



CORPORATE BROCHURE

2011-2012



From Japan... ...to the World ...and on to the Future!

J-POWER Mind
Global Way
Next Generation

Shokawa Sakura Trees in Bloom at Miboro Lakeside
[Photo : Shoichi Maekawa]

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Greetings



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

We express our sincere condolences to those affected by the Great East Japan Earthquake of March 11, 2011.

We provide "power" to Japan and the world backed by more than 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 March 2011 show that we have built and operate 67 power plants with a total output capacity of 16,992.5 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 318 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 view of the very serious situation brought about by the recent Great East Japan Earthquake, we are exerting every effort in our corporate mission to meet people's needs for energy without fail, and play our part the sustainable development of Japan and the rest of the world.

Chairman

President



Power from Japan to the world and on into the future

Corporate Philosophy

Our 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.

Our Credo

We value integrity and pride, which drive everything we do.

We pursue harmony with the environment, and thrive in the trust of communities where we live and work.

We regard profits as the source of our growth, and share the fruits with the society.

We refine our knowledge constantly, to be the pioneering leader in technologies and wisdom.

We unite diverse personalities and passions as one, and dare create a better tomorrow.

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”



Sakuma Power Plant

Takasago Thermal Power Plant



Okukiyotsu Power Plant

Takehara Thermal Power Plant



Okinawa Yanbaru Seawater Pumped Storage Power Plant

Isogo Thermal Power Plant

Large-scale Hydro and Thermal Power Generation Using Domestic Coal and Commencement of International Operations

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.



Sakuma Frequency Converter Station

Miboro Power Plant

Tagokura Power Plant

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
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

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
Jun. 1990	Matsura Thermal Power Plant begins operating

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.



Matsushima Thermal Power Plant

Ishikawa Coal Thermal Power Plant

Large-scale Pumped Storage Power and Large Capacity Power Transmission Lines

The importance of oil-fired thermal power increased as the base power source, and the development of nuclear power plants advanced. The summer peak power demand load became more clearly defined, and to meet this added demand, J-POWER engaged in the development of large-scale pumped storage power plants and the construction of large capacity power transmission lines.

Sep. 1969	Hanna Line begins operating (500KV)
Nov. 1972	Shintoyone Pumped Storage Power Plant begins operating
Jun. 1973	Numappara Pumped Storage Power Plant begins operating
Mar. 1975	Onikobe Geothermal Power Plant begins operating
Jul. 1978	Okukiyotsu Pumped Storage Power Plant begins operating
Aug. 1979	Tedorigawa Power Plant No. 1 begins operating
Dec. 1979	Kitahon HVDC Link and Hakodate and Kamikita AC/DC converter stations begin operating
May 1980	Western Area Interconnecting Line begins operating



Numappara Power Plant

Kitahon HVDC Link

Onikobe Geothermal Power Plant



Matsuura Thermal Power Plant

Honshi Interconnecting Line Power Cable

New Technology 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.

Apr. 1990	Planning of the Masinloc Coal-Fired Thermal Power Project in the Philippines begins
Jul. 1992	Signed agreement to implement pilot desulfurization facility in China
Apr. 1994	Kurotani Power Plant (rubberized fabric dam begins operating)
Jul. 1994	Honshi Interconnecting Line begins operating
Jun. 1996	Okukiyotsu Pumped Storage Power Plant No. 2 begins operating
Mar. 1999	Okinawa Yanbaru Seawater Pumped Storage Power Plant begins pilot operation
Feb. 2000	Honshi Interconnecting Line extended
Apr. 2000	Participation in Roi-Et Biomass Power Plant in Thailand
Jun. 2000	Anan-Kihoku HVDC Link begins operating
Jul. 2000	Tachibanawan Thermal Power Plant begins operating
Dec. 2000	Participation in Tianshi Thermal Power Plant in China

Privatization and a Reborn “J-POWER”

