

Fiscal 2007

J-POWER Group Environmental Action Guidelines

1 Efforts Relating to Global Environmental Issues

Maintenance and Improvement of Energy Use Efficiency

- Maintain highly efficient operations at existing thermal power stations and employ highly efficient technologies in new facilities
- Maintain stable operation of existing hydro and geothermal, as well as wind and recycling power stations
- Improve productivity of existing power stations by improvements in efficiency when replacing equipment
- Promote energy saving
 - Manage power station operations efficiently and reduce auxiliary power ratio
 - Promote energy saving in offices through energy-conservation checkups, etc.
 - Promote energy saving projects and encourage widespread use of energy-saving products
 - Reduce environmental load through efficient transportation of raw materials
 - Reduce environmental load through use of public transport wherever possible, and efficient use of corporate vehicles when necessary, implementing eco-driving techniques
 - Promote energy and resource saving in employees' homes

Development of Low CO₂ Emission Power Sources

- Construct nuclear power stations
 - Steadily prepare for construction of Ohma Nuclear Power Station
- Effectively utilize renewable and unutilized energy
 - Promote the development of new sites in our hydro, geothermal, wind, and recycling power operations
 - Promote mixed use of biomass fuel in existing thermal power stations
 - Expand consulting business for development of renewable and unutilized energy
 - Promote biomass power stations overseas
- Encourage the use of natural gas
 - Promote gas-turbine combined cycle power generation and cogeneration stations

Development, Transfer, and Dissemination of New Technologies

- Develop the integrated gasification fuel cell combined cycle (IGFC) and the solid oxide fuel cell (SOFC)
- Conduct the integrated coal gasification combined cycle (IGCC) trial in collaboration with power companies

- Promote micro-hydropower stations
- Promote R&D on CO₂ sequestration technologies

Utilization of the Kyoto Mechanisms

- Identify, cultivate, and utilize opportunities for Joint Implementation (JI), the Clean Development Mechanisms (CDM), and emissions trading

Reducing Emissions of Greenhouse Gases Other Than CO₂

- Reduce sulfur hexafluoride (SF₆) emissions from gas-insulated switch gear
- Reduce hydrofluorocarbon (HFC) emissions from air conditioners

2 Efforts Relating to Local Environmental Issues

Reduction of Environmental Load

- Continue to reduce emissions
 - Control combustion and manage facilities for environmental measures to reduce emissions of sulfur oxides (SO_x), nitrogen oxides (NO_x), and soot and dust
 - Manage wastewater treatment facilities to restrict release of pollutants
 - Restrict noise, vibration, and odors through proper management of equipment
 - Prevent soil and underground water pollution through proper management of facilities
- Prepare appropriate and timely countermeasures to deal with oil spills from equipment, etc.
- Design and introduce efficient and environmentally friendly plant and equipment when constructing or renovating facilities

Recycling and Reuse of Recyclable Resources and Ensuring Proper Waste Disposal

- Recycle and reuse recyclable resources and make efforts toward zero emission* production
 - Promote reduction of emissions and reuse and recycling of waste materials from construction, renovation, and demolition sites
 - Promote reduced use of water, chemicals, and lubricating oils
 - Promote use of electronic documents and work to reduce consumption of

consumables such as copier paper and other office supplies

- Separate paper, bottles, cans, and plastics prior to collection and promote the reuse and recycling of such materials
- Properly maintain and manage landfill sites and implement closing procedures

Management of Chemicals

- Properly comply with Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law)
 - Identify, control, notify, and disclose the emission and transfer volumes of chemicals subject to the PRTR Law
- Take appropriate measures to deal with dioxins
 - Properly manage waste incinerators, conduct surveys of exhaust gas and bottom ash, and report the results in accordance with the Law Concerning Special Measures against Dioxins
 - Promote widespread use of continuous measuring monitors for dioxin precursors
- Properly manage and dispose PCBs
 - Properly store and manage PCBs in accordance with the Waste Management and Public Cleansing Law, the Law Concerning Special Measures against PCB Waste, and the Fire Service Law
 - Treat PCB waste in accordance with J-POWER's basic policy on PCB waste treatment formulated based on the government's regional waste management program
- Strive to reduce volumes of hazardous chemicals handled
- Respond appropriately to asbestos-related issues
 - Properly manage asbestos based on J-POWER's policy on asbestos treatment, including taking steps to prevent dispersal, while pursuing systematic removal and replacement

