





From Japan ... J-POWER Mind

Global Way ... to the World

...and on to the Future! Next Generation

INDEX

Greetings .....	2	Developing new technology .....	12
History of J-POWER .....	3	J-POWER's global business operations .....	13
What is J-POWER .....	4	J-POWER's creativity .....	16
J-POWER's Facilities .....	5	and technological capabilities	
Hydropower generation, Transmission lines/ Substations and communication facilities .....	7	Environmental management vision .....	19
Coal-fired thermal power generation, .....	9	Financial data, Corporate data .....	21
Geothermal energy			
Nuclear power generation .....	11		

Greetings



Kiyoshi Sawabe, Chairman (Seated)  
Masayoshi Kitamura, President (Standing)

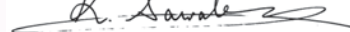
We provide "power" to Japan and the world, backed by half a century of experience.

J-POWER can look back on a proud history spanning over half a century as an electric power wholesaler with a proven track record of reliable, low-cost power supply. The nationwide network of power transmission trunk lines we have built and operate has made a significant contribution to Japan's economic development and the improvement of living standards in Japan. In October 2004, we were listed on the First Section of Tokyo Stock Exchange and this completed our transformation to a private sector company in all aspects.

Our performance records as of the end of July 2009 show that we have built and operate 67 power plants with a total output capacity of 16,985 megawatts and a transmission network of about 2,400 kilometers of power lines.

As part of our international commitment, since 1960 we have carried out 300 consulting service projects with 63 countries and regions mainly from the developing world. This has included surveying, design and construction supervision of hydro and thermal power development as well as environment protection measures. Recently, we have become engaged in a wide range of global operations such as IPP (Independent Power Producer) projects.

In recent years, we have experienced an adverse operating environment and dramatic changes in our operating environment, due mainly to slower growth in electric power demand, further deregulation in the electric power sector and global warming issues. At the same time, these changes have created new business opportunities. We will strive to enhance our corporate value by reinforcing our competitiveness in electricity wholesaling and building solid revenues and earnings foundations. We will also establish new operations based on the principle of effective coexistence between energy and the environment.

Chairman 

President 

# J-POWER Power from Japan to the world and on into the future

**Corporate Philosophy** We aim to ensure constant supplies of energy to contribute to the sustainable development of Japan and the rest of the world.

Sincerity and pride underlie all our corporate activities.

We build community trust by harmonizing our operations with the environment.

Profits are a growth source, and we share the benefits with society.

We continuously refine our knowledge and technologies to be a leader in these areas.

We meet the challenges of tomorrow by harnessing our unique skills and enthusiasm.

The name J-POWER embodies our commitment to ensure a dependable power supply for the people of the world, now and in the future, through extensive global operations focusing on the Energy and Environment sectors. We accomplish this by utilizing our extensive experience and technological capabilities acquired through nationwide power operations in Japan and throughout the world over the past 50 years.

As of April 1, 2002, we adopted a new corporate communication name "J-POWER"

## Large-scale Hydro and Thermal Power Generation Using Domestic Coal

To overcome the nationwide shortage of electric power, in July 1952 the Electric Power Development Promotion Law was enacted. Based on this law, Electric Power Development Co., Ltd. was established in September of the same year, and J-POWER immediately engaged in the development of large-scale hydropower generation facilities.

- Sep. 1952 Establishment of Electric Power Development Co., Ltd.
- Apr. 1956 Sakuma Power Plant begins operating
- May 1959 Tagokura Power Plant begins operating
- May 1959 Tadami Trunk Line and Minamikawagoe Substation begin operating
- Dec. 1960 Okutadami Power Plant begins operating
- Jan. 1961 Miboro Power Plant begins operating
- Oct. 1962 Chushi Trunk Line and Iyo Substation begin operating
- Nov. 1962 Planning of the Takuna Hydropower Project in Peru begins
- Jan. 1963 Wakamatsu Thermal Power Plant begins operating
- Sep. 1964 Ikehara Pumped Storage Power Plant begins operating
- Oct. 1965 Sakuma Frequency Converter Station begins operating
- Mar. 1967 Planning of the Kwai Yai No. 1 (Srinagarind) Hydropower Project in Thailand begins
- May 1967 Isogo Thermal Power Plant begins operating
- Jul. 1967 Takehara Thermal Power Plant No. 1 begins operating
- Jul. 1968 Takasago Thermal Power Plant begins operating
- Sep. 1969 Hanna Line begins operating (500KV)

## Power Generation Using Imported Coal

After the two oil crises of the 1970s, there was strong demand for a diversification in energy sources. In response to this, J-POWER engaged in the construction of large-scale coal-fired thermal power plants using imported coal as fuel, the first such case in Japan.

- May 1980 Western Area Interconnecting Line begins operating
- Jan. 1981 Matsushima Thermal Power Plant begins operating
- Jul. 1982 Sakuma Power Plant No. 2 begins operating
- Mar. 1983 Takehara Thermal Power Plant No. 3 begins operating
- Nov. 1986 Ishikawa Coal Thermal Power Plant begins operating
- Apr. 1988 Shimogo Pumped Storage Power Plant begins operating



Takehara Thermal Power Plant



Matsushima Thermal Power Plant



Ishikawa Coal Thermal Power Plant



Isogo Thermal Power Plant

## New Technology, Environment Protection Measures and International Operations

In view of the continually increasing demand for electric power, J-POWER placed emphasis on improving energy efficiency and launched an engagement in environmental preservation issues. J-POWER responded to the age of internationalization with extensive activities in Japan and overseas.

- Feb. 1990 Planning of the Lam Ta Khong Pumped Storage Project in Thailand begins
- Apr. 1990 Planning of the Masinloc Coal-Fired Thermal Power Project in the Philippines begins
- Jun. 1990 Matsuura Thermal Power Plant begins operating
- Jul. 1992 Signed agreement to implement pilot desulfurization facility in China
- Mar. 1993 Kitahon HVDC Link extended
- Apr. 1994 Kurotani Power Plant (rubberized fabric dam begins operating)
- Jun. 1994 Planning of the Ham Thuan-Dam Hydropower Project in Vietnam begins
- Jul. 1994 Honshii Interconnecting Line begins operating
- Jun. 1996 Okukiyotsu Pumped Storage Power Plant No. 2 begins operating
- Jul. 1997 Satsunaigawa Power Plant begins operating
- Mar. 1999 Okinawa Yanbaru Seawater Pumped Storage Power Plant begins pilot operation



Matsuura Thermal Power Plant

Honshii Interconnecting Line Power Cable



Okinawa Yanbaru Seawater Pumped Storage Power Plant

## Privatization and a Reborn "J-POWER"

J-POWER is undertaking new operations in response to the deregulation of the energy market. To implement these operations, J-POWER is engaged in bold reforms including further cost reductions and an improvement in the strength of its financial position.

- Feb. 2000 Honshii Interconnecting Line extended
- Jun. 2000 Anan-Kihoku HVDC Link begins operating (jointly owned with Kansai Electric Power Co., Inc. and Shikoku Electric Power Co., Inc.)
- Jul. 2000 Tachibanawan Thermal Power Plant begins operating
- Dec. 2000 Tomamae Winvilla Wind Farm begins operating
- Dec. 2001 Nikaho Kogen Wind Farm begins operating
- Apr. 2002 New No. 1 Unit of Isogo Thermal Power Plant begins operating
- Jan. 2003 TLP Gas Cogeneration Plant begins operating in Thailand
- Mar. 2003 Tokyo Bayside Wind Power Plant begins operating
- Jun. 2003 Okutadami (expansion) Power Plant, Otori (expansion) Power Plant, and Okutadami-Dam ecological flow hydropower plant begin operating
- Oct. 2003 Repeal of the "Electric Power Development Promotion Law"
- Dec. 2003 Green Power Kuzumaki Wind Farm begins operating
- Oct. 2004 Listed on first section of Tokyo Stock Exchange
- Apr. 2005 Participation in CBK Hydropower project in the Philippines
- Apr. 2006 Participation in Tenaska Frontier Power Project in the U.S.A.
- Nov. 2006 Participation in Elwood Energy Power Project in the U.S.A.
- Feb. 2007 Koriyama-Nunobiki Kogen Wind Farm begins operating
- May 2007 No. 1 Unit of Kaeng Khoi No. 2 Gas Combined Cycle Power Plant begins operating in Thailand
- Mar. 2008 Participation in Xinchang Coal Thermal Power Project in China
- Mar. 2008 No. 2 Unit of Kaeng Khoi No. 2 Gas Combined Cycle Power Plant begins operating in Thailand
- May 2008 Participation in Birchwood Power Project, USA
- May 2008 Construction work of Ohma Nuclear Power Plant begins
- July 2009 New No. 2 Unit of Isogo Thermal Power Plant begins operating