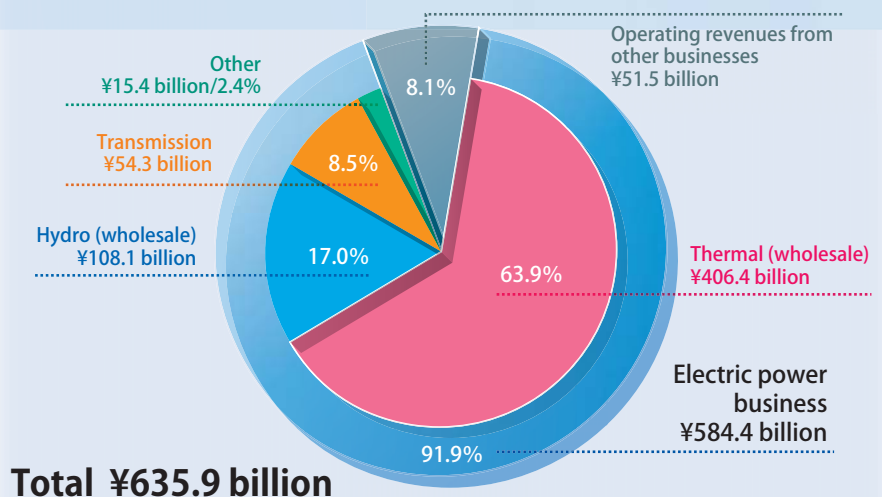
J-POWER is constantly engaged in developing new technology to attain effective coexistence between energy and the environment as it seeks sustainable growth as a global electric power company contributing to a sustainable society.



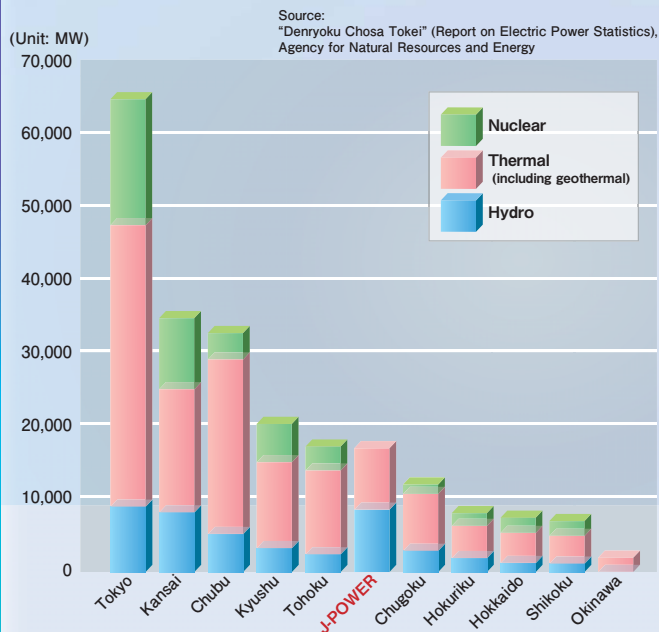
Koriyama-Nunobiki Kogen Wind Farm

Elwood Power Plant in USA

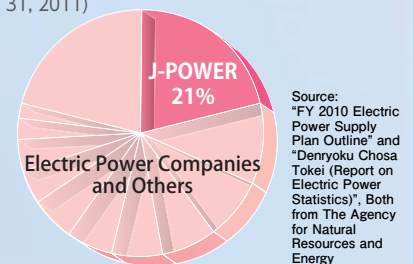
Breakdown of Operating Revenues (Consolidated) (FY 2010)



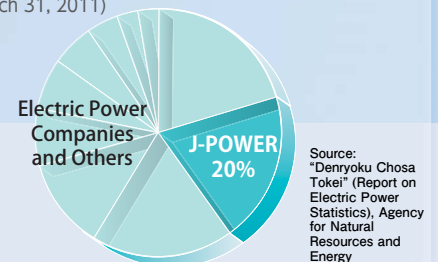
Power Generation Capacity of J-POWER and Japan's 10 Electric Power Companies (As of March 31, 2011)