Natural Environment and Biodiversity Conservation Initiatives

- Planning and design initiatives
 - Evaluate the effects of our operations on the environment through monitoring and strive to reduce environmental impact from the planning and design stages
- Construction initiatives
 - Take environmental conservation measures, and work to reduce impact on the local biosphere and preserve the diversity of species in the area
- Maintenance and management initiatives
 - Consider preservation of the surround-

ing natural environment in the maintenance and management of plant and equipment

- Consider conservation of river environments (sedimentation, turbid water, water quality, etc.) when controlling impounding and balancing reservoirs
- Forest conservation initiatives
 - Work to use forests owned by J-POWER as sites for environmental conservation and education
- Consider preservation of local landscapes

Environmental Conservation Initiatives in Overseas Projects

- Promote overseas transfer of environmental protection technologies
 - Promote transfers of environmentally friendly technologies for thermal power and hydropower generation
 - Promote cooperation in environmentally conscious technologies such as power generation from wind, solar, and waste materials, as well as energy conservation
- Formulate and implement development plans based on an appropriate level of environmental consciousness

Promotion of Technological R&D

- Promote technology R&D for cleaning up aquatic environments, treatment of sediment in reservoirs, and effective use of lakebed sediment

* Zero emissions—A concept proposed by the United Nations University for the creation of a system that would enable cooperation between different industries (and companies) to transform waste materials into resources, working to reduce waste emissions (final disposal amounts) as close to zero as possible.

3 Ensuring Transparency and Reliability

(1) Continual Improvement of Environmental Management (Greater Reliability)

Improvement of Environmental Management Level

- Maintain ISO 14001 certification at all J-POWER power generation, transmission, substation, and communication sites
- Promote introduction and enhance operation of the environmental management system (EMS) at all J-POWER group companies
- Raise employee awareness
 - Systematically implement environmental management education and training through use of e-learning and other methods
 - Hold presentations on the environment at each J-POWER business site and group company
 - Conduct opinion surveys of employees and publicize the results
- Utilize environmental accounting and eco-efficiency indicators
 - Strive to identify the costs and benefits of environmental conservation
 - Examine appropriate eco-efficiency indicators
- Request cooperation of business partners in environmental activities
- Renew Eco-Leaf environmental labeling using life cycle assessment method

Efficient Operation of EMS

- Continuously improve EMS
 - Identify actual environmental loads and establish targets and plans for environmental conservation
 - Periodically evaluate and improve activities toward the achievement of goals
 - Review EMS through such means as systematically conducting environmental audits to achieve continual improvement
- Strengthen risk management
 - Work to prevent environmental accidents, and in case of an emergency ensure full communication and take appropriate action

Full Compliance with Laws, Regulations, Agreements, and other Rules

- Identify applicable laws, regulations, agreements, and other rules, and work to raise awareness and compliance
 - Clearly identify the laws, regulations, agreements, and other rules that apply to our business and work to make

employees aware of them and comply with them

- Fully comply with the Water Pollution Control Law
 - Taking past cases as examples, pursue appropriate facilities improvement and compliance
- Fully comply with the Waste Management and Public Cleansing Law
 - Enhance checking and reviewing functions by such means as introducing third-party evaluations
 - Properly adhere to J-POWER Group's guidelines for the selection of industrial waste disposal subcontractors
 - Make efforts to expand application of the electronic manifest

Green Purchasing Efforts

- Promote green purchasing efforts in line with J-POWER Group guidelines
- Expand use of environmentally friendly vehicles

(2) Communication with Society (Greater Transparency)

Publication of Environmental Information

- Improve environmental reports
 - Seek third-party verification of environmental report data (substances, energy, etc.) and strive for greater reliability
- Publicize environmental conservation activities
 - Publicize environmental conservation activities through media such as newspapers, business magazines, websites, and in-house publications for group companies
 - Publicize activities to visitors to business sites and PR facilities