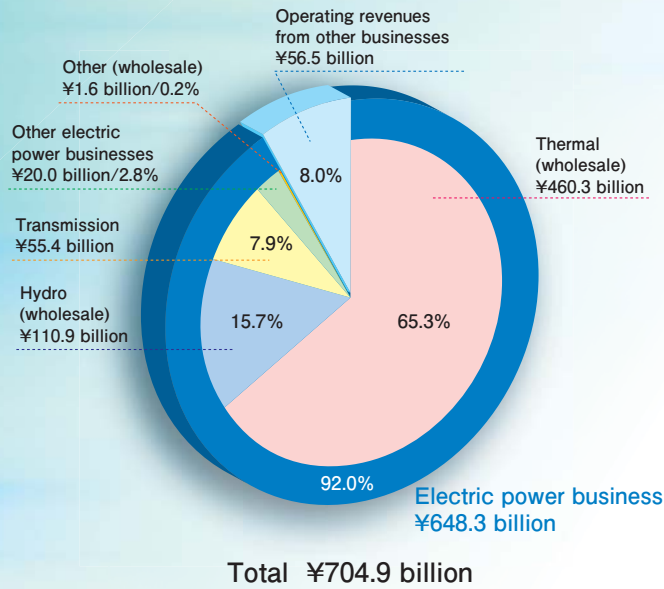
Koriyama-Nunobiki Kogen Wind Farm



Elwood Power Plant in USA

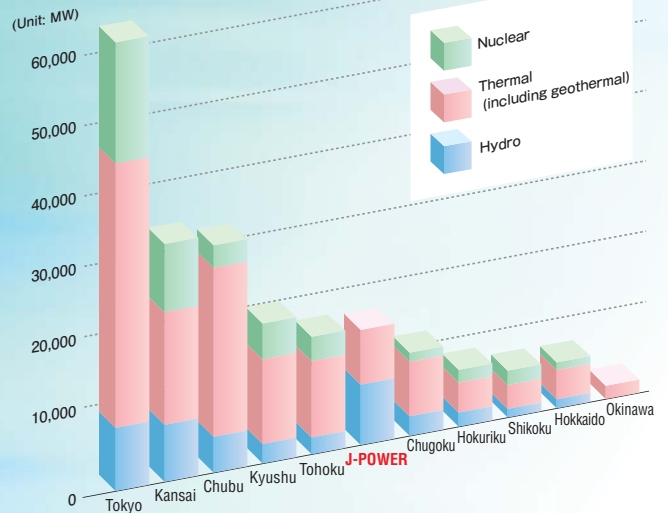
### Breakdown of Operating Revenues (Consolidated)

(FY 2008)



### Power Generation Capacity of J-POWER and Japan's 10 Electric Power Companies

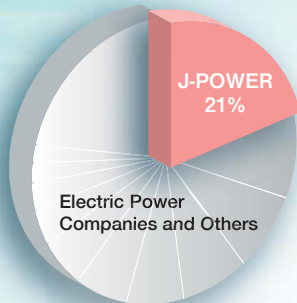
(As of March 31, 2009)



Source: "Denryoku Chosa Tokei" (Report on Electric Power Statistics), Agency for Natural Resources and Energy

### Share of Coal-Fired Power Generation Capacity

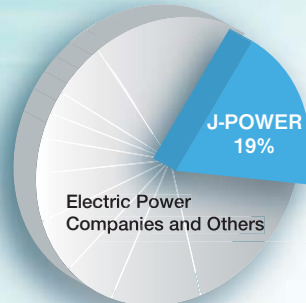
(As of March 31, 2009)



Source: "FY 2008 Electric Power Supply Plan Outline" and "Denryoku Chosa Tokei" (Report on Electric Power Statistics), Agency for Natural Resources and Energy

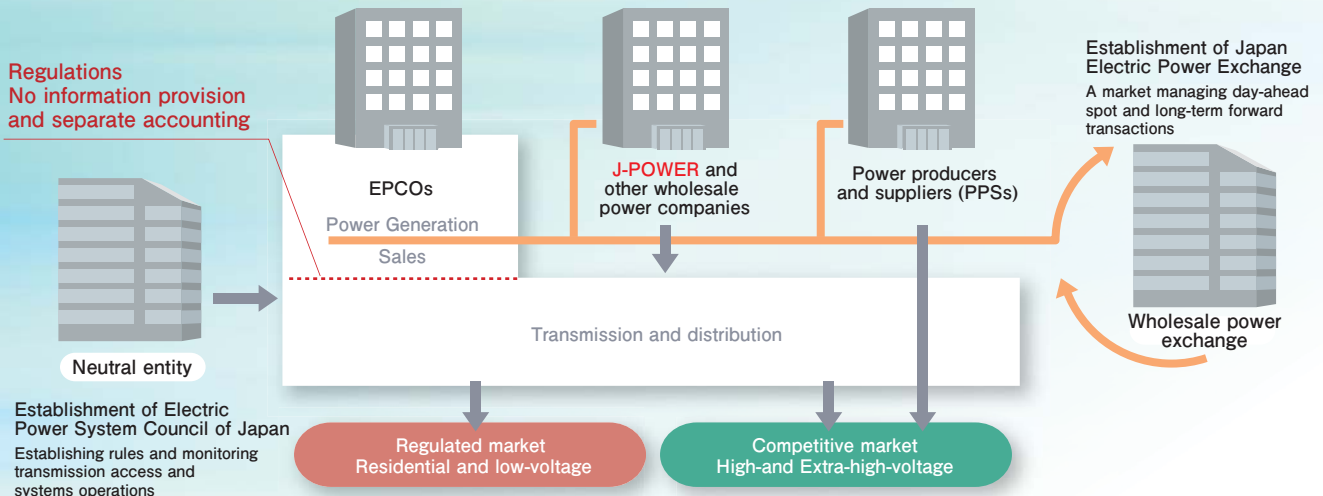
### Share of Hydropower Generation Capacity

(As of March 31, 2009)



Source: "Denryoku Chosa Tokei" (Report on Electric Power Statistics), Agency for Natural Resources and Energy

