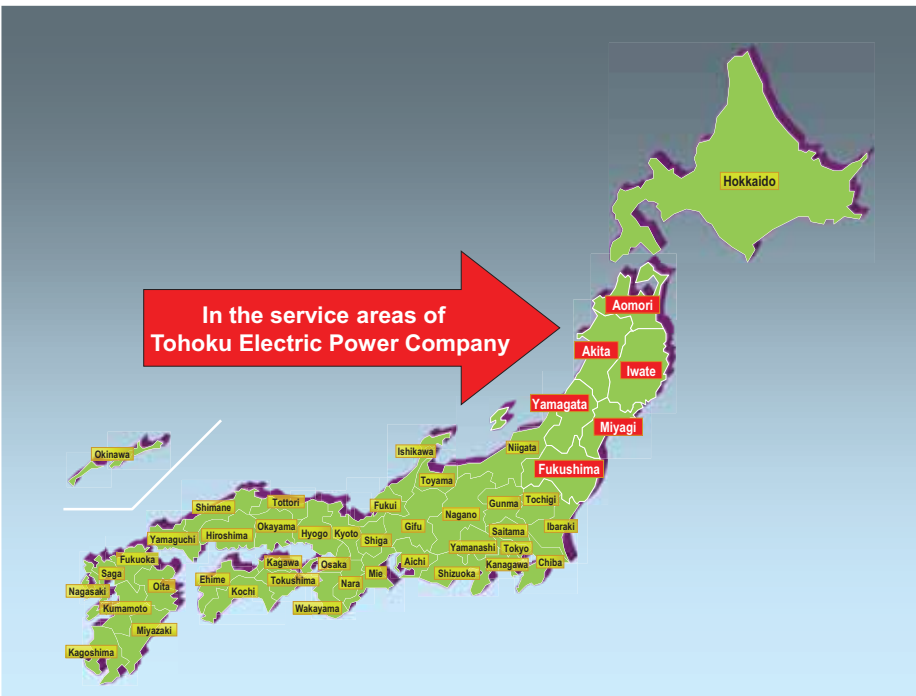
Damage caused by the powerful tsunami 2



Damage caused by the powerful tsunami 3



Interior of an office after the tsunami



3. The damage to electrical installations caused by the Eastern Japan Great Earthquake

A collapsed power pole



A switching device having fallen off



A high voltage receiving unit buried in the debris



A transformer within a high voltage receiving unit



6. Rolling blackouts (planned outages) in the areas served by the Tokyo Electric Power Company

12 (Sat.) and 13 (Sun.)
 ⇒ The lack of business activities considerably reduced electricity demand, thus avoiding a large scale blackout.

Measures to stave off a large-scale blackout

March 13: "Planned outages" ⇒ Tokyo Electric Power Company decided on and publicized its implementation.

Contents

- Implementation of sequential outage by dividing customers within the areas served by the Tokyo Electric Power Company into 5 groups
- Implementation of sequential power stoppages for a maximum of 3 hours (each time) by dividing 6:20 - 22:00 into 5 time slots

Implementation situation

- The 23 wards of Metropolitan Tokyo (excluding some areas) and part of the affected Ibaraki and Chiba Prefectures.
- Implementation from March 14 to 28 (no further implementation from March 29)
- April 6: due to the restoration of supply capacity to about 40 million kW, the end of the planned outage was declared.



7. The supply capacity for the summer season and targeted demand restraint

Supply capacity forecast for this summer

	Tohoku Electric Power Company	Tokyo Electric Power Company
Assumed demand (restraint criteria)	14.8 million kW	60 million kW
Supply capacity forecast (after accommodation)	13.7 million kW	53.8 million kW
Required demand restraint rate	▲7.4%	▲10.3%

(Note) The assumed demand (restraint criteria) was similar to the peak for last year.

When a tight supply-demand situation was expected, with advance notification, a compelling planned outage was implemented.

Targeted demand restraint ▲15%

5. Supply capacity and demand in the areas served by Tokyo Electric Power Company

On March 11, the Eastern Japan Great Earthquake occurred.

A Nuclear Power Plant and other facilities stopped.