Active Communication

- Utilize environmental reports, etc.
- Utilize environmental events, etc.
- Diversify external communications
 - Promote the diversification of communications by accepting external assessments such as of environmental management ratings
 - Hold roundtable discussions on the environment with experts

Promotion of Social Activities Program

- Participate in regional environmental conservation activities
 - Take part in municipal/regional cleanup and beautification programs, afforestation projects, etc. as part of environmental action month and similar initiatives
- Take a leading role in regional environmental conservation activities

Fiscal Year Data

The following data represent annual values or year-end values in each fiscal year. Unless specially noted, data for FY 2004 or earlier is for J-POWER only; data for FY 2005 onward includes that of the Group companies.

- Notes: 1. The sum of the figures in each column may not equal the total due to rounding.
2. All figures include J-POWER and its consolidated subsidiaries. Excluding the chart for power facilities, figures for joint investments are prorated according to the ratio of capital contribution.

■ Power Facilities (maximum output)

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Hydroelectric	GW	7.09	8.26	8.55	8.55	8.55	8.56
Thermal	GW	4.65	7.82	7.82	7.82	8.18	8.18
Coal-fired	GW	4.64	7.81	7.81	7.81	7.95	7.95
Natural gas	GW					0.22	0.22
Geothermal	GW	0.01	0.01	0.01	0.01	0.01	0.01
Wind power	GW					0.14	0.21
Total	GW	11.74	16.09	16.38	16.38	16.87	16.94

■ Electricity Output

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Hydroelectric	GWh	12,451	10,624	12,103	12,892	10,187	12,212
Thermal	GWh	29,551	48,679	51,237	52,708	58,922	52,429
Coal-fired	GWh	29,452	48,599	51,133	52,616	58,070	51,624
Natural gas	GWh					748	701
Geothermal	GWh	99	80	104	92	104	104
Wind power	GWh					203	255
Total	GWh	42,002	59,303	63,340	65,600	69,312	64,895

■ Electric Power Sold

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Hydroelectric (excluding pumped storage)	GWh	10,046	8,902	10,850	11,172	8,583	10,633
Thermal	GWh	27,293	45,527	47,937	49,345	55,205	49,128
Coal-fired	GWh	27,206	45,453	47,841	49,261	54,413	48,381
Natural gas	GWh					698	652
Geothermal	GWh	87	74	96	84	94	94
Wind power	GWh					195	245
Total	GWh	37,338	54,429	58,787	60,517	63,983	60,006

■ Fuel Consumption

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Coal (dry coal 28 MJ/kg conversion)	million t	9.56	15.43	16.21	16.69	18.39	16.30
Use intensity (coal-fired thermal)	t/GWh	351	340	339	339	338	337
Natural gas	million m ³ N					124	117
Heavy oil	million kl	0.1	0.05	0.07	0.06	0.06	0.06
Diesel	million kl	0.01	0.03	0.03	0.03	0.03	0.02

Note: Denominator for use intensity represents electric power sold by coal-fired thermal power stations.

■ Greenhouse Gas Emissions

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	
CO ₂ emissions (domestic and overseas power generation)*	million t-CO ₂	24.67	40.06	43.27	44.76	49.49	45.36	
	kg-CO ₂ /kWh	0.66	0.72	0.70	0.69	0.72	0.68	
	(domestic power generation)	million t-CO ₂	24.67	39.36	41.37	42.54	47.18	42.14
	kg-CO ₂ /kWh	0.66	0.72	0.70	0.70	0.74	0.70	
SF ₆ emissions	t	—	0.0	0.1	0.0	0.1	0.1	
Handled	t	—	4.2	6.2	3.4	3.3	6.4	
Recovery rate	%	—	99	98	99	98	99	
HFC emissions	t	—	0.0	0.0	0.0	0.0	0.0	

* Figures for CO₂ emissions (domestic and overseas power generation) include all consolidated subsidiaries and joint venture companies.

- Notes: 1. Denominators for emission intensity represent electric power sold.
2. Excluding Wakamatsu Research Institute.
3. Please refer to page 33 for the CO₂ calculation method.