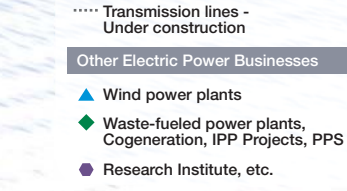
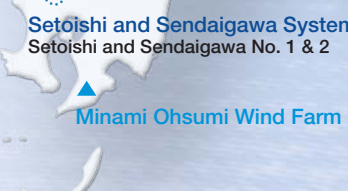
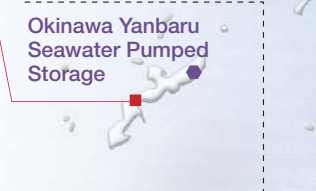
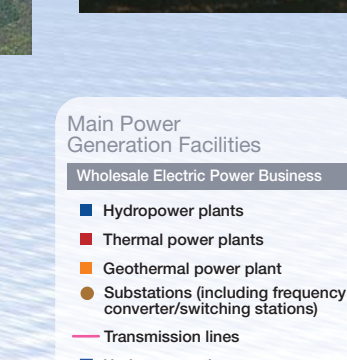
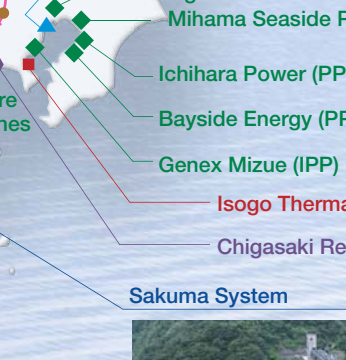
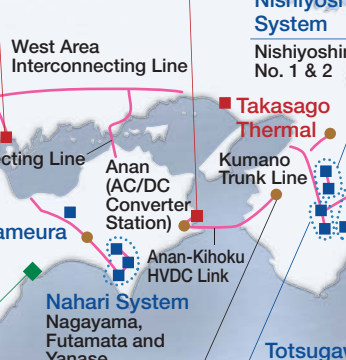
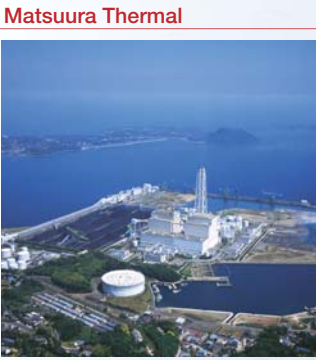
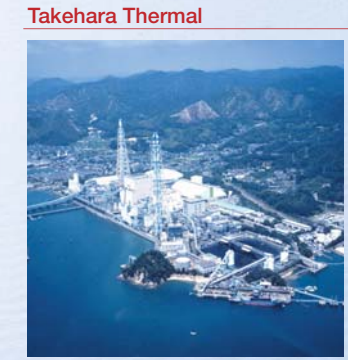
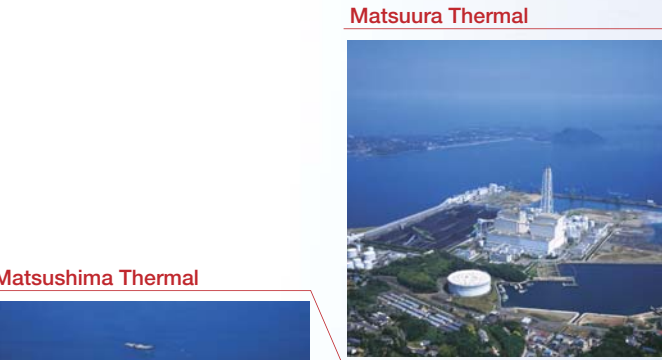
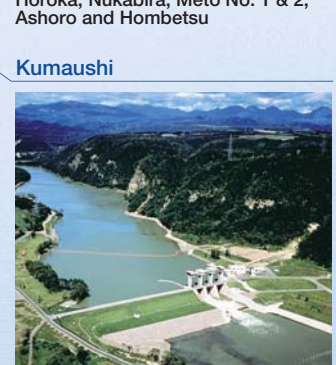
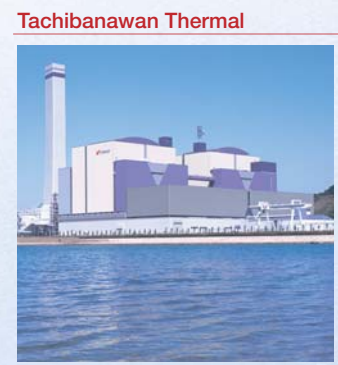
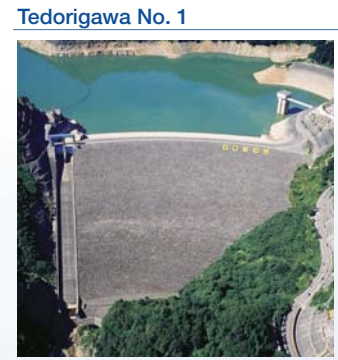
### Japan's Electric Power Industry Structure



J-POWER generates electricity at 67 power stations throughout Japan and operates about 2,400 kilometers of power transmission lines

Wholesale Electric Power Facilities (As of July 31, 2009)		
<b>Power Generation Facilities</b>		
Hydropower Stations	Number 59	Capacity 8,560,500 kW
Thermal Power Stations	Number 8	Capacity 8,424,500 kW
<b>Total Number 67</b>	<b>Total Capacity 16,985,000 kW</b>	
<b>Transmission Lines</b>		
Extra-high-voltage power transmission lines		1,973.4 km
DC power transmission lines		267.2 km
<b>Total Lines 2,407.7 km</b>		
<b>Substations</b>		
Number 3		Capacity 4,292,000 kVA
Frequency Converter Station	Number 1	Capacity 300,000 kW
AC/DC Converter Stations	Number 4	Capacity 2,000,000 kW
<b>Telecommunications Network</b>		
		Total circuit length 5,886 km
<b>New Businesses (Capacity)</b>		
Wind Power Stations	Number 12	Capacity 255,880 kW
Cogeneration	Number 1	Capacity 12,280 kW
IPP	Number 3	Capacity 522,000 kW
PPS	Number 3	Capacity 322,420 kW
RDF	Number 1	Capacity 20,600 kW
<b>Total Number 20</b>	<b>Total capacity 1,133,180 kW</b>	

\* All facilities for new businesses are owned by subsidiaries or affiliates of J-POWER



**Main Power Generation Facilities**

Wholesale Electric Power Business

- Hydropower plants
- Thermal power plants
- Geothermal power plant
- Substations (including frequency converter/switching stations)
- Transmission lines
- Hydropower plants - Under construction, Preparation for construction work
- Nuclear power plant - Under construction
- Transmission lines - Under construction

Other Electric Power Businesses

- Wind power plants
- Waste-fueled power plants, Cogeneration, IPP Projects, PPS
- Research Institute, etc.

# From Japan...

## Supporting a better lifestyle

J-POWER supports the life of many people in Japan by producing electric power at its 67 power stations throughout Japan, including hydro, coal-fired thermal and geothermal.

We are committed to ensuring an efficient supply of stable electric power by utilizing our extremely reliable technological capabilities developed over a half century of experience in this sector, and we give people a sense of security and peace of mind.



Central Load Dispatching Center



### The leading hydropower sector company in Japan

We have half a century of experience in the construction and operation of hydropower plants. The start of our large-scale hydropower plant development program was in 1956, when we commenced the commercial operation of Sakuma Hydropower Plant. We also operate a program of developing pumped storage power plants with excellent power output adjustment capabilities to meet peak demand. We now have 59 hydropower facilities located nationwide, and a nearly 20% share of all hydropower capacities in Japan providing a total capacity of about 8,560,000 kW.

A major feature of J-POWER is its high level of technological competence in the field of power plant development. We have the highest levels of technology in Japan, especially in the construction of dams and large-scale underground structures.

### Transmission lines, substations and communications integrate Japan's electric power systems

J-POWER plays a major role in the integrated operation of Japan's nationwide electric power systems by linking up different regions with its 2,400 kilometers of power transmission lines and a total of 8 substations, etc.

Our network of extra-high voltage interconnecting lines and equipment cover the whole of Japan from Honshu to Hokkaido, Shikoku, and Kyushu. Moreover, with the introduction of our Sakuma Frequency Converter Station (the first in Japan), it became possible to link up electric power between different hertz power systems (the 50-hertz power system in East Japan and the 60-hertz power system in West Japan). These are important facilities that enable electric power sharing over a wider area in Japan.

J-POWER's electric power facilities are connected up by a communications network comprising microwave radio circuits, telephone links utilizing fiber-optic cables, and data communication link computer systems, and they contribute greatly to the stability of Japan's electric power systems.

Supporting people's daily life with a half-century of extensive experience



Kanmon Interconnecting Line



### Seawater pumped storage power plant

Seawater pumped storage power generation uses the sea as the lower reservoir and pumps seawater up to a higher level reservoir. J-POWER undertakes the operation and maintenance of the world's first seawater pumped storage power generation plant (maximum capacity 30,000 kW) in Okinawa.



### Hydropower plant facilities renewal

Currently, J-POWER is engaged in comprehensive renewal of its aging main electric power generation facilities. This both enhances the value of the power plants and improves their reliability. We seek to ensure stable operation of these hydropower plants through improved maintenance and operation. J-POWER is also implementing comprehensive renewal of the main electrical equipment at Tagokura Power Plant (Fukushima Prefecture) and Nukabira Power Plant (Hokkaido). Power generation efficiency is being improved by employing the latest advanced design technology. J-POWER is improving power generation capacity at the Tagokura Power Plant by implementing staged increases from 380,000 kW to 400,000 kW in the period from 2004 to 2012.



