



# Direction of Management and Near-Term Managerial Policy of the J-POWER Group

April 28, 2011

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# To Our Stakeholders



As the CEO of J-POWER Group, I offer my deepest condolences to all those affected by the Great East Japan Earthquake which occurred on 11 March, especially those who have lost loved ones.

The recent earthquake caused inestimable damage to areas of eastern Japan and will impact upon the economy of Japan as a whole in various ways. The earthquake and its aftermath also caused serious damage to the electric power supply of eastern Japan and recovery from this disaster can be expected to take a considerable amount of time. In addition to this extensive damage, the series of accidents at the Fukushima Nuclear Power Plant caused by the massive tsunami following the earthquake have seriously shaken the trust of the Japanese people and the world regarding measures for ensuring the safety of nuclear power. In the future we can expect Japan's energy and nuclear policies to come under close scrutiny and to be the subject of discussion in various arenas.

The impact of recent events has made the outlook for Japan's economy and for energy supply and demand extremely unclear and uncertain. In view of the present conditions, we decided that for this fiscal year it was more appropriate to present this "Direction of Management and Near-Term Managerial Policy of the J-POWER Group" in place of the J-POWER Group Business Plan we normally present at this time.

In responding to the recent major disaster, the J-POWER Group's first responsibility as a supplier of electricity is to contribute to establishing a balance in electric power supply and demand in eastern Japan, which is currently suffering from a power shortage. The J-POWER Group will make every possible effort to maintain the functions and stable operation of its electric power facilities in all areas of eastern Japan. We will also fully mobilize our hydroelectric power and coal-fired thermal power facilities located throughout Japan to contribute to the stable supply of electric power in Japan as a whole.

To ensure the stable supply of electric power in the medium term, we will steadily move ahead step by step with plans for the Ohma Nuclear Power Plant and plans to replace Units 1 and 2 at the Takehara Thermal Power Plant.

As a supplier of nuclear power, we are deeply mindful of the events that occurred at the Fukushima Nuclear Power Plant and to further reinforce safety at the Ohma Nuclear Power Plant we will carry out in our operations and procedures every necessary safety precaution including measures based on government policy. We are determined to create a safe power plant that will have the understanding and support of the people of the area and the trust of society at large.

When J-POWER was privatized in 2004, we framed our mission in terms of the following principle: *We will meet people's needs for energy without fail, and play our part for the sustainable development of Japan and the rest of the world.* The importance of the electric power infrastructure, as demonstrated by the recent earthquake, and the gravity of the nuclear power accident are matters that J-POWER takes very seriously. Recent events have also made us more keenly aware of the importance of sustainability and we see developing sustainable energy as a key aspect of fulfilling our mission. We will continue to steadily promote our overseas business in high-efficiency coal-fired thermal power projects to meet the energy needs of other countries and we will continue our initiatives in the development of various technologies to realize a low-carbon society.

To once again fulfill our role in providing a stable, highly dependable supply of electricity in areas affected by the Great East Japan Earthquake in order to bring about the restoration and recovery of those areas as soon as possible through improvement in the balance of electric power supply and demand, and to contribute to the sustainable development of Japan and the world, we will continue our efforts to further strengthen our operational base in every aspect including technology, human resources and financial resilience.

President

We look forward to your continued support.