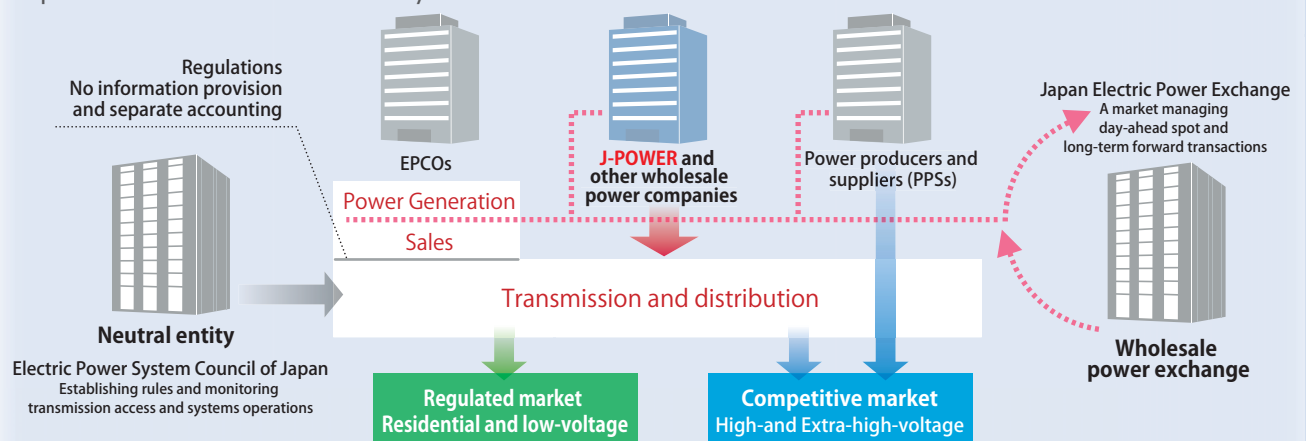
Share of Coal-Fired Power Generation Capacity (As of March 31, 2011)



Share of Hydropower Generation Capacity (As of March 31, 2011)



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 March 31, 2011)

Power Generation Facilities		
Hydropower Stations	Number 59	Capacity 8,565,500 kW
Thermal Power Stations	Number 7	Capacity 8,412,000 kW
Geothermal Power Station	Number 1	Capacity 15,000 kW
Total	Number 67	Total Capacity 16,992,500 kW
Transmission Lines		
Extra-high-voltage power transmission lines		1,973.4 km
DC power transmission lines		267.2 km
Substations	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
Telecommunications Network		Total circuit length 5,896 km
New Businesses (Capacity)		
Wind Power Stations	Number 18	Capacity 352,860 kW
Other Power Generation Facilities	Number 8	Capacity 877,300 kW
Total	Number 26	Total capacity 1,230,160 kW

* 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
- Thermal power plants - 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, Competitive Market
- Research Institutes, 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

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

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 8,600,000 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.



Kanmon Interconnecting Line



Okinawa Yanbaru Seawater Pumped Storage Power Plant

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.



Tagokura Power Plant Comprehensive renewal of main electrical equipment

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). 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.

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

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 CO₂ 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 renewable domestic energy source. From 1975, J-POWER has been operating the Onikobe Geothermal Power Plant in Miyagi Prefecture (Capacity 15,000 kW).



Isogo Thermal Power Plant



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



Onikobe Geothermal Power Plant



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 2010, the average thermal efficiency rate of all thermal power plants nationwide was 40.5% (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 appropriate maintenance of power plant equipment. 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 CO₂ emissions. We are committed to ensuring the maintenance and improvement of energy utilization efficiency at our thermal power plants.

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_x, NO_x and ash dust in flue gas.

At the New No. 1 and 2 Units of Isogo Thermal Power Plant, our newest power plant, we have adopted the latest cutting-edge clean coal technology including a dry type desulfurization and denitration system (ReACT) as an environment preservation measure. As a result, we have curbed the air pollutant emissions level per power generation unit to the top level in the world.

This ReACT technology has the special feature of using almost no water and it is employed extensively throughout Japan in facilities such as coal-fired thermal power plants, steel works, petrochemical plants and waste disposal plants.

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.



Dry Type Desulfurization System (New No.2 Unit of Isogo Thermal Power Plant)

Coal ash utilization technology

Coal ash is a by-product of coal-fired thermal power plants.

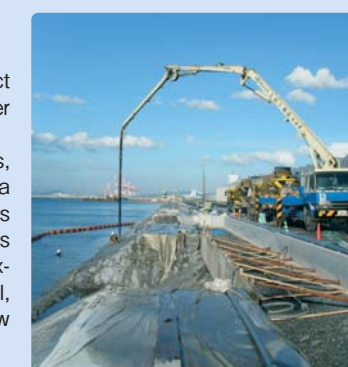
Utilizing its properties, this ash is recycled as a cement raw material, as civil engineering materials such as concrete admixture and landfill material, and as a fertilizer raw material, etc.

Fly ash is employed as a concrete admixture, and is often used in concrete for dam construction.

Clinker ash possesses good permeability and water retention properties, and so is used extensively for applications such as constructing sports grounds and for park lawn planting beds.