Isogo Thermal Power Plant



Coal Being Unloaded from a Collier Vessel at Ishikawa Coal Thermal Power Plant

Onikobe Geothermal Power Plant

### Coal-fired thermal power plants utilizing the world's most advanced technology

J-POWER coal-fired thermal power generation started in 1963, and in the subsequent nearly 50 years, J-POWER has worked to reduce the environmental impact of coal-fired thermal power through higher efficiency and environmental protection measures. The New No. 2 Unit of Isogo Thermal Power Plant commenced operation in July 2009 and it achieved the highest level of power generation efficiency in the world as well as one of the world's most advanced environmental protection measures for a coal-fired thermal power plant.

J-POWER currently operates coal-fired power plants at 7 locations nationwide with a combined capacity of about 8,410,000 kW and it has the top share of coal-fired thermal power generation equipment capacity in Japan.

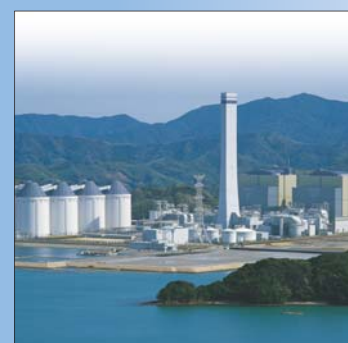
We are engaged in new initiatives to reduce CO<sub>2</sub> emissions from our coal-fired thermal power plants.

### Environmentally friendly geothermal energy

Geothermal energy is an environmentally friendly natural energy source, which emits almost no carbon dioxide, a greenhouse gas. This energy form is an effective measure to counter global warming and a totally domestic renewable energy source.

From 1975, J-POWER has been operating the Onikobe Geothermal Power Plant in Miyagi Prefecture (Capacity 12,500 kW).

Seeking to maintain a balance between environmental preservation and economical power generation



Tachibanawan Thermal Power Plant

### High efficiency power generation at thermal power plants

J-POWER works to ensure that its thermal power plants operate at a high efficiency rate. This is achieved by the introduction of new technology including ultra super critical (USC) technology and reduction of power consumption within these power plants. In FY 2008, the average thermal efficiency rate of all thermal power plants nationwide was 40.1% (generating end). The thermal efficiency of thermal power generation facilities deteriorates over time. However, we reduce the deterioration in efficiency and prevent a drop in thermal efficiency by introducing equipment with high efficiency and through regular facility inspection. By preventing a decrease in thermal efficiency, it is possible to reduce the amount of fuel used, and this leads to a reduction in final CO<sub>2</sub> emissions. We are committed to ensuring the maintenance and improvement of energy utilization efficiency at our thermal power plants.



Dry type desulfurization plant

### Environment protection measures at thermal power plants

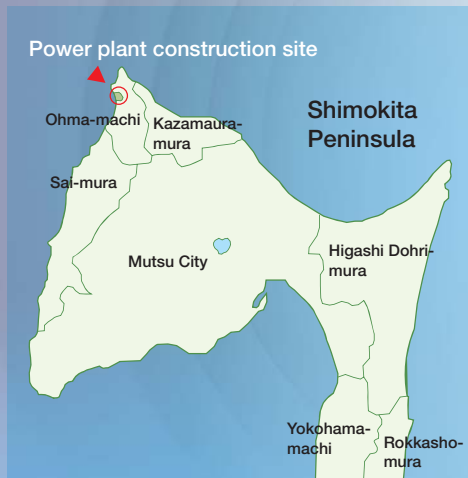
At J-POWER's thermal power plants, we are implementing various measures to prevent air pollution and to reduce the emission volume including SO<sub>x</sub>, NO<sub>x</sub> and ash dust in flue gas. At the New No. 1 and 2 Units of Isogo Thermal Power Plant, our latest power plant, we adopted a dry type desulfurization and denitration system (ReACT) to prevent air pollution. J-POWER EnTech Co., Inc. undertakes engineering operations related to ReACT for the J-POWER Group. This company provided this system to J-POWER's New No. 2 Unit of Isogo Thermal Power Plant and it also provides the system to Japan's iron and steel manufacturing plants.



Example of clicker ash utilization

### Coal ash utilization technology

Coal ash is a by-product of coal-fired thermal power plants. Utilizing its properties, this ash is recycled as a concrete admixture, as civil engineering materials such as concrete admixture and backfill material, and as fertilizer, etc. Fly ash is employed as a concrete admixture and is used extensively, especially in concrete dams. Clinker ash possesses good permeability and water retention properties, and so is used extensively for applications such as park lawn planting beds. In addition, we have developed coal ash utilization technology known as the fly ash mortar method. This makes it possible to achieve major improvements in mechanical properties. This material is made by adding a small amount of cement to coal ash and mixing it with sea water or fresh water. We are recycling this material for diverse applications including cavity fillers, water-shielding materials, double-wall steel sheet pile inner fillers and lightweight backfilling materials for caissons, retaining walls and buried pipelines.



Ohma Nuclear Power Plant (Conceptual drawing)

### Construction of Ohma Nuclear Power Plant

From May 2008, J-POWER has been undertaking the construction of Ohma Nuclear Power Plant in Ohma-machi, Shimokita-gun, Aomori Prefecture. Currently, nuclear power accounts for about one third of all electricity generated in Japan and plays an important role in ensuring a stable supply of electric power. Nuclear power generation has many excellent features, and in addition to the stable nature of fuel supply and prices, it is almost entirely free of CO<sub>2</sub> emissions. We take into consideration future demand for electric power and global environment issues such as global warming. In order to provide a stable supply of electric power on into the long-term future, it is essential to diversify power sources through means such as the use of nuclear power generation. In addition, based on a decision by the Japan Atomic Energy Commission in August 1995, Ohma Nuclear Power Plant, which aims to become a full MOX (Mixed uranium and plutonium oxides) advanced boiling water reactor (full-MOX ABWR) plant, is supported by the Japanese government and Japan's Electric Power Companies. This facility's role is to expand the flexibility of MOX usage (Pluthermal project) plans for light water reactors in Japan. This will allow us to save precious uranium resources and make more effective use of this fuel. During the construction work, we utilize our accumulated experience and the latest technical knowledge available, and while placing top priority on safety, we make the utmost efforts to protect the environment, and we will seek to maintain a harmonious relationship with local communities.

### Advanced Boiling Water Reactor (ABWR)

The Advanced Boiling Water Reactor (ABWR) at Ohma Nuclear Power Plant is a leading edge facility. This ABWR utilizes construction and operation expertise from nearly 100 Boiling Water Reactor (BWR) plants worldwide and the latest cutting edge technology. The Japanese government, domestic and international manufacturers, and the electric power companies are cooperating in the development of ABWRs. ABWRs offer the following advantages: Enhanced safety and reliability, Reduced occupational radiation exposure, Reduced radioactive waste, Enhanced operability and maneuverability, and Improved economy.

Moreover, the facility at our Ohma Nuclear Power Plant is designed to use MOX fuel for the whole reactor core. Our design efforts include developing some of the equipment such as large capacity main steam safety relief valves.

### Outline of construction plans for Ohma Nuclear Power Plant

Location	Ohma-machi, Shimokita-gun, Aomori Prefecture
Power Generating Capacity	1,383,000 kW
Site Area Approx.	1,300,000 m <sup>2</sup>
Type of Reactor	Advanced Boiling Water Reactor (ABWR)
Start of construction	May 2008
Start of operation	November 2014 (Scheduled)
Type of Fuel	Low enriched uranium and mixed oxide of uranium and plutonium (MOX*)

\* MOX: Mixed Oxide fuel

J-POWER is engaged in developing advanced coal-fired thermal power generation technology leading to a reduction in the amount of CO<sub>2</sub> emissions.

### Coal Energy Applications for Gas, Liquid and Electricity (EAGLE) Project

In the EAGLE Project, coal is gasified and utilized in high efficiency integrated power generation such as IGCC (\*1) and IGFC (\*2). This method results in a major improvement in power generation efficiency compared with the conventional system of pulverized coal fired power plants. This technology seeks to reduce the amount of CO<sub>2</sub> emissions per power generation unit. IGFC is the ultimate form of coal utilization power generation technology, and it is being developed by J-POWER ahead of the rest of the world. When this is realized, a power generation efficiency rate of 60% will become possible. This is expected to give a reduction in CO<sub>2</sub> emissions of approximately 30% compared with existing pulverized coal fired power plants.