■ Average Thermal Efficiency of Coal-fired Power Stations (at generation point)

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Average thermal efficiency (at generation point)	%	39.0	40.3	40.3	40.4	40.5	40.3

■ Usage of Specific CFCs

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Specific CFCs	Stocked	t	3.6	1.6	2.5	1.4	1.8
	Consumed	t	0.7	0.0	0.0	0.0	0.0
Halons	Stocked	t	4.7	4.4	3.9	3.9	3.9
	Consumed	t	0.0	0.0	0.0	0.0	0.0
Other CFCs	Stocked	t	2.8	9.4	9.5	9.1	10.2
	Consumed	t	0.0	0.1	0.1	0.2	0.3
HFCs (CFC substitutes)	Stocked	t	—	1.1	1.4	1.9	7.7
	Consumed	t	—	0.0	0.0	0.0	0.1

■ SOx, NOx, and Soot and Dust Emissions

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
SOx emissions	1,000 tons	9.9	9.5	8.4	10.4	10.2	9.9
Intensity (coal-fired)	g/kWh	0.36	0.21	0.18	0.21	0.18	0.20
NOx emissions	1,000 tons	26.4	25.2	25.0	26.6	28.9	28.0
Intensity (coal-fired)	g/kWh	0.97	0.55	0.52	0.54	0.52	0.57
Soot and dust emissions	1,000 tons	1.0	0.9	1.0	1.0	1.0	0.9
Intensity (coal-fired)	g/kWh	0.04	0.02	0.02	0.02	0.02	0.02

Notes: 1. Soot and dust emissions calculated from monthly measurements.
2. Denominators for emissions represent electric power sold by thermal power stations.

■ Industrial Waste Recycling

	Unit	—	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Volume generated	million t	—	1.83	1.80	2.06	2.23	1.96
Volume recycled	million t	—	1.35	1.44	1.89	2.09	1.86
Recycle rate	%	—	73	80	92	94	95

Note: Figures for FY 2004 are for the entire J-POWER Group.

■ Coal-Ash and Gypsum Recycling

	Unit	FY 1990	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Coal-ash created	1,000 t	1,257	1,507	1,465	1,623	1,806	1,556
Coal-ash recycled	1,000 t	719	1,014	1,119	1,076	1,696	1,512
Coal-ash recycle rate	%	57	67	76	91	94	97
Gypsum created	1,000 t	—	330	320	371	380	334
Gypsum recycle rate	%	100	100	100	100	100	100

Note: Please refer to page 49 for details on coal-ash recycling rate.

■ Office Power Consumption

	Unit	—	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Power consumed by offices (company total)	GWh	—	17.81	17.28	15.64	22.00	17.38
Head office* power consumption	GWh	—	8.84	8.81	8.99	8.89	8.73
Lighting/power sockets	GWh	—	1.85	1.79	1.79	1.76	1.78

* J-POWER head office building

■ Fuel Consumption at Business Sites (vehicles, ships, emergency generators, etc.)

	Unit	—	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Gasoline	kl	—	438	372	342	1,162	1,191
Diesel	kl	—	217	185	182	1,026	1,984
Natural gas	1,000 m ³ N	—	0.5	0.4	0.0	0.0	0.0

■ Green Purchasing

	Unit	—	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Copy paper* purchased	million sheets	—	26.17	24.92	25.97	62.41	69.53
Recycled copy paper* purchased	million sheets	—	25.60	24.53	25.11	57.22	65.87
Recycled copy paper* purchase rate	%	—	98	98	97	92	95

* A4 paper-size equivalent

Treaties and Laws Relating to Global Warming

Overview of the United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change is a treaty that establishes an international framework for stemming global warming. It was adopted in June 1992 at the first World Summit on Sustainable Development in Rio de Janeiro (commonly known as the Earth Summit), and came into force on

March 21, 1994. Thus far it has been ratified by 188 countries and one territory.

The ultimate aim of the convention is to stabilize the concentration of greenhouse gases in the atmosphere at levels that will not cause dangerous human disruption of the earth's climate system.

