

2006

**J-POWER Group**  
**Environmental Management Report**





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# **Harmonizing Energy with the Environment— The Power Source of the J-POWER Group**

For the future of the planet, we want to deliver power to as many people as possible.

The J-POWER Group has been in business for more than fifty years, with operations throughout Japan and in a number of other countries.

Based on this record of achievement and the technological capacity supporting it, we are working toward creating new businesses in the field of energy and the environment, and increasing our corporate value.



Tomamae Winvilla Power Plant (Hokkaido pref.)

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
### Note concerning forecasts

The plans, strategies, and forecasts set out in this report have been formulated based on currently available information. Unforeseeable changes in various factors may cause results to differ from projections.

### Editorial Policies

- This report has been renamed "J-POWER Group Environmental Management Report" as it now includes all of the consolidated subsidiaries in the J-POWER Group.
- All data (inputs and outputs) on "Business Activities and the Environment" have been calculated for the J-POWER Group as a whole. Joint investments have been calculated according to the investment ratio. The results have been independently verified by Shin Nihon Environmental Management and Quality Research Institute Co., Ltd. (see page 78 for details).
- In addition to expanded coverage of corporate governance, compliance, and other aspects of management, the "Society" section in last year's report has been reorganized and enhanced under the headings "Relationship with Local Communities and Society" and "Relationship with Employees."
- The "Independent Recommendations" in the "External Evaluation and Outside Opinions" section have been drawn from a wide spectrum of experts, researchers, and journalists with the goal of improving our environmental management and working to increase the reliability and transparency of our operations.

ability and transparency of our operations.

- This report is also available on the J-POWER website as "2006 Environmental Management Report" (from November 2006).
- Terms in the report marked  are listed in the Glossary on pp. 90-92.

**Period covered:** April 2005 to March 2006 (some items include information pertaining to April 2006 and beyond)

**Scope:** J-POWER and J-POWER Group companies (consolidated subsidiaries)

Where data applies only to J-POWER, or includes non-consolidated subsidiaries, this fact is noted in the text.

**Guidelines referred to:**

Ministry of the Environment, Environmental Accounting Guidelines 2003

Global Reporting Initiative (GRI), Sustainability Reporting Guidelines 2002

**Report issued since:** 1998

**Next report due:** October 2007 (tentative schedule)

J-POWER was founded as an electricity wholesaler by the Japanese government in 1952 and is the only company with a nationwide network of transmission and transformation facilities playing a key role in the generation and supply of electricity throughout Japan. Since its establishment J-POWER has contributed to economic growth and the improvement of everyday life in Japan by providing moderately priced and stable electricity supply to general electric utilities (10 regional power companies). The company was fully privatized in October 2004.

## J-POWER Group Business: Outline (J-POWER and consolidated subsidiaries, as of the end of March 2006.)

◆ **Founded (J-POWER)** September 16, 1952  
 ◆ **Employees** Group total 5,971  
 (including 2,132 parent company employees)

**77** power stations throughout Japan

◆ **Main business activities**

● **Wholesale power supply (J-POWER)**

Hydropower stations	59	Total output 8.55 GW
Thermal power stations (including geothermal)	8	Total output 7.82 GW
Transmission lines (total length)		2,404 km
Customers	10 general electric utilities (regional power companies)	

● **Other electricity business**

Wind farms	7	Total output 0.14 GW
Wholesale power supply to general electric utilities via independent power producers (IPP)	1	Total output 0.14 GW
Wholesale power supply to power producers and suppliers (PPS)	2	Total output 0.22 GW

● **Ancillary business related to electricity (J-POWER subsidiaries and affiliates)**

Design, construction, and maintenance of electric power facilities, supply of fuel for power generation