Supply capacity

About 52 million kW
 → about 31 million kW

Demand

About 41 million kW

Rolling blackouts (planned outages)

Solution

Shortfall of about 10 million kW

10. Electricity-saving by commercial-scale utility customers with electricity contracts for over 500 kW

Temporary shelters under the Temporal Deffrayment Act for Reconstruction of Disaster Stricken Facilities were excluded.

Restriction of use under Article 27 of the Electricity Business Act

Tohoku Electric Power Company

Tokyo Electric Power Company

From 9:00 am to 8:00 pm between July 1 and September 9
 • During the peak demand period of last summer × 85%

From 9:00 am to 8:00 pm between July 1 and September 22
 • During the peak demand period of last summer × 85%

The upper limit for electricity use was the value multiplied by 85% of the base electricity value

* An example of the base electricity value: the peak electricity use during the base period last year (the average electricity use per hour during the period of peak electricity use)

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8. Electricity Supply-Demand Measures for Summer (main government measures adopted)

Specific measures for demand restraint

Temporary shelters under the Disaster Relief Act were excluded.

Classification of electricity contract	Specific measures
Commercial-scale utility customers (business operators with electricity contracts for over 500 kW)	<ul style="list-style-type: none"> Formulation and implementation of specific measures Restriction of use based on Article 27 of the Electricity Business Act
Small-scale utility customers (business operators with electricity contracts for less than 500 kW)	<ul style="list-style-type: none"> Communicating information about power-saving via the "standard format for the power-saving action plan" Implementation of guidance and explanatory meetings for those concerned Promotion of efforts to reduce power consumption
Standard homes	<ul style="list-style-type: none"> Promotion of power-saving measures by communicating the "Household power-saving menu" and spreading information on power-saving

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11. Electricity-saving by small-scale utility customers with electricity contracts for less than 500 kW

Power-saving measures on the basis of the "Standard format for the power-saving action plan"

Door-to-door visits by power-saving supporters to small business operators(*) with contracted electricity of less than 500kW were conducted to formulate power-saving plans, publish them online, and provide follow-up support

* All small business operators such as office buildings, wholesalers, retailers, food supermarkets, medical institutions, hotels/inns, catering establishments, schools and manufacturing industry (factories) were subject to this measure.

Electricity saving supporters

Licensed electricians working as electricity management technicians under the Electrical Safety Services Foundation

- Explanation of the need to save power and sector-based power-saving measures
- Support to formulate action plans targeting power saving
- Cooperation to publish the planned data online
- Distribution of the stickers to promote power saving
- Support in following up the adopted measures and ensuring their continuous implementation

Small business operators

Door-to-door visits

Contents of support

Actions to save electricity

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9. Electricity Supply-Demand Measures for Summer (main measures adopted by private companies)

Japan Automobile Manufacturers' Association, Inc.



Measures to limit peak electricity demand

Shift of holidays from Saturday/Sunday to Thursday/Friday

Japan Soft Drink Association



Service areas of both Tokyo and Tohoku Electric Power Companies

1.13 million vending machines
 "Suspension of cooling operation by time slot, group, etc." and "Temporary sales suspension" for some vending machines

Railway companies



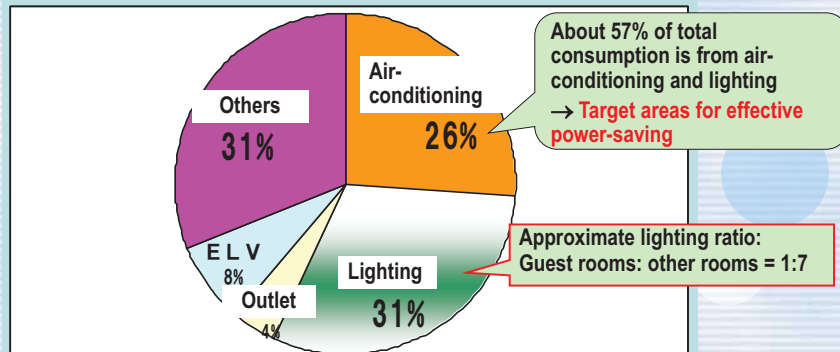
On weekdays between 12:00-3.00 pm

Reduction in the number of train services

Power-saving program (hotels/inns) by exploiting the “standard format for the power-saving action plan”

■ Characteristics of power consumption at hotels/inns (during peak times in summer: around 2:00 pm)

- Power consumption is high except overnight (between 11:00 pm and 6:00 am).
- Overnight power consumption is about 70% compared to daytime.