Principles

- 1) Protection of the climate on the basis of common but differentiated responsibility
- 2) Consideration of special circumstances
- 3) Implementation of precautionary measures*
- 4) Right and duty to promote sustainable development
- 5) Cooperation to promote a supportive and open international economic system

* Complete text of Principle 3:

"The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties."

Overview of the Kyoto Protocol

The Kyoto Protocol is a resolution establishing the greenhouse gas emissions-reduction targets for the Annex I countries.*It was adopted in December 1997 at the Third Session of the Conference of the Parties to

the UN Framework Convention on Climate Change (COP3) and came into force on February 16, 2005.

* 35 developed countries (including 11 economies in transition) and the European Community.

Targeted greenhouse gases (GHGs)	6 categories of gases: CO ₂ (carbon dioxide), methane, N ₂ O (nitrous oxide), HFCs (hydrofluorocarbons), PFCs (perfluorocarbons), and SF ₆ (sulfur hexafluoride)
Commitment period	2008–2012 (first commitment period)
Goal	To reduce average yearly emissions of greenhouse gases by the Annex I countries by 5% from 1990. In Annex B of the Kyoto Protocol, the Annex I countries commit themselves to specific reduction targets; Japan's reduction target is 6%.
Use of sinks (absorption forests)	Countries may include in their calculation of emissions reduction the removal of CO ₂ by "sinks" resulting from land-use change and forestry activities, limited to afforestation, reforestation, and deforestation since 1990.
Kyoto Mechanisms	Emissions trading, Joint Implementation (JI), and the Clean Development Mechanism (CDM) have been adopted as means to achieve reduction targets on a global scale through economically rational behavior.

Notes:

1. Emissions trading: International trading of emissions allowances (or emissions reduction units earned through CDM or JI). Annex I countries may add allowances acquired from other countries to their own allowances.
2. Joint Implementation (JI): Mechanism whereby Annex I countries can jointly carry out GHG emissions-reduction projects and distribute the resultant reduction volume among the countries concerned. Applicable to reductions between 2008 and 2012.
3. Clean Development Mechanism (CDM): Mechanism whereby Annex I countries can carry out GHG emissions-reduction projects in developing countries and distribute the resultant-reduction volume among the countries concerned. Applicable to reductions carried out in 2000 and after.

Plan to Meet the Targets of the Kyoto Protocol

In accordance with the Law Concerning the Promotion of the Measures to Cope with Global Warming (Law no. 117, 1998), the Japanese government has formulated a Kyoto Protocol Target Achievement Plan establishing the measures and mechanisms needed for Japan to be certain of meeting its Kyoto Protocol commitment to reduce emissions by 6% from the 1990 level. On April 28, 2005, the plan was adopted by cabinet resolution.

Basic Directions for the Promotion of Measures to Stem Global Warming

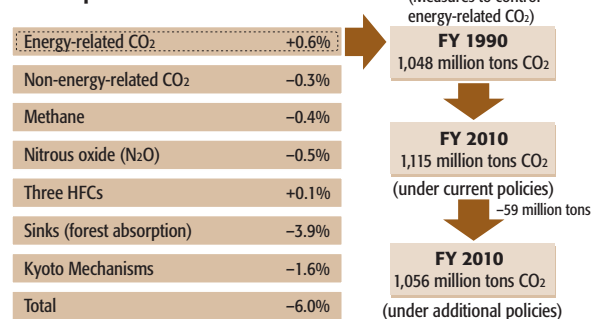
Goals for Fighting Global Warming

- Achieve the 6% reduction target under the Kyoto Protocol without fail
- Aim for long-term, continuing reductions
- Take a global leadership role as an "advanced environmental nation"

Basic Approach to Fighting Global Warming

- Reconcile environmental and economic imperatives
- Promote technological innovation, encourage participation by and partnership among all entities in all sectors of society
- Make use of a variety of policy tools
- Forge international partnerships

Quantitative Targets for Emissions Reduction and Absorption of Greenhouse Gases



*Reduction and increase figures represent change from total emissions in fiscal 1990.