### Implementation of large-scale oxygen-blown coal gasification technology demonstration plant (Joint project with the Chugoku Electric Power Co. Inc.)

A demonstration plant will be constructed with a capacity of 170 MW (Coal feed 1,100t/d). After confirming the reliability, economy and operability of the oxygen-blown coal gasification system, tests will be carried out on advanced CO<sub>2</sub> separation and recovery technology. The objective is to realize innovative zero emission type highly efficient coal-fired thermal power generation. These demonstration tests are positioned as an innovative zero emission coal-fired thermal power generation project which simultaneously achieves the development of highly efficient coal-fired thermal power generation technology and CO<sub>2</sub> capture and storage (CCS) technology within the Cool Earth - Innovative Energy Technology Program of the Japanese Government.



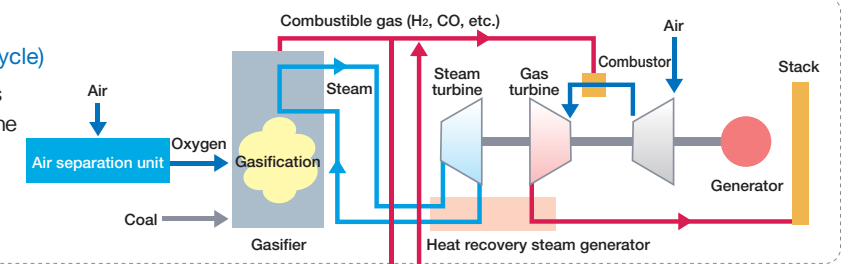
Coal Energy Applications for Gas, Liquid and Electricity (EAGLE) Pilot Test Plant

\*1 Integrated coal gasification combined cycle  
\*2 Integrated coal gasification fuel cell combined cycle

### Outline of this verification system (Oxygen-blown coal gasification integrated power generation system)

#### IGCC (Integrated Coal Gasification Combined Cycle)

- Coal is gasified to produce combustible gas (H<sub>2</sub>, CO, etc.) and used to drive a gas turbine
- The waste heat from the gas turbine and heat from the gasifier are used to generate steam



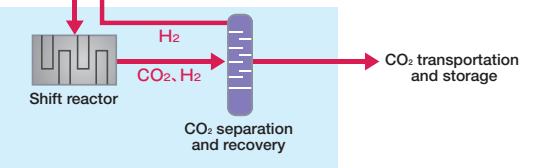
#### CO<sub>2</sub> Separation and Recovery Technology

##### CO<sub>2</sub> separation and recovery

The CO in combustible gas is converted to CO<sub>2</sub> and H<sub>2</sub> through a shift reaction and the CO<sub>2</sub> is separated and recovered

##### Shift reaction

Vapor is added to the CO, a catalytic reaction occurs, and the CO is converted to CO<sub>2</sub> and H<sub>2</sub>



# ...to the World

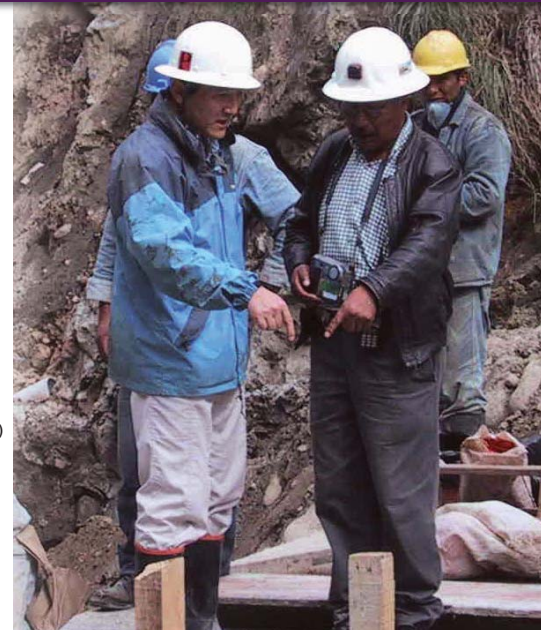
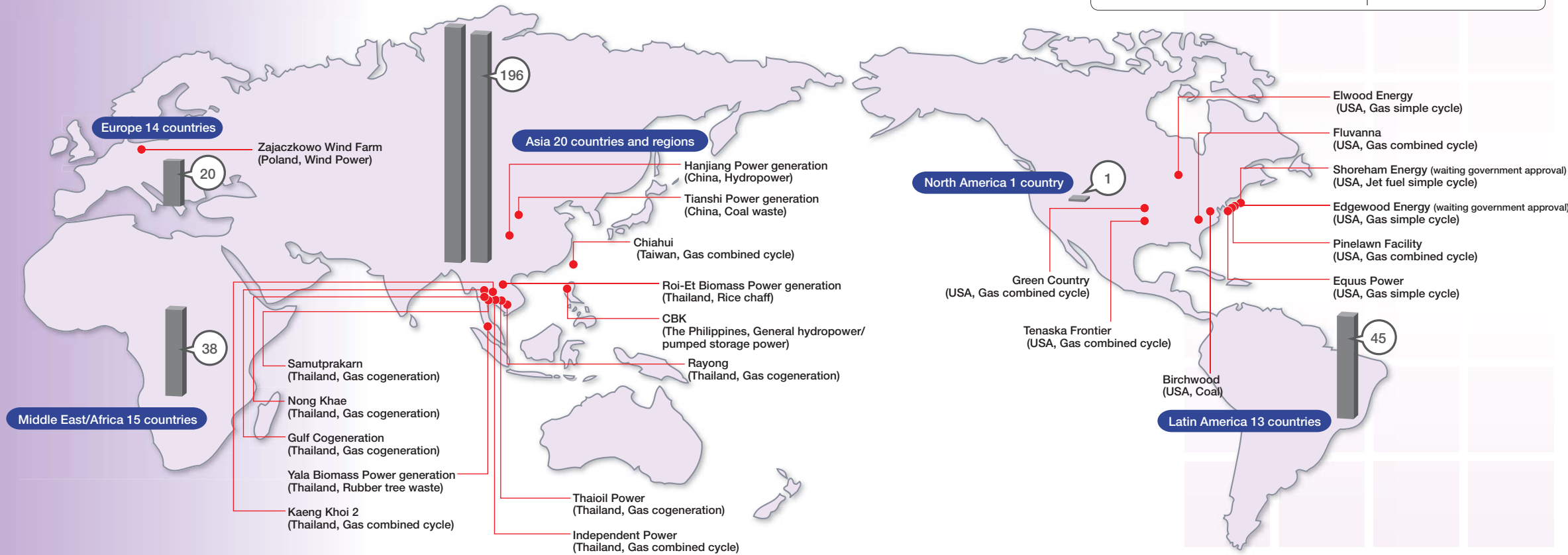
## Global power business operations

J-POWER is actively engaged in a broad spectrum of business operations in this closely linked global village serving the needs of mankind. J-POWER actively utilizes its extensive experience and know-how gained over 49 years in international projects in the area of consulting services on technological cooperation including electric power source development and environmental preservation. J-POWER is also engaged in overseas power generation business including participation by capital injection and providing technology.

J-POWER's technological prowess has won trust overseas



### Status of implementation of International Consulting Services and Overseas Power Generation Business (As of March 31, 2009)



### Our overseas consulting business is a worldwide operation

Over the past 49 years, J-POWER has been engaged in consulting business worldwide including surveys, design and construction supervision for power source development and power transmission lines, substations and other forms of technological cooperation. This amounts to 300 projects in 63 countries and regions (as of March 31, 2009). The core of our consulting business is the provision of technical services for designated projects commissioned by the Japanese Government (JICA, etc). These relate to Japanese government technical assistance projects on a government-to-government basis covering basic surveys, feasibility studies and basic design work, as well as direct contracts between J-POWER and foreign government organizations on a commercial basis. These projects include implementation design and construction supervision.