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Measures taken by the Kanto Electrical Safety Services Foundation

Implementation of power-saving support for power-saving supporters

From June 10, 2011 to August 31, 2011

The number of utilities customers with contracted power consumption of under 500 kW with the Kanto Electrical Safety Services Foundation was 86,738, including office buildings, wholesalers, retailers, food supermarkets, medical institutions, hotels/inns, catering establishments, schools and manufacturing industry (factories).

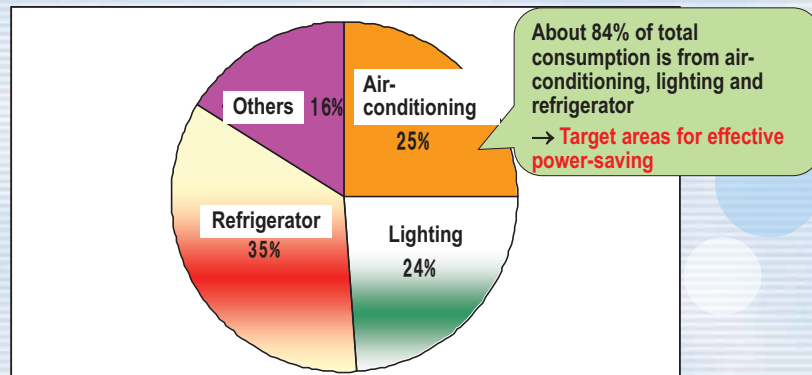
- Explanation of the need to save power and power-saving measures by sectors
⇒ 85,555 customers (98.6%)
- Support to formulate action plans targeting power-saving
⇒ Collection of power-saving action plans ⇒ 20,506 (23.6%)
- Cooperation to publish planned data on the web site ⇒ consent to disclosure
⇒ 3,835 customers (0.4%)
- Distribution of power-saving promotion stickers
- Support to follow up adopted measures and ensure their continuous implementation

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Communicating power-saving programs (food supermarkets) by exploiting the “standard format for the power-saving action plan”

■ Characteristics of the power consumption at food supermarkets (during peak times in summer)

- Power consumption remains high in daytime (10:00 am to 5:00 pm).
- Overnight power consumption is about 30% compared to daytime.

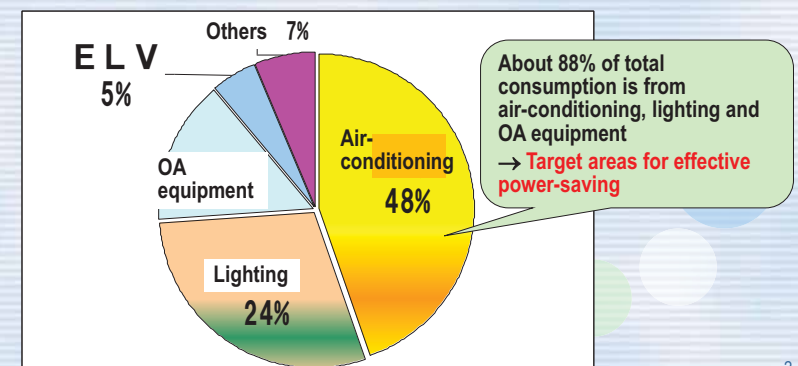


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Door to door visits to communicate information about the power-saving program (office buildings); exploiting the “standard format for the power-saving action plan”

■ Characteristics of power consumption at office buildings (during peak times in summer: around 2:00 pm)

- Daytime (10:00 am to 5:00 pm) consumption is high.
- Overnight power consumption is about 30% of that in daytime.