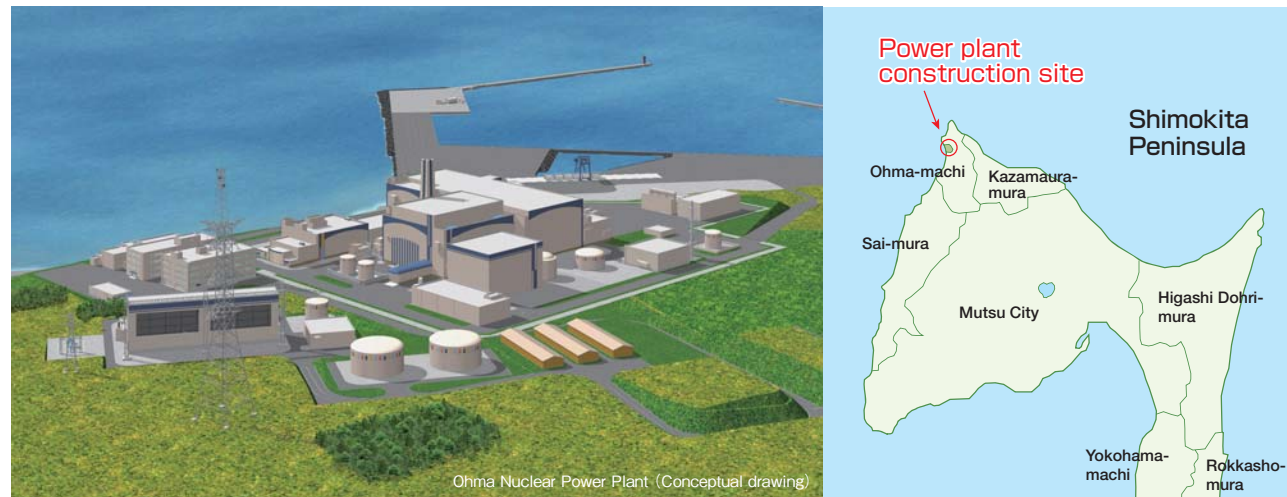
In addition, we have developed coal ash utilization technology known as the fly ash mortar method. This makes it possible to achieve major improvements in mechanical properties. This material is made by adding a small amount of cement to coal ash and mixing it with sea water or fresh water. We are recycling 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.

The J-POWER Group company Kaihatsuhyou Co., Ltd. is engaged in the production and sale of fertilizers made using coal ash.



Example of coal ash utilization

Safety - Our top priority in developing nuclear energy



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, Japan's nuclear power plays an important role in ensuring a stable supply of electric power as a base power source.

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 CO₂ 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 (Plutothermal 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. While placing top priority on safety, we make the utmost efforts to protect the environment, and we seek to maintain a harmonious relationship with local communities. In view of the recent Great East Japan Earthquake, we make absolutely sure that we have adequate safety measures in place, and we obtain the understanding of the local communities and build safe power generation plants.

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 ²
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

Making coal use compatible with measures to counter global warming through technological innovation

J-POWER is engaged in developing advanced coal-fired thermal power generation technology leading to a reduction in the amount of CO₂ emissions.

Development of High-Efficiency Coal Utilization Power Generation Technology (The EAGLE Project)



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

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 technological development work seeks to reduce the amount of CO₂ emissions per power generation unit.

From FY 2010, J-POWER has commenced the development of "Innovate CO₂ Capture Type Coal Gasification Technology", and in this endeavor it is working to attain a higher efficiency IGCC + CO₂ separation and recovery system.

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 CO₂ emissions of approximately 30% compared with existing pulverized coal fired power plants.

*1 Integrated coal gasification combined cycle

*2 Integrated coal gasification fuel cell combined cycle

Implementation of large-scale oxygen-blown coal gasification technology demonstration plant (Osaki CoolGen Project)

A demonstration plant with a capacity of 170 MW will be constructed in Osakikamijima, Hiroshima Prefecture in a joint project with the Chugoku Electric Power Co. Inc.

After confirming the reliability, economy and operability of the oxygen-blown coal gasification power generation system, tests will be carried out on advanced CO₂ separation and recovery technology. The objective is to develop innovative energy technology to realize zero emission type coal-fired thermal power generation.