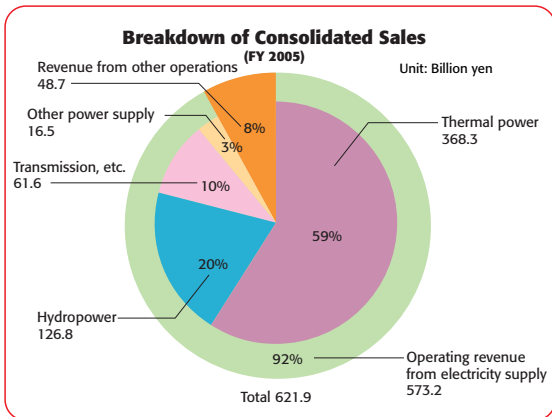
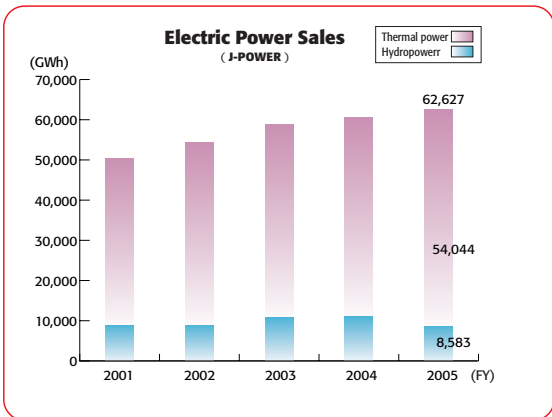
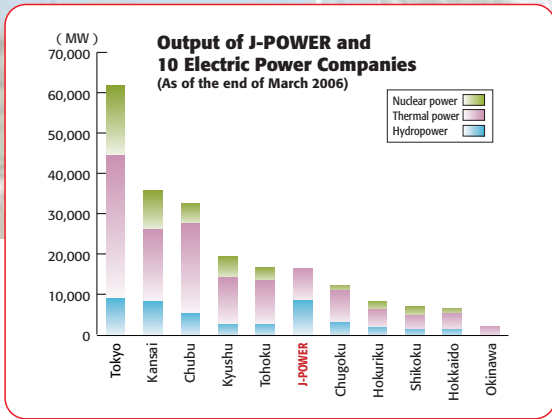
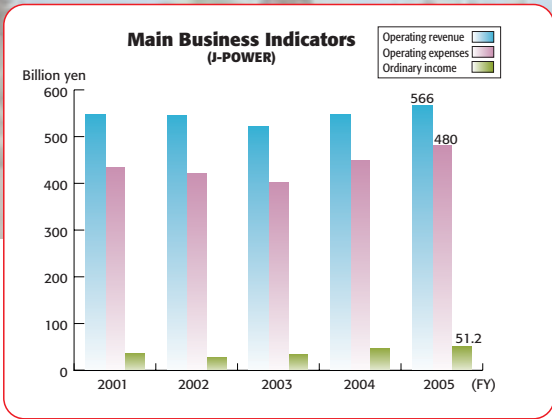
● **Diversified business (J-POWER affiliates)**

Investment in overseas power generation projects and new energy businesses such as power generation from waste materials in Japan