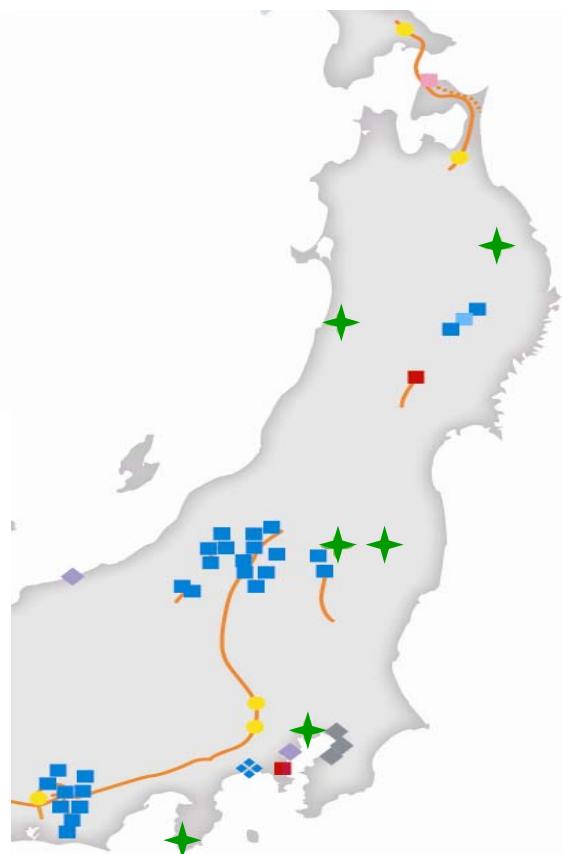
北村 雅良

# Assisting in the Supply of Electricity to Eastern Japan to meet shortages caused by the Great East Japan Earthquake



- Providing electricity from generating facilities with a capacity of about 7 million kW\* \*Including output of pumped-storage hydroelectric (approx. 3,700MW)
- Transmitting electricity from western Japan and Hokkaido to areas of eastern Japan via the Sakuma Frequency Converter Station and Kitahon HVDC Link

## J-POWER facilities in eastern Japan



In the area of The Tohoku Electric Power Company and Tokyo Electric Power Company

Water system/facility	Output	
Conventional hydroelectric	Tadami system	1,335 MW
	Sakuma system	242 MW
	Others	146 MW
Subtotal		1,723 MW
Thermal	Isogo	1,200 MW
	Others	372 MW
Subtotal		1,572 MW
Geothermal	Onikobe	15 MW
Wind	6 sites	176 MW
Total		3,486 MW
Pumped-storage hydroelectric	Shimogo	1,000 MW
	Okukiyotsu system	1,600 MW
	Others	1,125 MW
	Subtotal	3,725 MW
Total of generation facilities		7,211 MW
Sakuma frequency converter station		300 MW
Kitahon HVDC link facility		600 MW

Taking every precaution for the stable operation of facilities

# Generation Facilities Supporting the Stable Supply of Electricity throughout Japan



- Generation facilities providing electricity over a wide area

The map highlights several power plant locations with green dots and labels:

- Matsuura Thermal Power plant (Nagasaki Pref.)
- Isogo Thermal Power Plant (Kanagawa Pref.)
- Miboro Power Plant (Gifu Pref.)
- Nikaho Kogen Wind Farm (Akita Pref.)

**● As the only wholesale electricity provider supplying electricity across most of Japan, J-POWER owns hydroelectric power generation facilities, thermal power generation facilities, and wind power generation facilities throughout Japan.**

- **Hydroelectric generation facilities**  
Operating 59 plants nationwide with a total output of about 8,600 MW (close to 20% of all hydroelectric power facilities in Japan)
- **Thermal generation facilities**  
Operating seven plants nationwide with a total output of 8.41 million kW, the leading share of coal-fired thermal power plants in Japan
- **Wind power generation facilities**  
Operating 18 wind power farms in Japan with a total output of about 350MW (No. 2 in wind power facility output in Japan)
- **Other**  
Operating Onikobe Geothermal Power Plant (output: 15MW), which utilizes geothermal energy, since 1975

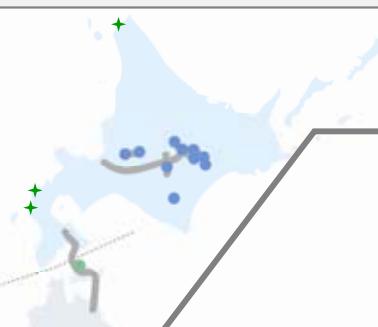
# Transmission and Transformer Facilities Supporting Stable Supply throughout Japan



- Transmission lines and frequency converter stations enabling operation over a wide area



Kitahon HVDC Link Facility  
(Hokkaido Pref.-Aomori Pref.)



Sakuma Frequency  
Converter Station  
(Shizuoka Pref.)



Kanmon Interconnecting Line  
(Yamaguchi Pref.-Fukuoka Pref.)