These demonstration tests are to realize 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 CO₂ capture and storage (CCS) technology within the Cool Earth - Innovative Energy Technology Program of the Japanese Government.

Outline of this verification system

IGCC* (Integrated Coal Gasification Combined Cycle)

- Coal is gasified to produce combustible gas (H₂, 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

*The system will eventually become an IGCC plus fuel cells, that is an integrated coal gasification fuel cell combined cycle (IGFC) system.

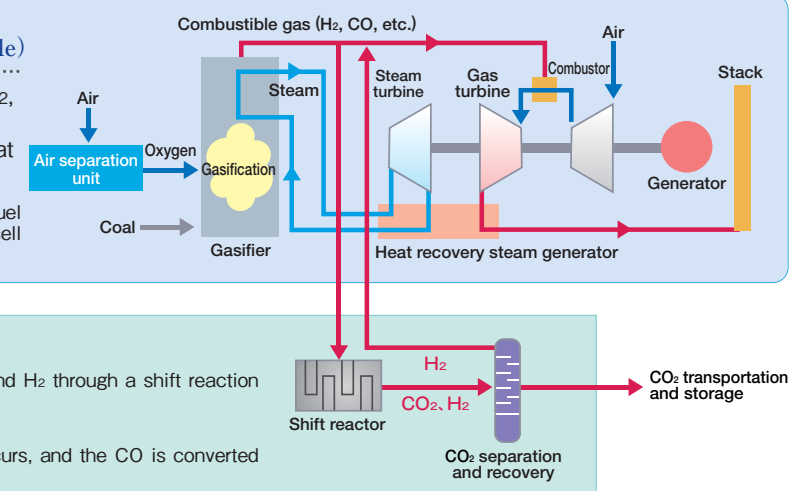
CO₂ Separation and Recovery Technology

CO₂ separation and recovery

The CO in combustible gas is converted to CO₂ and H₂ through a shift reaction and the CO₂ is separated and recovered

Shift reaction

Vapor is added to the CO, a catalytic reaction occurs, and the CO is converted to CO₂ and H₂



...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 51 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.

Our overseas consulting business is a worldwide operation

Over the past 51 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 318 projects in 63 countries and regions (as of March 31, 2011).

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 as well as private sector companies on a commercial basis. These projects include implementation design and construction supervision.



Yuncan Hydropower Plant (Peru)