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Power-saving measures in the (60) offices of the Kanto Electrical Safety Services Foundation

Specific power-saving measures

Items	Specific measures
Cooling temperature	• Set to 28°C
Lighting	• When leaving seat, or after using a common space such as a meeting room ⇒ switch off.
OA equipment	• Set to energy-saving mode • Color printer used less frequently ⇒ switch off when not in use
Other electrical appliances	• When not in use ⇒ switch mains power supply off

Results of measures taken Power consumption (kWh)

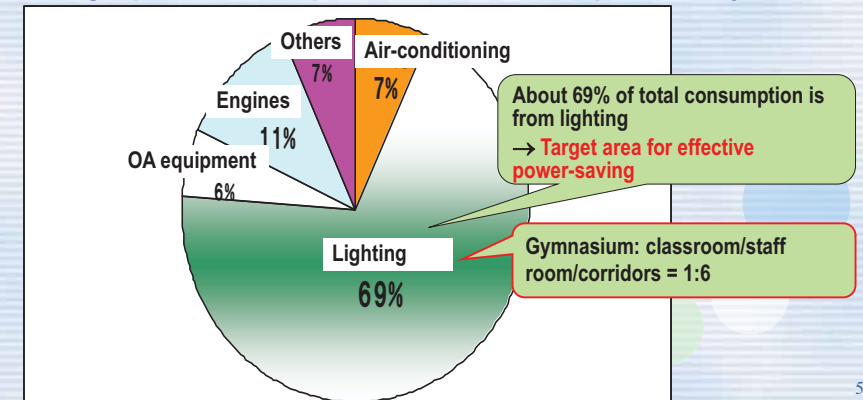
Year/month	4	5	6	7	8
2009	520,000	427,000	454,000	566,000	630,000
2010	531,000	430,000	442,000	582,000	697,000
2011	407,000	317,000	307,000	384,000	441,000
2011/2010 (%)	77	74	70	66	63

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Communicating power-saving programs (schools) by exploiting the “standard format for the power-saving action plan”

■ Characteristics of the power consumption at schools (during peak times in summer)

- Power consumption remains high in daytime (9:00 am to 5:00 pm)
- Overnight power consumption is about 10% compared to daytime.



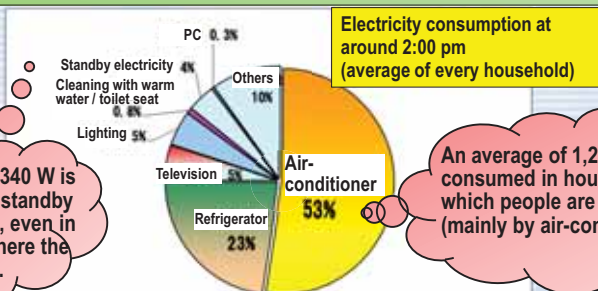
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12. Electricity-saving in households

Menu for electricity-saving in the household (government request to each household)

Targeting 15% reduction in electricity use between 9:00 am and 8:00 pm on weekdays

- Air-conditioner: (1) set to 28°C, (2) sunshine controlled with bamboo blinds (3) use in combination with an electric fan
- Refrigerators: (1) setting from “strong” to “medium”, (2) limiting time they are open, (3) avoiding over-packing with items
- Standby electricity: (1) keeping switches OFF, (2) unplugging unused electrical appliances

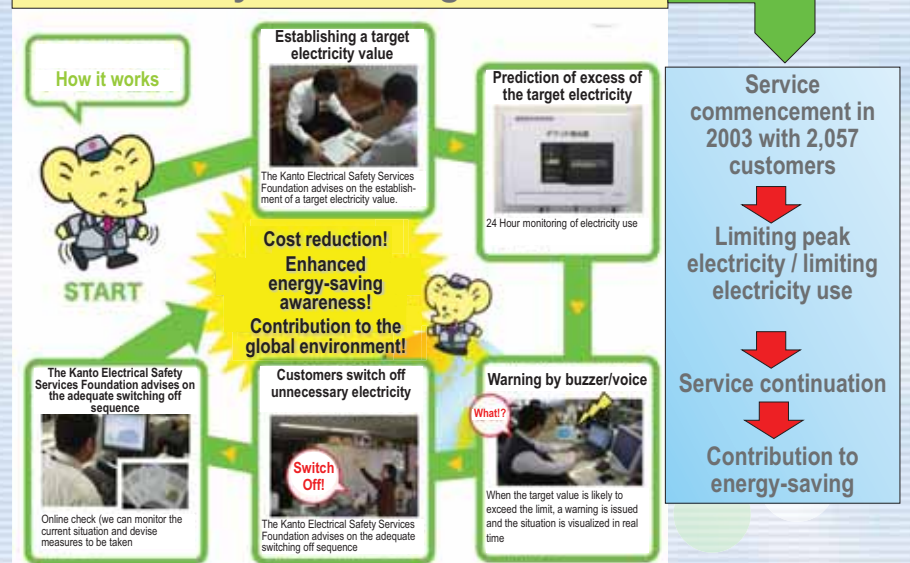


An average of 340 W is consumed via standby electricity, etc., even in households where the people are out.