- As the only electricity provider that supplies electricity across most of Japan, J-POWER owns transmission and transformer facilities everywhere throughout the country. These includes:
  - Transmission lines totaling 2,400 km in length and 8 substations
  - Ultra high voltage interconnecting facilities linking Hokkaido, Shikoku, and Kyushu with Honshu (Kitahon HVDC Link Facility, Honshu Interconnecting Line, the Kanmon Interconnecting Line).
  - Sakuma Frequency Converter Station that makes possible the transmission of electricity between the 50 Hz electricity system of eastern Japan and the 60 Hz electricity system of western Japan.
  - This makes possible the integrated operation of electricity systems throughout Japan by linking regions through its interconnecting facilities

# Business Environment and Issues



Impact of the  
Great East Japan Earthquake  
on electricity infrastructure

- Secure the stable supply of electricity for all of Japan including eastern Japan
  - Maintain and improve supply reliability and efficiency
  - Take appropriate action in line with Japan's energy policy
- Further increase the safety of nuclear power

Problems of global warming

- Introduce low-carbon measures
  - Engage in initiatives to achieve high-efficiency coal-fired thermal generation
  - Promote the use of renewable energy

Tightening of resource supply and demand conditions

- Ensure the stable procurement of coal
  - Increase acquisitions in upstream coal interests
  - Expand coal purchasing activities

# Ensuring the Stable Supply of Electric Power (Maintaining and improving reliability)



- Initiatives to strengthen facility integrity
  - Reconfirm J-POWER's stringent maintenance systems at all facilities to strengthen risk resilience against disasters
  - Promote priority resource investment following comprehensive routine checks
- Increase facility reliability and efficiency
  - Improve reliability and efficiency from medium- and long-term perspectives
  - Pursue long-term facility reliability and economic efficiency and making use of across-the-board facility upgrades

- Plans to undertake construction to upgrade medium and high pressure rotors to increase efficiency at Matsushima Thermal Plant



- Plans to increase generation output and electricity volume through across-the-board upgrades for water turbine generators (Nukabira Power Plant, Tagokura Power Plant)

# Plans for Ohma Nuclear Power Plant

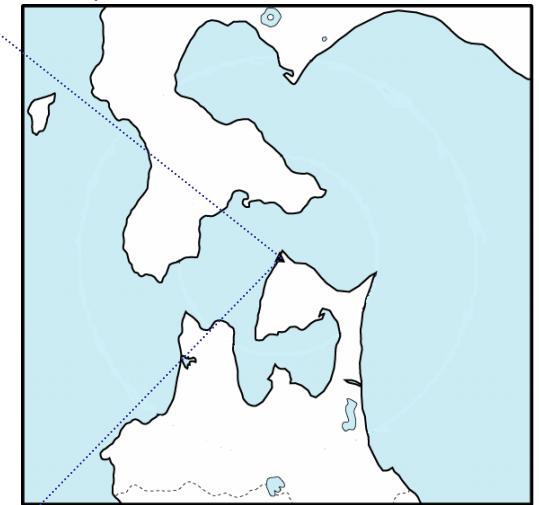


- Our aim is to create a dependable electric power plant where safety is the No. 1 priority
  - A full MOX ABWR reactor<sup>\*1</sup> currently under construction in the Shimokita Peninsula in Aomori Prefecture. Output: 1,383 MW
  - We are deeply aware that the gravity of the situation at the Fukushima nuclear plant casts a shadow over people's trust in the efforts being made to ensure the safety of nuclear power.
  - As a company, we intend to make every effort to gain the understanding of the local community and create safe power plants by appropriately reflecting in our procedures and actions all necessary measures including government policies to further strengthen safety now and in the future.
  - Start of construction: May 2008, rate of completion: 37% as of March 2011<sup>\*2</sup>

<sup>\*1</sup>An advanced boiling water light reactor that uses uranium and plutonium mixed oxide fuel (MOX)



As of March 2011



<sup>\*2</sup>Construction of auxiliary facility has been continuing after the Great East Japan Earthquake. (as of April 28, 2011)

# Increasing Efficiency in Coal-fired Thermal Power Generation



- We will make further efforts to increase efficiency in the use of coal, an energy source superior in cost benefits and supply stability.