**64,000** GWh of wholesale electricity supplied to power companies nationwide

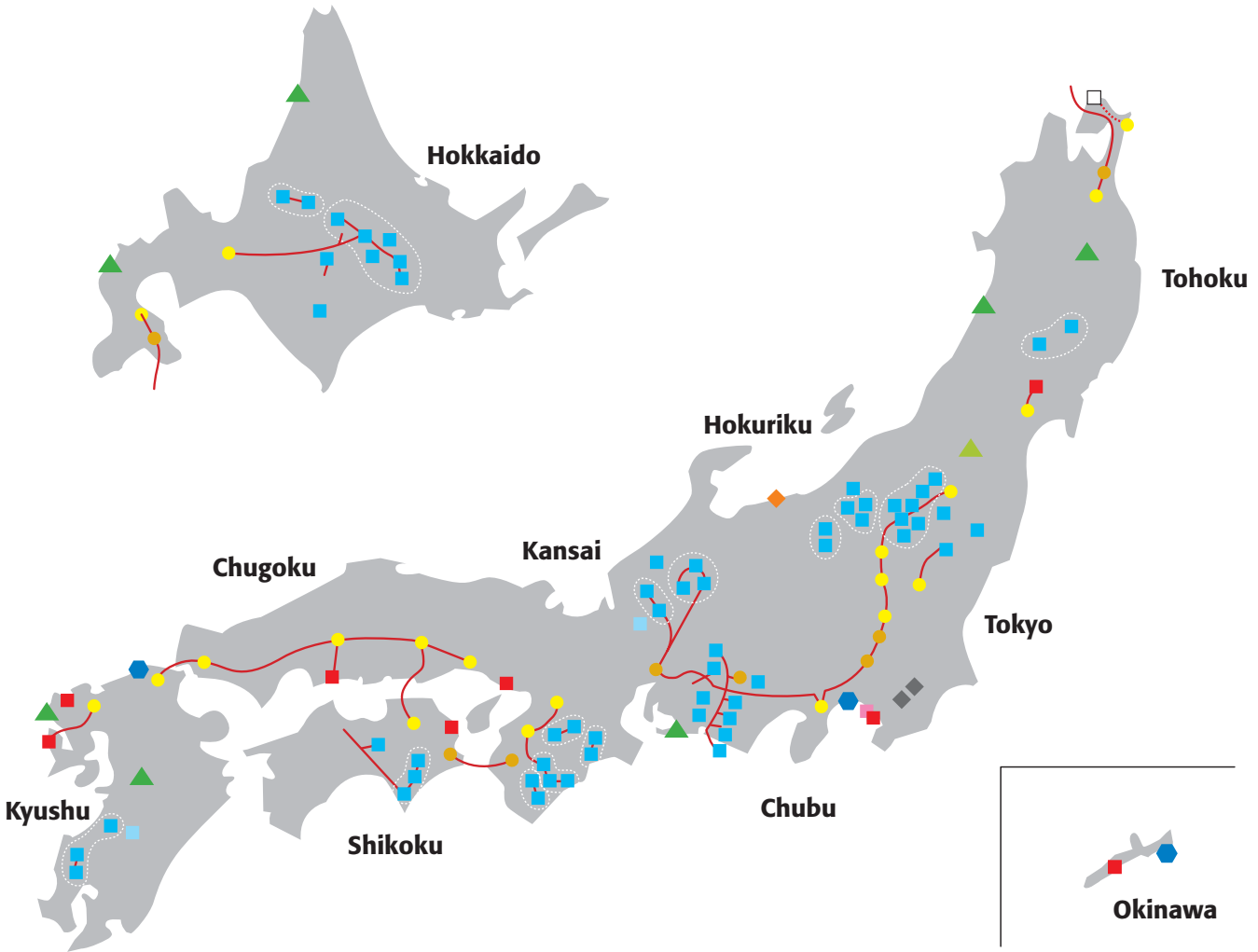
Japan's homes and factories

◆ **Total sales (consolidated basis)** 621,900 million yen  
 Revenue from electricity supply 573,200 million yen

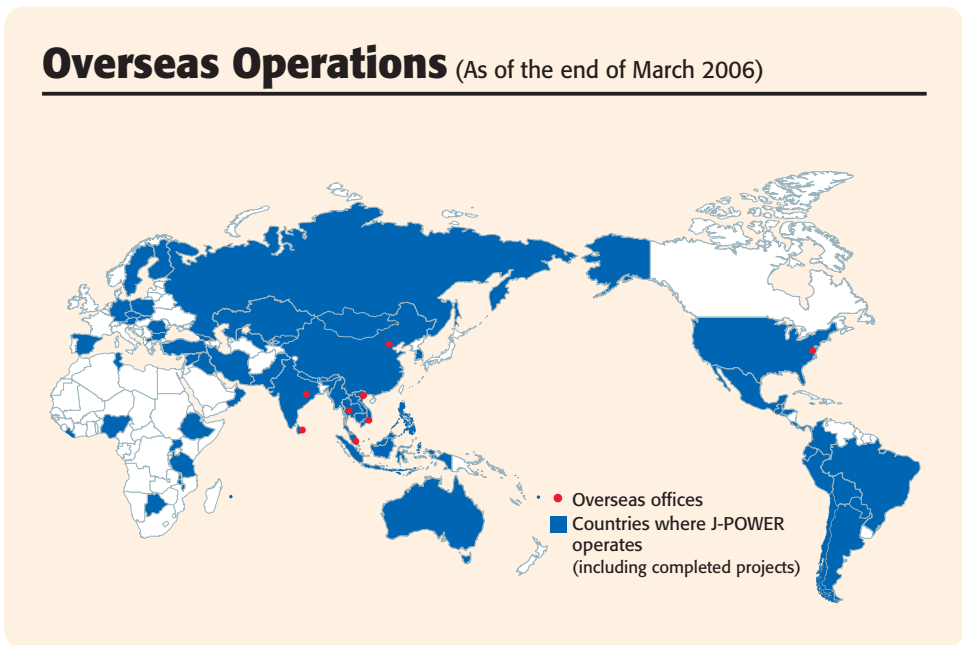


(Including equity method affiliates)

# Facilities in Japan (As of the end of March 2006)



## Overseas Operations (As of the end of March 2006)



# J-POWER Group Business

## Coal-Fired Power Generation

J-POWER's coal-fired power business began in the late 1960s with the construction and operation of coal-fired power stations in Japan aimed at supporting the domestic coal industry. Amid strong calls to diversify energy sources following the two oil shocks of the 1970s, the company set about constructing the first large-scale coal-fired power station in Japan fuelled by imported coal.

With seven power stations supplying a total output of 7.81 GW, J-POWER now possesses approximately 20 percent of Japan's coal-fired generation capacity, the largest share in the country.

## Hydroelectric Power Generation

Hydroelectric generation offers complete independence from imported fuels. Moreover, it emits no CO<sub>2</sub> and is the most reliable source of renewable energy 💡 in terms of both quantity and quality.

J-POWER has built and operated hydroelectric power stations for 50 years, beginning with the Sakuma power plant in Shizuoka Prefecture, which started operation in 1956. The Sakuma plant is typical of the company's large-scale hydroelectricity developments, being a pumped-storage power plant capable of rapidly handling changes in power demand at peak periods.