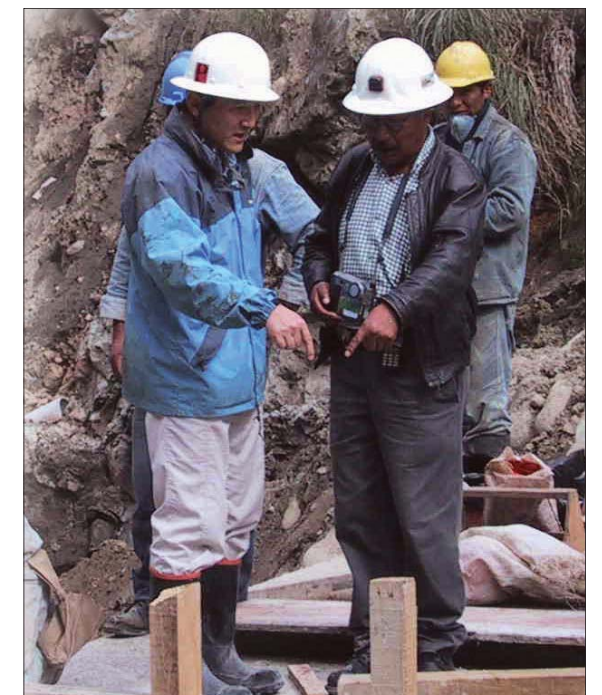
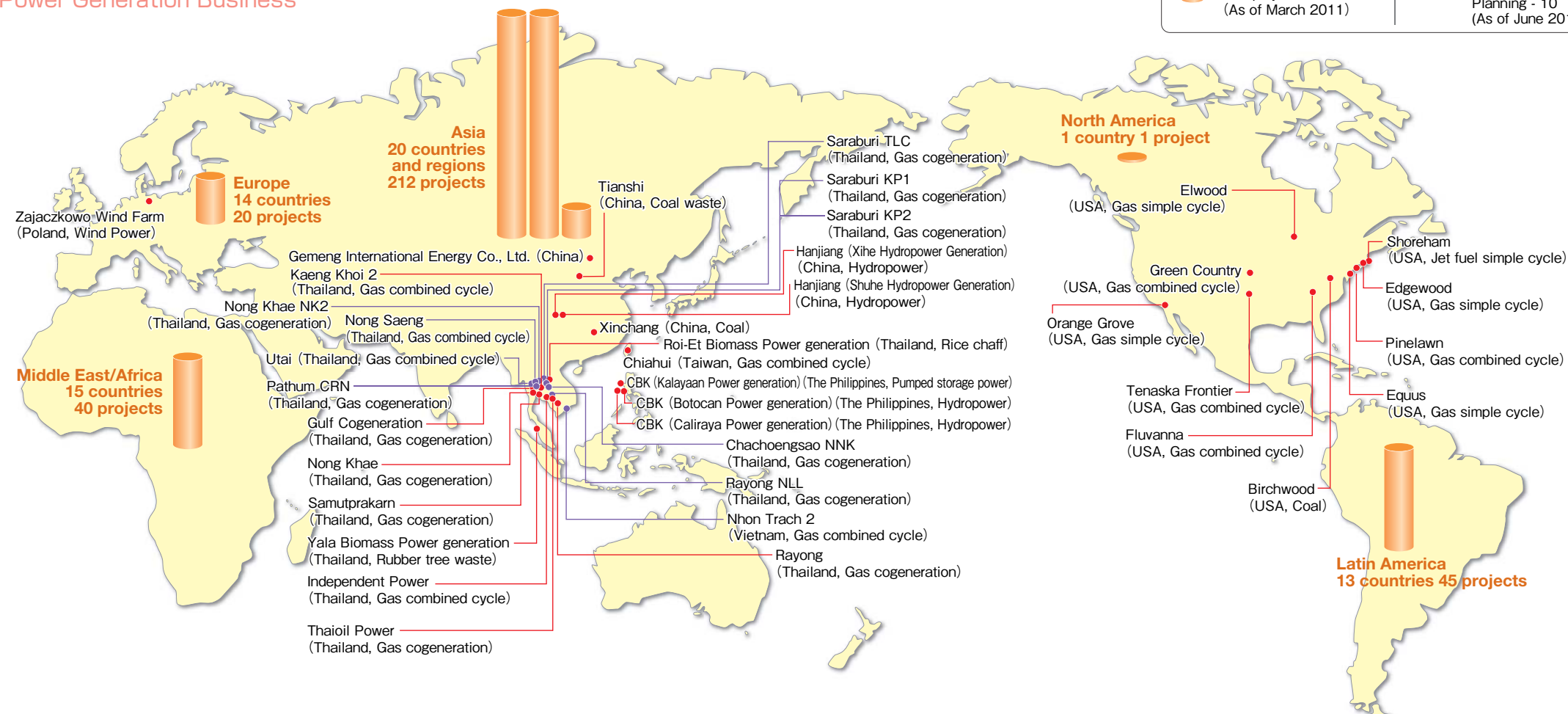
Victoria Hydropower Plant (Sri Lanka)



Purulia Pumped Storage Power Plant (India)

J-POWER's technological prowess has won trust overseas

Status of implementation of International Consulting Services and Overseas Power Generation Business



Global Way



Green Country Thermal Power Plant (USA)

A second driving force for business operations

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 51 years of overseas consulting services in 63 countries and regions, we are also actively seeking new projects in this sector.

We are engaged in 29 IPP projects in 6 countries and regions with a total gross capacity of about 15,000 MW (ownership share : approx. 3,700 MW) as of the end of March 2011.

We intend to continue to concentrate our overseas activities mainly on our key markets of Thailand, China and the USA while simultaneously actively developing new overseas markets.



Tianshi Thermal Power Plant (China)



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



Birchwood Power Plant (USA)

Next Generation



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.

A positive approach to new business domains

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 18 wind power farms in Japan on a commercial basis with a total power generation capacity of 352,860 kW, 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 (48,000 kW), is in commercial operation. 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 operations

J-POWER actively promotes the use of unutilized energy. It is proactively engaged in the effective use of biomass (a biological resource) as an alternative to coal fuel in coal-fired power plants. This includes combined combustion at Matsuura Thermal Power Plant using dried sewage sludge fuel (bio-solid fuel) ... converting sewage sludge into fuel using low temperature carburization fuel technology ... the production of wood pellet biomass fuel made from Japanese forest waste wood materials ... and the development of technology to manufacture carbonized fuel from general waste.