## • Takehara Replacement (Hiroshima Prefecture)

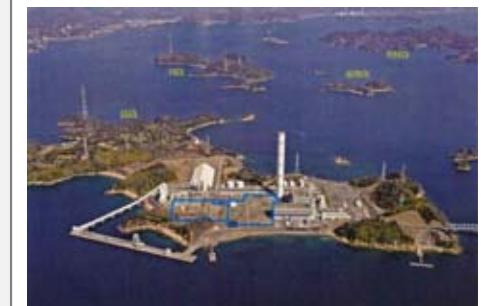
- Plans are to replace Unit No. 1 (250MW) and No. 2 (350MW) of the Takehara thermal power plant with a new unit No.1 (600MW) that utilizes the most advanced technology and to commence operations in FY2020.
  - Stable supply of coal is important (price, energy resources, location)
  - An increase in demand for fossil-fuel power sources, particularly for stable, coal-fired thermal electric power can be expected.
  - The introduction of state-of-the-art technology will reduce environmental impact.



Takehara coal-fired Thermal Power Plant



EAGLE Pilot Test Facility  
(Fukuoka Pref.)



Planned site of Osaki CoolGen  
(Hiroshima Pref.)

## • Development of technology

- With our sights set on leading the world in high-efficiency, low-carbon energy generation, we will continue to concentrate our efforts on the development of IGCC and IGFC (oxygen-blown integrated gas combined cycle and integrated gasification fuel cell combined cycle technologies).
  - EAGLE Project: We conducted a pilot test at our Wakamatsu Research Lab. Since FY2008 we have also been conducting efficient CO<sub>2</sub> separation and recovery tests from coal gasification.
  - Osaki CoolGen (OCG) Project: We plan to conduct a large-scale joint demonstration test in oxygen-blown integrated gas combined cycle (IGCC) with Chugoku Electric Power Company in Osakikamijima-cho, Hiroshima Prefecture.
- Using the latest and most advanced technologies including USC\*, we will contribute to the advancement of low-carbon generation and the transfer of technology around the world particularly in the Asia region.

\* USC: Ultra Super Critical

# Promotion of Renewable Energy



- Actively promoting renewable energy

- Wind power

- We are already No. 2 in Japan as regards wind power generation, and aim to double current output of wind power generation facilities in Japan. (350MW ⇒ 700MW)
    - We will integrate our wholly owned SPC and achieve great efficiency in our OM framework, and we will move forward with development of wind power generation in new locations.

- Biomass fuel

- We will use biomass fuel in our coal-fired thermal power plants. To promote stable procurement of fuel, we will focus our efforts on fuel conversion projects using waste wood, unused waste lumber from forests, sewage sludge, etc.

- Geothermal energy

- We will promote initiatives at new sites in addition to the existing Onikobe Geothermal Power Plant.



Koriyama-Nunobiki Kogen Wind Farm  
(Fukushima Pref.)



Wood biomass delivery Facility (Miyazaki Pref.)



Facility for converting sludge into fuel  
(Hiroshima Pref.)