Today J-POWER has 59 hydroelectric plants throughout Japan with a total output of 8.55 GW, representing a share of almost 20 percent in the country's total hydroelectric capacity.

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Mitsuura Thermal Power Station (Nagasaki Prefecture)



Nukabira Power Station (Hokkaido)

## Geothermal Power Generation

While geothermal generation is conducted on a small scale, it uses renewable and domestically available energy and emits no CO<sub>2</sub>. J-POWER has operated the Onikobe geothermal power station in Miyagi Prefecture since 1975 (output: 12,500 kW).



Onikobe Geothermal Power Station (Miyagi Prefecture)

## Wind Power Generation

Our Tomamae Winvilla Wind Farm in Hokkaido was a pioneer among large-scale facilities when it started operation in 2000. Since then, we have developed further wind farms around Japan. In fiscal 2005 the Setana Seaside Wind Farm in Hokkaido came on line, bringing the total number of operational facilities in Japan to seven, with output of approximately 140,000 kW.



Setana Seaside Wind Farm (Hokkaido)

## Biomass Power Generation

Biomass refers to all organic material, including plants (which capture and store solar energy via photosynthesis) and other biological organisms (which capture and store energy via the food chain). Biomass is attracting attention as a new source of energy, particularly since net CO<sub>2</sub> emissions are reduced if it is used as a substitute for fossil fuels. We consider that the most efficient way to use large amounts of biomass material economically is to mix them with conventional fuel in coal-fired power plants. We will continue to actively promote the use of biomass energy.

## Nuclear Power Generation

Nuclear power generation accounts for approximately one-third of total generating capacity in Japan. As well as benefiting from stable fuel supplies and prices, nuclear generation has the environmental advantage of emitting no CO<sub>2</sub>, giving it a key role in measures to combat global warming.

Preparations are currently under way to commence construction of the J-POWER Group's first nuclear facility, the Ohma Nuclear Power Station in Aomori Prefecture, which is scheduled to start operating in March 2012.






Artist's conception of the Ohma Nuclear Power Station (Aomori Prefecture) on completion

## Transmission and Transformation

The J-POWER Group owns 2,400 km of transmission lines and eight substations, which play a major role in the overall operation of Japan's electricity grid by linking different regions.

## Other Power Supply Business

In 2003 J-POWER participated in an independent power producer (IPP)  project for coal-fired power generation. We also constructed and operate a gas-turbine combined cycle power plant  supplying electricity to a power producer and supplier (PPS) . In addition, the company has embarked on electricity sales in new markets created by liberalization in the power sector.

## Overseas Business

### ◆ Overseas Consulting Projects

Over the past 45 years the J-POWER Group has conducted consulting projects around the world. As well as development of power sources, these have involved technical cooperation including surveying, planning and overseeing construction of transmission lines and substations. We have been engaged in a total of 263 projects in 61 countries.

### ◆ Overseas IPP Projects

Reflecting recent worldwide trends toward privatization and liberalization in the electricity sector, IPP projects have become a mainstream method of development. Making the most of our track record and the wealth of knowledge gained from our consulting activities, J-POWER is further boosting its efforts in the IPP field.

# Group Companies

## Electricity Business

Wind power generation	● Green Power Kuzumaki Co., Ltd.
	● Green Power Setana Co., Ltd.
	● Dream-Up Tomamae Co., Ltd.
	● Green Power Aso Co., Ltd.
	● Nagasaki-Shikamachi Wind Power Co., Ltd.
	● Nikaho Kogen Wind Power Co., Ltd.
	● J-Wind TAHARA Ltd.
IPP	● ITOIGAWA Power Inc.
Electricity supply to PPS	● Bay Side Energy Co., Ltd.
	● Ichihara Power Co., Ltd.



Ichihara Power's Ichihara Power Station  
(Chiba Prefecture)



Nagasaki-Shikamachi Wind Farm (Nagasaki Prefecture)



Itoigawa Power Station (Niigata Prefecture)

## Ancillary Business Related to Electricity

Group companies support a wide range of ancillary activities, including design, construction and management of power plants, transmission lines, and substations.

Facility design/construction/maintenance	<ul style="list-style-type: none"> <li>● JPHYTEC Co., Ltd.</li> <li>● JPec Co., Ltd.</li> <li>● KEC Corporation</li> <li>● KDC Engineering Co., Ltd.</li> <li>● EPDC Coal Tech and Marine Co., Ltd.</li> </ul>
Supply of fuel for power generation	● J-POWER RESOURCES Co., Ltd.
Services	● JP Business Service Corporation