Yuncan Hydropower Plant (Peru)



Victoria Hydropower Plant (Sri Lanka)



Purulia Pumped Storage Power Plant (India)



Active participation in overseas power generation projects

We project that domestic demand for electric power will show an annual growth rate of only 1% or so, and this will limit our growth in Japan, and so we are strengthening our overseas power generation operations as a second driving force to power our business operations.

A background fact to this is that, in recent years, the Independent Power Producer (IPP) scheme has become a major form of project development as it fits well with today's privatization and liberalization trends in the world's electricity supply industry. Asia is an area where high growth in demand for electric power is anticipated, and there are increasing opportunities for participation in overseas power generation projects, both in Asia and elsewhere.

In addition to the experience we have gained through over half a century of playing a significant role in the electricity supply sector in Japan, by utilizing the experience, trust and networks established through the excellent results achieved during our 49 years of overseas consulting services in 63 countries and regions, we are also actively seeking new projects in this sector.

We are engaged in 23 IPP projects in 6 countries and regions with a total gross capacity of about 8,800MW (ownership share: approx. 3,100MW) as of the end of July 2009.

We intend to continue to concentrate our overseas activities mainly on Southeast Asia, especially Thailand, and on the USA and China.

Tianshi Thermal Power Plant (China)

Green Country Thermal Power Plant (USA)



A second driving force for business operations



Kaeng Khoi No. 2 Gas-Fired Thermal Power Plant (Thailand)



Birchwood Power Plant (USA)

# ...and on to the Future!

## Creativity and technological capabilities are the source of power

Utilizing the know-how and technology accumulated over a 50-year period through its mainly power generation related operations, under the key words of "Energy" and "the Environment" J-POWER is boldly taking up the challenge of opening up new business domains and engaging in environmental protection on a global scale. J-POWER is also actively engaged in technological development to access new business opportunities.



### Wind Power Development

J-POWER is engaged in projects in the area of wind power, now spotlighted as a clean and renewable energy resource.

Currently, we operate 12 wind power farms in Japan on a commercial basis with a total power generation capacity of 255,880kW, and this makes us one of the largest wind power companies in Japan.

J-POWER has been actively making inroads into foreign wind power development. A wind power farm in Poland, the Zajaczkowo Windfarm (48,000kW), commenced commercial operation from September 2008.

Following on from this, J-POWER is studying site conditions, including wind conditions, at promising sites in Japan and overseas, with the aim of development.



Koriyama-Nunobiki Kogen Wind Farm

### Recycling & biomass power generation operations

J-POWER actively promotes the use of unutilized energy, and it is engaged in highly efficient waste power generation operations using solid fuel (RDF: Refuse Derived Fuel) made by compressing and forming ordinary waste in Omuta City, Fukuoka Prefecture.

We are also participating in the gasification and melting of general waste to generate electricity at Narumi Waste Disposal Plant in Nagoya (Commenced operation in July 2009).

We are promoting a switch to alternative fuels in place of coal at coal-fired power plants. In this context, we are engaged in projects involving combined combustion experiments at Matsuura Thermal Power Plant using dried sewage sludge fuel (bio-solid fuel) employing the Heated Oil Pressure-Reduced in-vacuo Drying System. We are also developing technology to manufacture carbonized fuel from general waste at Matsushima Thermal Power Plant.

The Water Resources Center in West Hiroshima City will convert sewage sludge into fuel using low temperature carburization fuel technology (scheduled to commence service in April 2012).



Conceptual image of the Fuel Conversion Facility of the West Hiroshima City Water Resources Center

### Electric power energy supply business

Against the backdrop of the deregulation of the electric power supply sector leading to changes in the industry, J-POWER is engaged in a new type of wholesale electric power business. In our electric wholesale power supply operations to PPS (\*1) users, we operate three gas thermal power plants in Chiba Prefecture (total capacity 322,420kW).

In the area of IPP (\*2) wholesale electric power supply projects, which supply electric power to general power supply companies, we operate commercial power plants at three locations (total capacity 522,000kW).

We use part of our existing electric power capacity to sell to the wholesale electric power market through the Japan Electric Power Exchange (JEPX).

We are also engaged in a standing power generation model PFI (\*3) project at Kanamachi Filtration Plant in Tokyo, and this plant supplies electric power and steam using cogeneration equipment. In this way, we provide on-site type energy supply services.

### Water environment and infrastructure operations

J-POWER is also proactively engaged in PFI/PPP (\*4) operations in the water and sewage infrastructure area. We are participating in the Samukawa water purification plant wastewater treatment facilities and Chibanogiku-no-Sato water purification plant wastewater treatment facilities.

From July 2007, we have been engaged in integrated drinking water operations through a stake in Fresh Water Miike, a company engaged in utility water operations in the Omuta-city area of Fukuoka Prefecture.

Utilizing the know-how we have acquired through consulting business in the area of district heating supply in Japan and overseas, from November 2007, we have been participating in a district cooling supply project in the UAE, the first Japanese electric power company to do so.

Thus, we are engaged in the construction and operation of facilities utilizing private sector funds and know-how. In the water environment sector, we also provide the optimal solutions including on-site water treatment services.

### Underground facilities development and utilization engineering

Through the development of its own power plants, J-POWER has constructed many tunnels and underground spaces. From this, we have amassed extensive integrated engineering experience from planning, surveys, design, acquisition of authorizations to order placement for construction work, construction work supervision, and operational management. In this way, we have accumulated vast amounts of diverse technologies in areas such as underground survey work, large-scale underground space design, and groundwater behavior analysis.

We utilize this experience and technology in the area of the energy storage sector including underground storage facilities for petroleum and LP gas as well as for compressed air energy storage power generation.

We are committed to acquiring experience and technology relating to groundwater space utilization, and we will use this to provide greatly enhanced engineering services.

\*1 PPS (Power Producer and Supplier) Electric power supply companies of a designated size

\*2 IPP (Independent Power Producer) Independent power producer companies

\*3 PFI (Private Finance Initiative) is a policy measure to improve efficiency by utilizing the private sector. In this system, private-sector funds and management know-how are used in construction and operation of social infrastructure facilities by the public sector.

\*4 PPP (Public - Private Partnership) is a system to improve efficiency through cooperation between the public and private sectors in the construction and operation of social infrastructure facilities by the public sector.