We are also 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, and at Narumi Waste



Conceptual image of the Fuel Conversion Facility of the Hiroshima City-Seibu 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 the competitive market, we operate three gas

thermal power plants in Chiba Prefecture (total capacity 322,420 kW).

In the area of IPP (*1) wholesale electric power supply projects, which supply electric power to general power supply companies, we operate commercial power plants at three locations (total capacity 522,000 kW).

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 (*2) 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 energy conservation infrastructure operations

In the realm of water environment projects, J-POWER is also proactively engaged in PFI operations in the water and sewage infrastructure area. We are participating in the Samukawa and Chibanogiku-no-Sato water purification plant wastewater treatment facilities. Thus, we are undertaking the construction and operation of tap water facilities utilizing private sector funds and know-how. In the water environment sector, we also provide the optimal solutions including on-site tap water treatment services.

In the field of energy conservation infrastructure operations, we are utilizing the know-how we have acquired through consulting business in the area of district heating supply in Japan and overseas and participating in a district cooling supply project in the UAE, the first Japanese electric power company to do so.

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

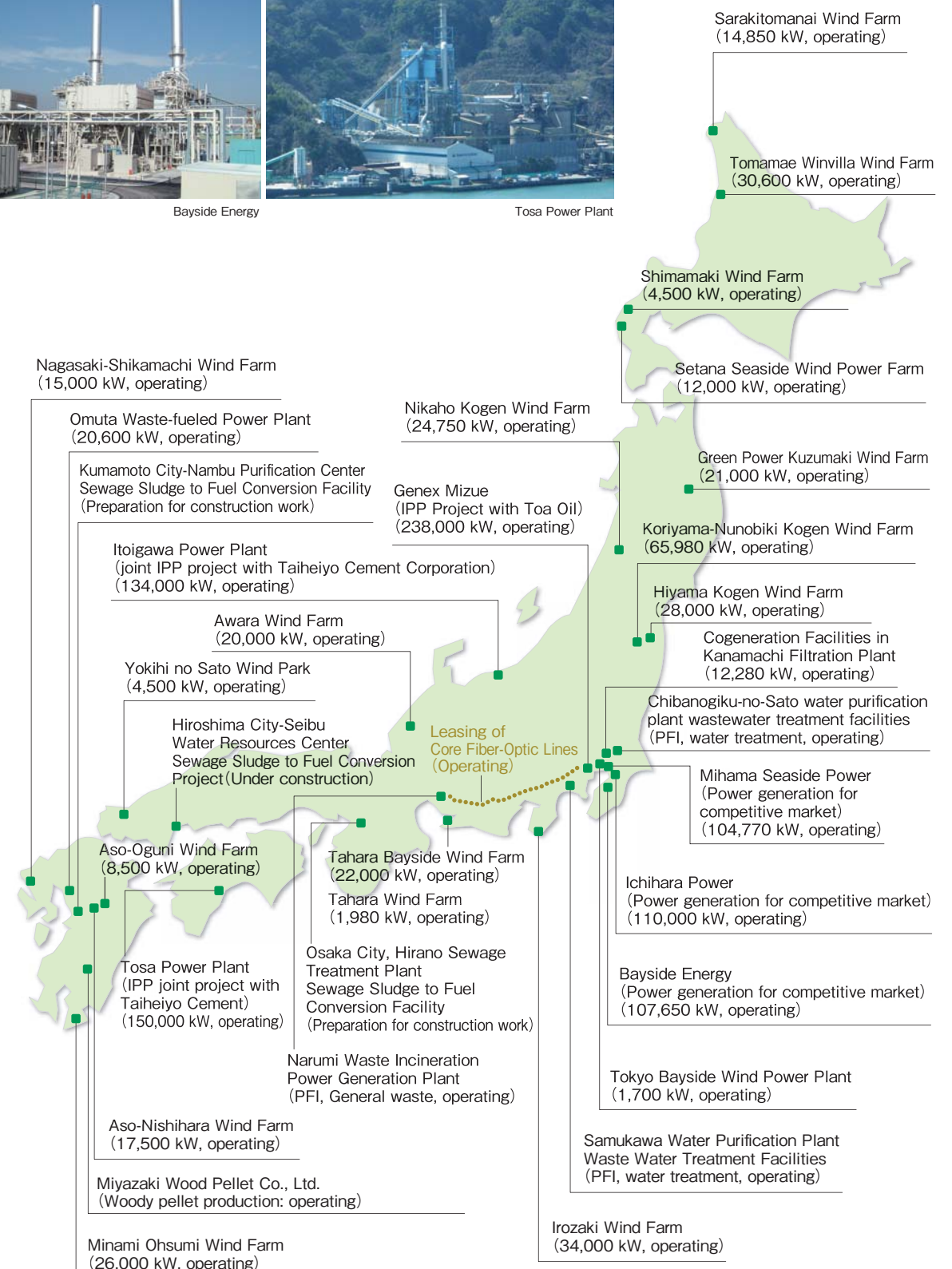
New Business Projects (As of April 2011)