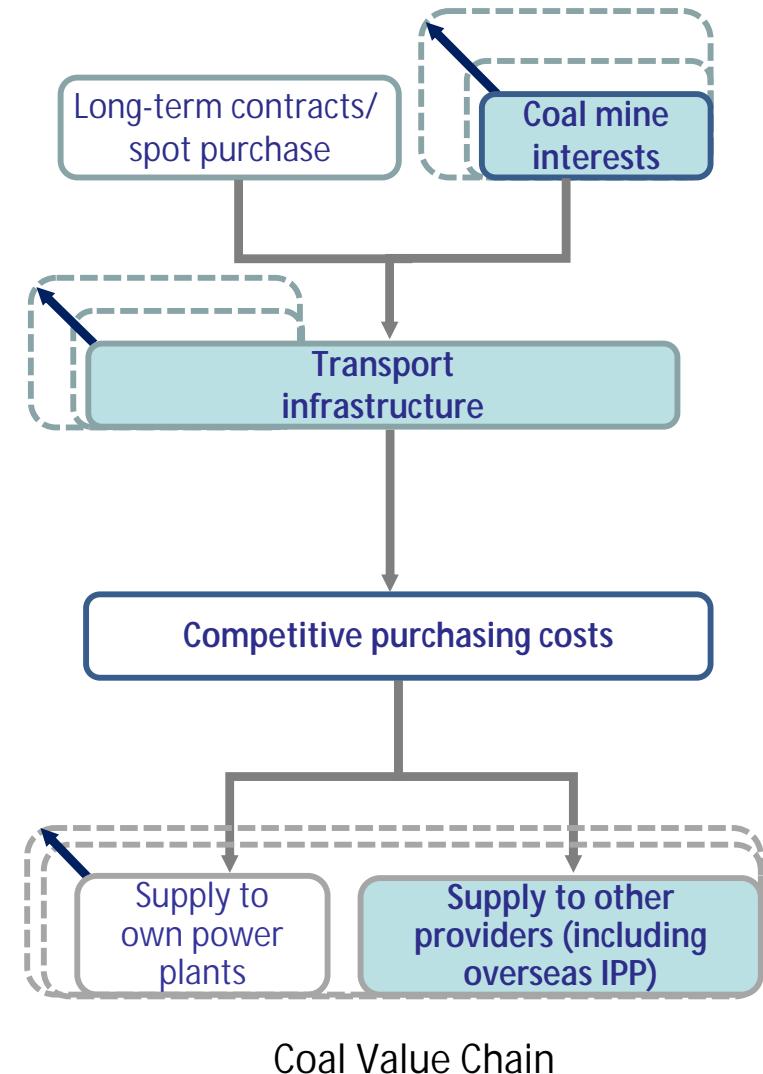
# Stable Procurement of Coal to Secure Supply



- Worldwide trend in tight resource supply and demand conditions
  - The tight supply and demand conditions in fossil fuels such as LNG and coal and the trend toward steep rises in prices are becoming more pronounced due to increasing demand for resources from countries like China and India and unstable conditions in the Middle East.

- Greater involvement in the coal value chain and various procurement sources
  - We will increase our participation in upstream areas by acquiring interests in mines.

- Achieving stable operation in coal-fired thermal generation
  - Maintaining upstream interests will enable the stable procurement of coal at competitive prices.
  - We will promote the supply of coal to other companies and develop synergies with overseas power generation businesses

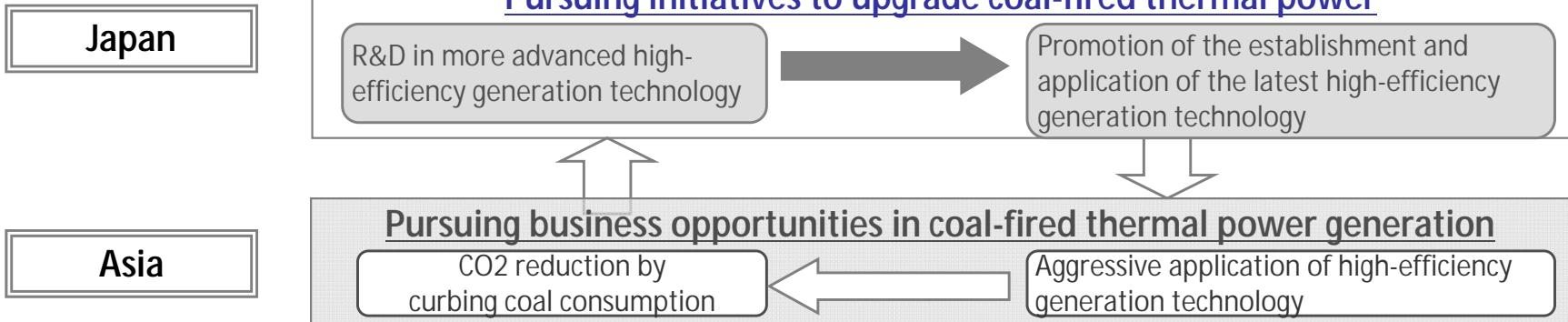


# Steady Promotion of Overseas Electric Power Generation Projects



- **Pushing ahead with projects in progress**
  - With projects centered on Asia, J-POWER's current output (on an equity basis) is about 3.7 million kW (as of March 2011).
  - We will focus on completing without fail those IPP projects (2) and SPP projects (7)<sup>1</sup> which we have already committed to in Thailand and on boosting our earning power.
- **Securing new development projects that capitalize on our expertise and experience in coal-fired thermal technology**
  - We will contribute to the harmonization of low-carbon technology and the environment in growing Asian economies by realizing comprehensive package-type projects<sup>2</sup> in high-efficiency coal-fired thermal power generation.
- **Aiming for business expansion and development abroad alongside promoting in our business activities in Japan**