An average of 1,200 W is consumed in households in which people are at home (mainly by air-conditioners)

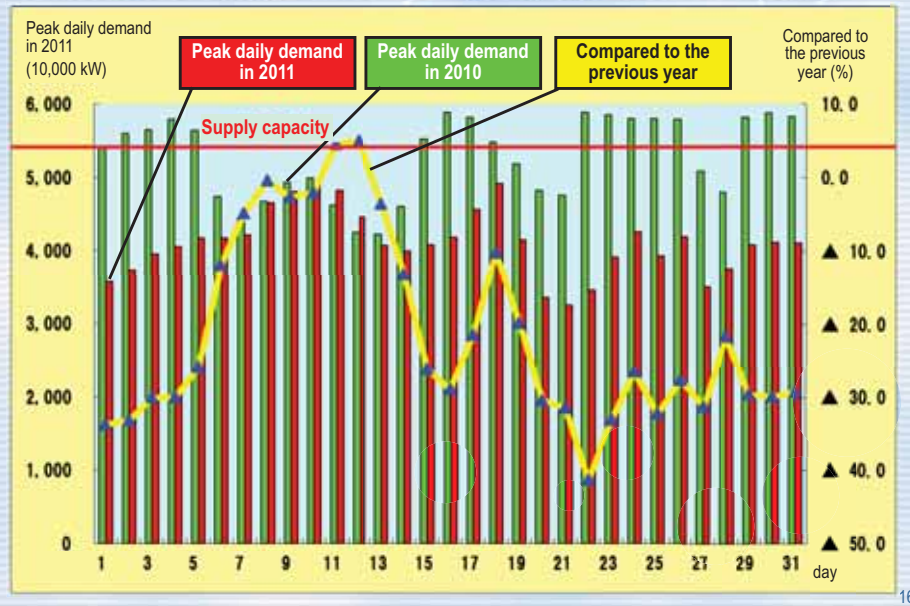
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Electricity Monitoring Service



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14-2. Daily demand (August) compared to last year in the service areas of Tokyo Electric Power Company



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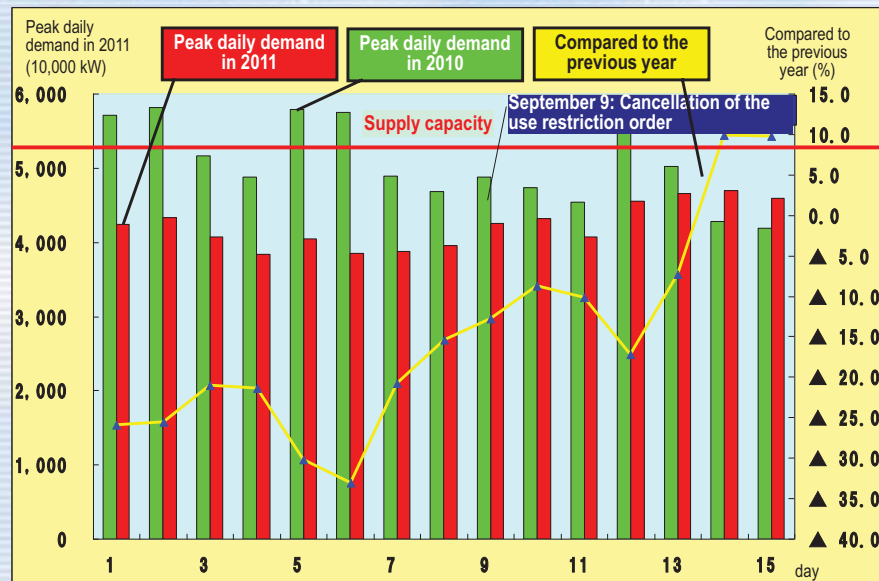
13. The results of the electricity supply-demand measures over summer