Bayside Energy



Tosa Power Plant



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

We are exerting maximum efforts to ensure a stable supply of energy while progressively expediting our engagement in attaining a low carbon global society, both in Japan and overseas, and we are contributing to a reduction of CO₂ emissions on a global scale.

For this we are engaged in the stable supply of energy and reduction of CO₂ emissions, both in Japan and worldwide with the main focus on "technology" from a medium to long-term perspective. This includes "Promotion of a low carbon global society in the area of coal thermal power generation", "R&D to ensure a next generation low carbon global society," and "Expanding the use of CO₂ free power sources".

In addition, our ultimate goal is to achieve zero emission through "CO₂ capture and storage technology, etc.

Efforts Relating to Local Environmental Issues

We seek to attain coexistence with the local environment 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 order to bury rock excavated during expansion of a power plant downstream from the Okutadami Dam (Fukushima and Niigata prefectures) in a wetland area, we created an alternative wetland area to minimize the effect on this ecosystem and to replace that lost through rock burial. In the creation of this new wetland area we exerted great care to ensuring the continued existence of the original wetland and the recreated wetland as long as possible by very carefully replanting the plant life and by expediting a natural migration of rare dragonflies native to this area. We have since confirmed that the rare dragonflies continue to exist in the recreated wetland. We intend to conduct studies to observe changes in the flora and fauna after recreation of the wetland and we are committed to efforts to preserve local ecosystems more effectively.

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

Efforts Relating to Global Environmental Issues

The J-POWER Group has positioned implementing measures to prevent global warming as a top management priority, and centering on the following 3 measures it is proactively implementing policies to ensure a stable supply of energy to Japan and the world while reducing the emission of CO₂.

Promotion of a low carbon global society in the area of coal thermal power generation

Coal fired power generation is a stable and economical form of power generation and it will continue to serve an important role in the world. However there is a need to reduce CO₂ emissions.

By utilizing our world leading-edge clean coal technology, including ultra-supercritical technology (USC), we are engaged in ensuring low carbon levels in coal-fired power generation in Japan and worldwide.

R&D to ensure a next generation low carbon global society

We are engaged in development of next generation high efficiency power generation technology including integrated coal gasification combined cycle (IGCC) and integrated coal gasification fuel cell combined cycle (IGFC). In addition, our ultimate goal is to achieve zero emission through CO₂ capture and storage (CCS) technology, etc. We are also engaged in R&D on offshore power generation technology to increase the use of sustainable energy.

Expanding the use of CO₂ free power sources

With regard to nuclear power generation, we work to create safe power stations with the understanding of the local community, and we are further increasing the use of sustainable energy including hydroelectric, wind power and geothermal power.

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 by employing the latest technology and knowledge to implement environment conservation measures that prevent air pollution, water pollution, and noise and vibration at coal thermal power plants, etc.

Towards a recycling-based society and preserving biodiversity

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. Also, at all stages of our operations we implement surveys, prediction and evaluations on the impact on flora and fauna as necessary. In all our operations we seek to preserve biodiversity and we take measures to safeguard rare flora and fauna and water environments.

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 introduced EMS at all our then consolidated subsidiaries. We are committed to continuous improvement. From FY 2008 we are seeking to adopt EMS for all consolidated subsidiaries, and we are studying the introduction of EMS at the consolidated subsidiaries that have not yet adopted this system.

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

Photo: Shoichi Maekawa

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. 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.

* In December 2010 we marked the 50th anniversary of the transplanting of the Shokawa Sakura Trees

* "J-POWER Group Sustainability Report 2011" is available on our website www.jpowers.co.jp



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