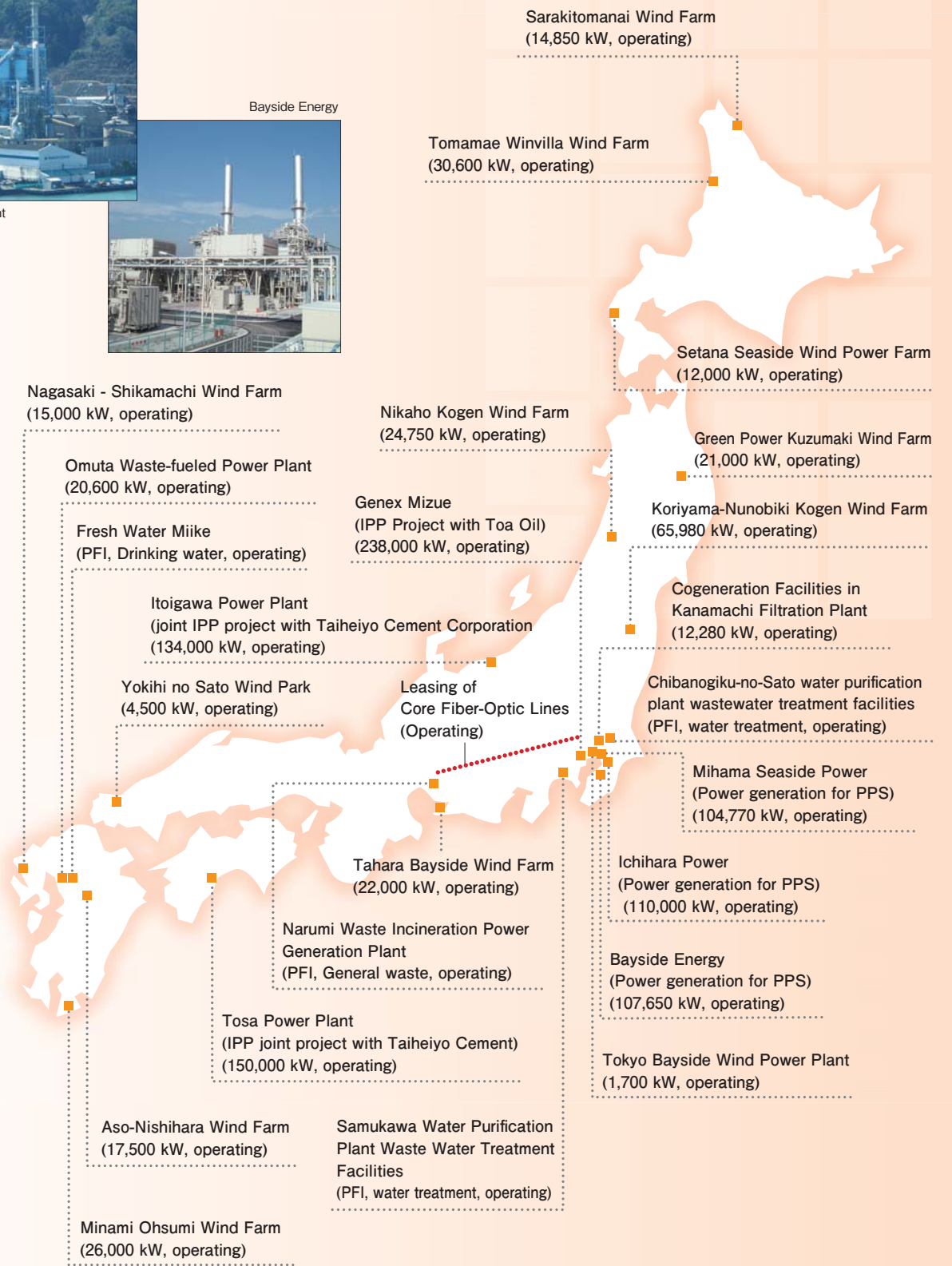
### New Business Projects (As of July 2009)



Tosa Power Plant



Bayside Energy



# J-POWER Group Environmental Management Vision



The newly created wetlands of the Okutadami Dam

## Basic Policy

### Basic Stance

As an energy supplier, we will contribute to the sustainable development of Japan and the world by harmonizing our operations with the environment and ensuring the constant supply of energy essential to human life and economic activity.

### Efforts Relating to Global Environmental Issues

In accordance with the principles of the United Nations Framework Convention on Climate Change (FCCC), we will cost-effectively address issues relating to climate change on a global scale. We will continue to reduce CO<sub>2</sub> emissions per electric power sales with an economically viable combination of maintenance and improvement of the efficiency of energy use, development of low CO<sub>2</sub> emission power sources, development/transfer/dissemination of new technologies and utilization of the Kyoto Mechanisms. Furthermore, we will continue to work towards our ultimate goal of "Zero CO<sub>2</sub> emissions" through the capture and storage of CO<sub>2</sub>.

### Efforts Relating to Local Environmental Issues

We will take measures to foster good community relations by reducing the environmental impact of our operations and by limiting the generation of waste by saving, recycling and reusing resources.

### Ensuring Transparency and Reliability

We will ensure that our business activities comply with all laws and regulations, disclose a wide range of environmental information and enhance communications with stakeholders.

### Restoration of wetlands as part of power station expansion works

In the expansion of the power plant of the Okutadami Dam (Fukushima and Niigata prefectures), it was intended to bury the excavated rock in mountainous wetland ground areas. However, there was an ecosystem in this area dependant on the mountainous wetlands, and so we created an alternative wetland area to reproduce this ecosystem.

Subsequently, we confirmed that precious dragonflies native to this area continue to have their habitat at the newly created lake located downstream from the new wetlands.

In FY 2007, we conducted full-scale studies on changes in the flora and fauna in the newly created wetlands. Based on the results, we formulated maintenance and management plans to ensure more effective environmental protection extending to 2013.

We contribute to the sustainable development of Japan and the world by harmonizing our operations with the environment.

### Efforts Relating to Global Environmental Issues

Implementing measures to prevent global warming is a top management priority, which is why the J-POWER Group is so proactive in establishing and implementing policies to address this issue.

Specifically, we are engaged in an economically viable and rational combination of the following 4 methods. This takes into account factors such as cost-effectiveness on a global scale, and in this way we will be able to reduce the emission of CO<sub>2</sub> per power sales unit on a sustainable basis.

#### Maintenance and improvement of energy efficiency

We are engaged in further improvements of energy efficiency. This includes improving the efficiency of thermal power generation. We are also improving efficiency in hydropower generation operations, a form of power generation that does not emit CO<sub>2</sub>, through equipment renewal and improved system efficiency.

#### Development of various types of power generation with less CO<sub>2</sub> emissions

We are promoting the development of various types of power sources with lower CO<sub>2</sub> emissions such as nuclear power, wind power and solar power. We are also actively engaged in effective utilization of biomass.

#### Development, transfer and dissemination of technology

We are improving power generating efficiency further through coal gasification and it is developing CO<sub>2</sub> recovery technology. We are moving forward to higher levels of next generation technology as world leaders in coal-fired thermal power generation, and we are also continuing the transfer and dissemination of USC technology.

#### Utilization of the Kyoto Mechanisms

We are making use of our technological and financial resources to apply such Kyoto Mechanisms as the Clean Development Mechanism (CDM), whereby member countries are allowed to count the amount of emissions reduced by projects they conduct in other countries for cutting greenhouse gases as their own reductions. In this way we are contributing to efficient reduction of CO<sub>2</sub> emissions on a global scale.

### Efforts Relating to Local Environmental Issues

#### Reducing emissions to alleviate environment load

We take measures to reduce the impact created by our corporate activities on the local environment including the atmosphere and water quality, and we employ the latest technology and knowledge to implement environment conservation measures to prevent air pollution, water pollution, and noise and vibration at coal thermal power plants, etc.

#### Towards a recycling-based society

To establish a recycling-based society, J-POWER makes effective use of the waste it generates. It curbs the amount of waste produced and ensures appropriate disposal. In addition, J-POWER is engaged in environment recycling operations such as the appropriate disposal of waste, environment preservation measures and promoting the use of unutilized energy resources.

### Ensuring Transparency and Reliability

#### Environmental management

J-POWER has introduced an Environmental Management System (EMS) that conforms to ISO 14001 environmental management standards.

By the end of 2005, we had acquired ISO 14001 at all power generation plants, power transmission & substations and communication facilities.

Moreover, by the end of FY 2007, we had completed the introduction of EMS at all consolidated subsidiaries.

We are committed to continuous improvement, and we will adopt appropriate EMS for all new consolidated subsidiaries.

#### Environment-related Communications

Our environment conservation activities are described in our Sustainability Report. We release a wide range of environment related information through our PR activities.

We place great emphasis on communication activities, such as active participation in local environment conservation activities.



### Shokawa Sakura Trees

There are two large Sakura, or cherry trees, at the Nakano observation platform near Miboro lakeside, and these trees are said to be over 450 years old. They are both Azuma Higan Sakura cherry trees. Originally, these cherry trees were in the precincts of Shorenji and Korinji Buddhist temples, which are now submerged under the dam lake.

For the local village people, these trees were a beloved feature of their life for many years. So, in 1959, the late first President of J-POWER, Tatsunosuke Takasaki, visited this site during the dam construction. He felt it would be a pity for these two magnificent cherry trees to be submerged under the lake. J-POWER requested the leading researcher in the field of cherry trees, the late Shintaro Sasabe, the Sakura doctor, to undertake the transplanting of these two trees, and this was successfully accomplished. This was a major transplantation project without precedent worldwide that many experts in the field said would be impossible, and it was completed in December 1960. These trees are now known as the Shokawa Sakura, and since that time, we have cared for these trees.