* Demand-restraint achievements this summer

	Electricity-saving target (10,000 kW)	Peak demand (10,000 kW)		Comparison of this year's peak with that of last year (%)
		2010	2011	
Tohoku Electric	1,300	1,486	1,246	▲ 15.8
Tokyo Electric	5,100	6,000	4,922	▲ 18.0

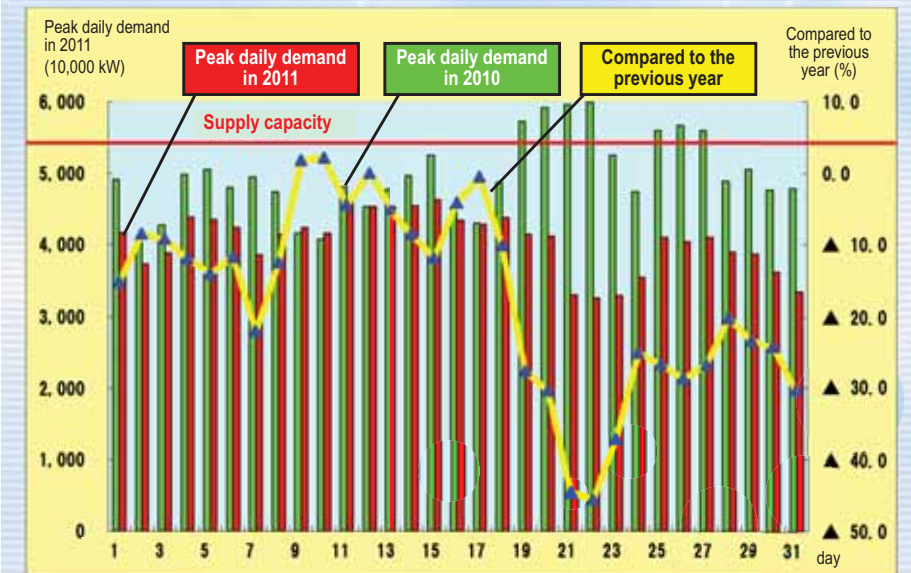
- Serious efforts made by standard home and major/small- and medium-sized companies based on the electricity-saving measures ⇒ standard home (6% reduction compared to last year), major/small and medium companies (29% reduction compared to last year)
- 18,500 cases subject to use restriction orders based on Article 27 of the Electricity Business Act (Tohoku and Tokyo Electric Power Companies) ⇒ 500 violation cases (July : as of September 16)
- Effect of the use restriction order in the service areas of Tokyo Electric Power Company ⇒ about 4 million kW (of which, the effect of the shift to Saturday and Sunday of the Japan Automobile Manufacturers' Association, etc. was about 2 to 3 million kW)
- The mean peak temperature in Tokyo ⇒ 0.7°C lower in July and 2.3°C lower in August compared to last year

14.3 Daily demand (September) compared to last year in the service areas of Tokyo Electric Power Company



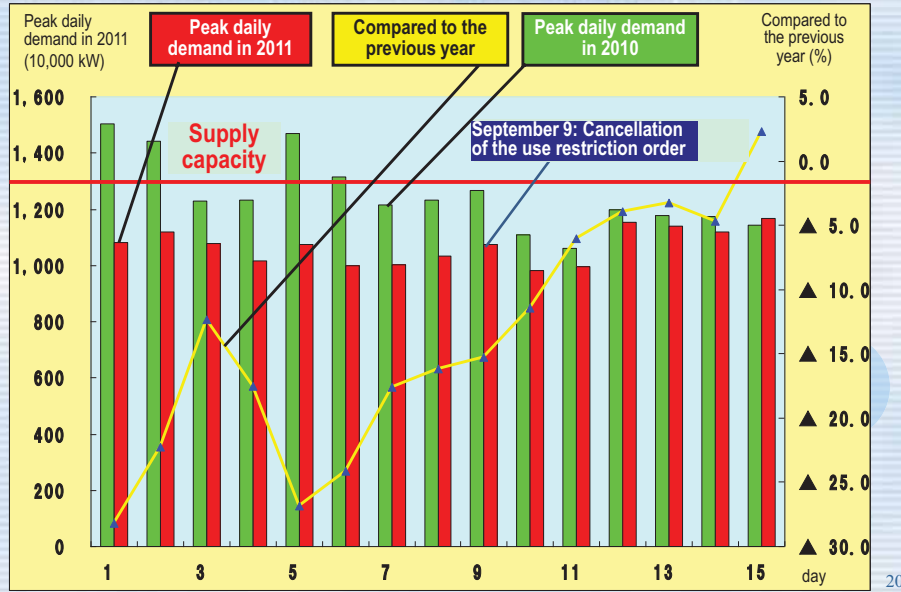
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14-1. Daily demand (July) compared to last year in the service areas of Tokyo Electric Power Company