(Examples)



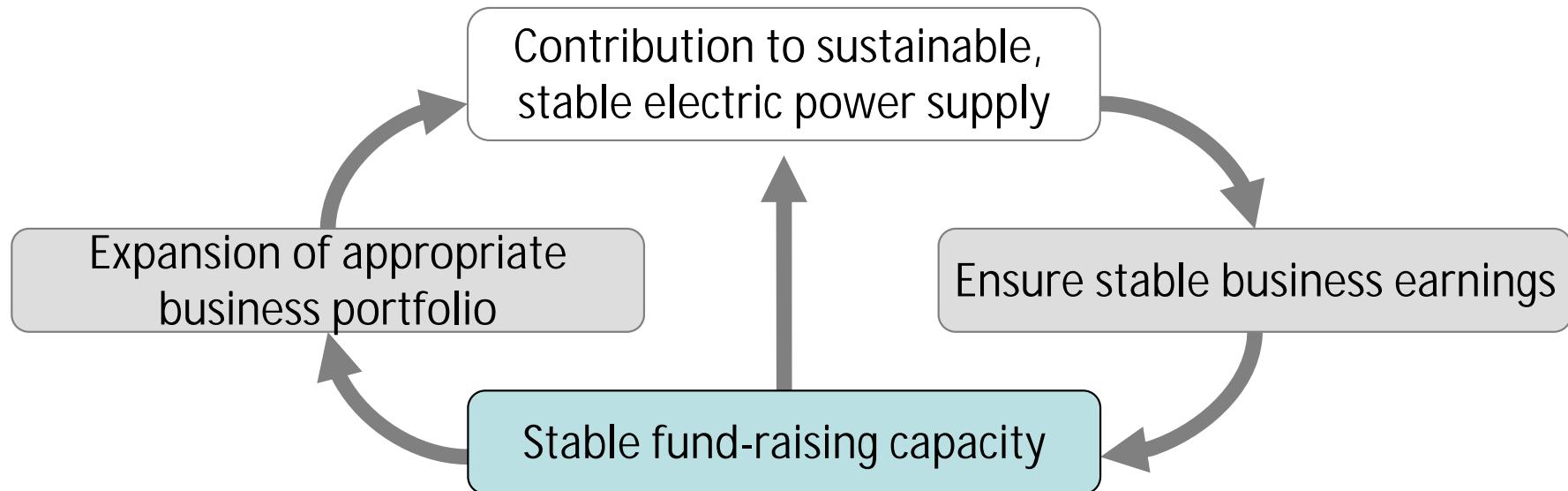
\*1. J-POWER's first major investment projects: Two gas-fired IPPs (total output of 1,600 MW) plus seven SPP projects (total output of 780MW)

\*2. Power generation project packages encompassing all business processes including power plant design and construction to operation and maintenance, fuel procurement and waste treatment

# Financial Strategy



- Realize a financial strategy based on business development



- Further strengthen our corporate structure
- Increase investment efficiency by tightening stringency in the screening of new investment projects
- Strive for sustainable improvements in shareholders' equity ratio
- Enhance profit distribution to shareholders in line with progress in business development

# J-POWER's Mission

We will meet people's needs for energy without fail,  
and play our part for the sustainable development of Japan  
and the rest of the world.

- The serious situation created by the recent major earthquake is a matter of deep concern to J-POWER and has made us more keenly aware of the importance of sustainability. We see developing sustainable energy as a key aspect of fulfilling our mission.
- We will continue to steadily promote our overseas business in high-efficiency coal-fired thermal power projects to meet the energy needs of other countries and we will continue our initiatives in the development of various technologies to realize a low-carbon society.

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