\*"J-POWER Group Sustainability Report" is available on our website [www.jpowers.co.jp](http://www.jpowers.co.jp)

Consolidated Balance Sheets (As of March 31, 2008 and 2009)

Assets				Liabilities, Minority Interests and Shareholders' Equity			
	Millions of yen				Millions of yen		
	2009	2008	Δ	2009	2008	Δ	
Property, Plant and Equipment	1,843,143	1,864,374	△ 21,231	Long-term liabilities	1,304,830	1,276,354	28,476
Power plant	1,235,044	1,265,497	△ 30,452	Current liabilities	317,379	267,097	50,281
Other property, plant and equipment	46,634	40,270	6,363	Reserves under special laws	1,146	1,560	△ 413
Construction in progress	321,889	327,429	△ 5,539	Total liabilities	1,623,356	1,545,012	78,344
Nuclear fuel	27,650	10,310	17,340	Shareholders' equity	408,036	464,266	△ 56,229
Investments and other assets	211,923	220,866	△ 8,942	Valuation and translation adjustments	△ 27,908	2,116	△ 30,024
Current assets	162,325	148,756	13,569	Minority interests	1,984	1,735	248
				Total net assets	382,112	468,118	△ 86,006
Total	2,005,469	2,013,131	△ 7,661				

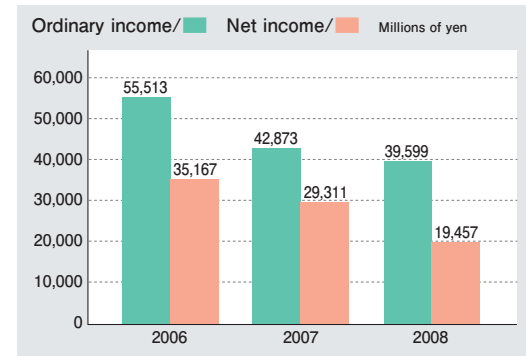
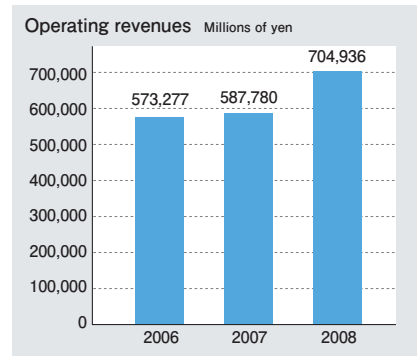
Consolidated Statement of Cash Flows (For the years ended March 31, 2008 and 2009)

	Millions of yen		
	2009	2008	Δ
Cash flows from operating activities	158,628	136,252	22,376
Cash flows from investing activities	△ 132,350	△ 152,518	20,167
Cash flows from financing activities	△ 29,615	17,174	△ 46,790
Foreign currency translation adjustments on cash and cash equivalents	△ 2,764	147	△ 2,911
Net increase and decrease in cash and cash equivalents	△ 6,101	1,056	△ 7,157
Cash and cash equivalents at beginning of year	35,631	34,575	1,056
Cash and cash equivalents at end of the period	29,530	35,631	△ 6,101

Consolidated Statement of Income (For the years ended March 31, 2008 and 2009)

Expenses				Revenues			
	Millions of yen				Millions of yen		
	2009	2008	Δ	2009	2008	Δ	
Operating expenses (Operating income)	647,828 (57,108)	537,056 (50,724)	110,771 (6,384)	Operating revenues	704,936	587,780	117,155
Non-operating expenses	30,791	29,394	1,397	Non-operating revenues	13,282	21,543	△ 8,261
Total ordinary expenses	678,619	566,450	112,169	Total ordinary revenues	718,219	609,324	108,894
Ordinary income	39,599	42,873	△ 3,274	Extraordinary gain	12,170	—	12,170
(Provision for) reversal of reserve for fluctuation in water levels	△ 413	△ 595	181				
Extraordinary loss	19,648	—	19,648				
Income before income taxes and minority interests	32,536	43,469	△ 10,932				
Income taxes - current	17,928	15,962	1,965				
Income taxes - deferred	△ 4,945	△ 1,829	△ 3,115				
Minority interests or losses	95	24	71				
Net income	19,457	29,311	△ 9,853				

Performance in graph form (Consolidated)



Electric Power Sales (From April 1, 2008 to March 31, 2009)

Electric Power Sales 59,148 GWh\* \* Power sales do not include those from pumped storage power generation

- Category of Business : Electric Utility
- Date of incorporation : September 16, 1952
- Paid-in capital : ¥152,449,600,000
- Employees : 2,224 (As of March 31, 2009)

Directors and Statutory Auditors (As of end of June 2009)

- Chairman  
Kiyoshi Sawabe
- President  
Masayoshi Kitamura
- Executive Vice Presidents  
Shinichiro Ota  
Masashi Hatano  
Yasuo Maeda  
Yoshihiko Sakanashi
- Executive Managing Directors  
Minoru Hino  
Masaharu Fujitomi  
Toshifumi Watanabe
- Executive Directors  
Seigou Mizunuma  
Kiyotaka Muramatsu  
Kuniharu Takemata  
Hirotada Tanou  
Go Kajitani
- Senior Corporate Auditors  
Kanji Shimada  
Takashi Fujiwara
- Corporate Auditors  
Motohito Sunamichi  
Mutsutake Otsuka  
Hideaki Miyahara

Corporate Network (As of June 2009)

- Head Office**  
6-15-1, Ginza Chuo-ku, Tokyo 104-8165, Japan Tel: 81-3-3546-2211  
Website: www.jpowers.co.jp  
E-mail: webmaster@jpowers.co.jp
- Overseas Offices**  
Washington Office  
1101 17th street, N.W., Suite 609, Washington D.C.20036, U.S.A.  
Tel: 1-202-429-0670  
Fax: 1-202-429-1660
- Beijing Office  
3F Chang Fu Gong Office Bldg., Jia-26, Jian Guo Men Wai Da Jie, Beijing 100022, PRC  
Tel: 86-10-6513-7091/7092  
Fax: 86-10-6513-3371
- Hanoi Office  
9F Sun Red River Building, 23 Phan Chu Trinh Street, Hoan Kiem District, Hanoi, Vietnam  
Tel: 84-4-933-3930  
Fax: 84-4-933-3937
- Upper Kotmale Hydropower Project J-POWER Office  
Niyamgamdora, Kotmale, 20560 Sri Lanka  
Tel: 94-51-223-3217  
Fax: 94-51-223-3216

Major Group Companies (As of end of June, 2009)

Company	Location	Tel. /Website	Main Business
JP Business Service Corporation	Kouto-ku, Tokyo, Japan	81-3-3642-9771 http://www.jpbs.co.jp	Operation of public welfare facilities; building maintenance; administrative, labor, and accounting services; computer software development
JPHYTEC Co., Ltd.	Chiyoda-ku, Tokyo, Japan	81-3-3237-2323 http://www.jphytec.co.jp	Construction, engineering, design, consulting, and maintenance inspections for hydropower plants and power transmission facilities; real estate indemnity, land surveying, civil engineering work, general architecture, project management.
JPec Co., Ltd.	Chuo-ku, Tokyo, Japan	81-3-5203-0361 http://www.jpec.co.jp	Construction, engineering, design, consulting, and maintenance inspections for thermal and nuclear power plants; unloading and transport of coal for thermal plants, sales of fly ash, and marine transport of coal fuel for electricity generation; study, implementation, and maintenance management of forestation landscaping; environmental protection studies and planning.
KEC Corporation	Bunkyo-ku, Tokyo, Japan	81-3-3816-8211 http://www.kec.co.jp	Installation and maintenance of electronic and communications equipment
JPD (J-POWER Design) Co., Ltd.	Chiyoda-ku, Tokyo, Japan	81-3-3255-6211 http://www.jpdc.co.jp	Civil engineering, general architecture, power generation facility design, project supervision.
J-POWER EnTech Co., Inc.	Minato-ku, Tokyo, Japan	81-3-3597-2761 http://www.jpowers.co.jp/entech	Engineering relating to equipment for removal of atmospheric and water pollutants



Electric Power Development Co., Ltd.

6-15-1, Ginza, Chuo-ku, Tokyo 104-8165, Japan Tel: 81-3-3546-2211

Website: [www.jppower.co.jp](http://www.jppower.co.jp) E-mail: [webmaster@jppower.co.jp](mailto:webmaster@jppower.co.jp)