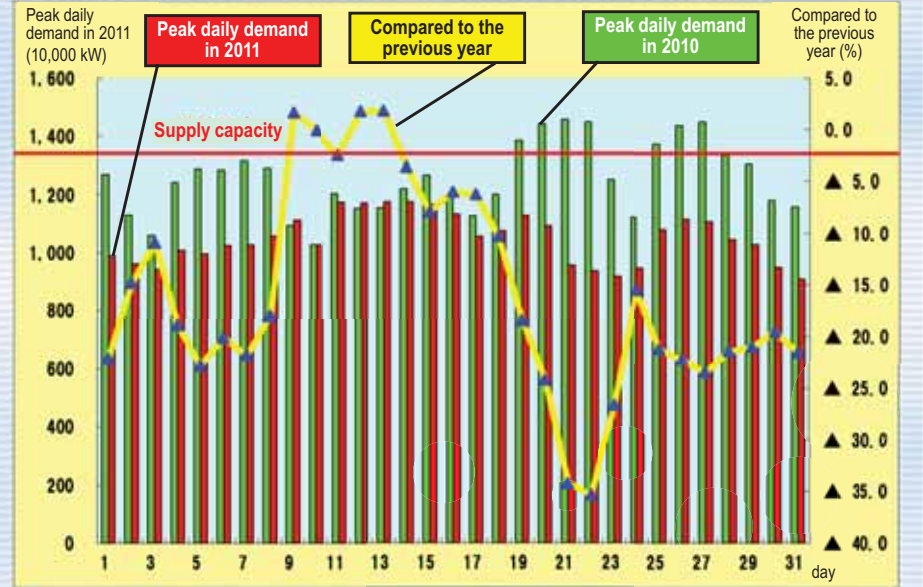


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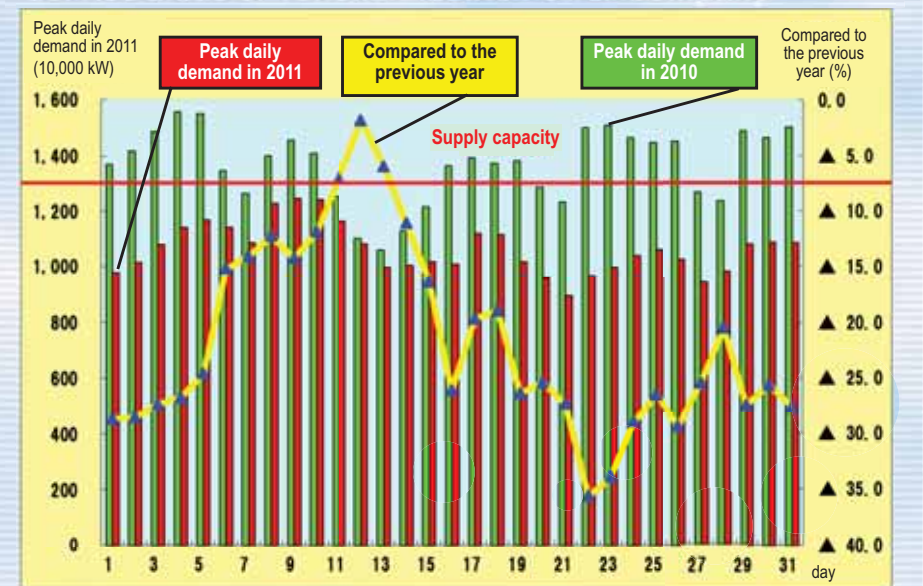
15.3 Daily demand (September) compared to last year in the service areas of Tohoku Electric Power Company



15.1 Daily demand (July) compared to last year in the service areas of Tohoku Electric Power Company



15.2 Daily demand (August) compared to last year in the service areas of Tohoku Electric Power Company



KDH

Thank you for listening