FY 2010 Emissions by Sector			
Industrial Sector	Residential and Commercial Sector	Transport Sector	Energy Conversion Sector
435 million tons CO ₂ (-8.6% from 1990)	302 million tons CO ₂ (+10.7% from 1990)	250 million tons CO ₂ (+15.1% from 1990)	69 million tons CO ₂ (-16.1% from 1990)
Breakdown by Sector			
(-15 million tons)	(-31 million tons)	(-9 million tons)	(-4 million tons)

Environmental Action Plan by the Japanese Electric Utility Industry I

(Summarized from the Environmental Action Plan by the Japanese Electric Utility Industry, Federation of Electric Power Companies of Japan, September 2006)

The Environmental Action Plan by the Japanese Electric Utility Industry lays out the electric industry's policy and plan for dealing with global warming and other environmental issues. Each year the plan is reviewed in relation to the industry's progress toward its goals and domestic and international trends.

This plan is incorporated in the Keidanren Voluntary Action Plan on the Environment, adopted by Keidanren (now Nippon Keidanren) in June 1997. Progress toward the Keidanren plan as a whole and the various voluntary industry plans that make it up is regularly monitored by national councils and similar organs.

Measures for Stemming Global Warming

● CO₂ Emissions Reduction Target

The electric utility industry has adopted as its indicator for CO₂ emissions reductions CO₂ emissions per unit of electricity used by consumers (CO₂ intensity at the point of consumption) and has set the following target for reduction from the fiscal 1990 level.

Work to reduce CO₂ emissions intensity at the point of consumption by about 20% from the level of fiscal 1990 by fiscal 2010 (to approximately 0.34 kg-CO₂/kWh).

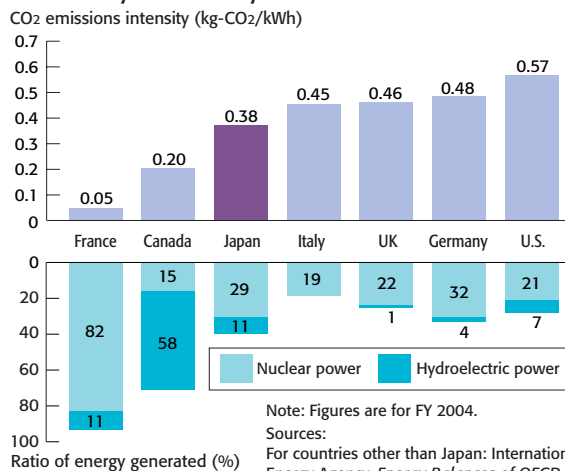
■ Japan's CO₂ Emissions

Item	Fiscal year	FY 1990 (results)	FY 2003 (results)	FY 2004 (results)	FY 2005 (results)	FY 2010
Electric power consumption (billion kWh)		659	834	865	883	(estimate) 897
CO ₂ emissions (million t-CO ₂)		277 [2]	363 [20]	364 [26]	375 [27]	(estimate) 320
CO ₂ intensity at point of consumption (kg-CO ₂ /kWh)		0.421	0.436	0.421	0.425	(estimate) 0.36

Notes:

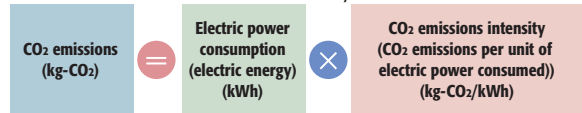
- CO₂ emissions intensity (user-end electricity) = CO₂ emissions ÷ energy consumption
- "CO₂ emissions" represents total of emissions for each type of fuel. It is calculated as follows: CO₂ emissions = Calorific value attending fossil fuel combustion x CO₂ emission coefficient
- Calorific values used are those provided in the Agency for Natural Resources and Energy's *Monthly Report on Electric Power Statistics* (FY 2005 Results), etc. Fuel-specific CO₂ emission coefficients are those provided in the Ministry of the Environment's *Comprehensive Report on the Calculation of Greenhouse Gas Emissions* (August 2002).
- Estimates for fiscal 2010 are based on the fiscal 2006 energy supply plan, which considers GDP indicators, demand trends, and other factors.
- Electric power consumption includes power purchased from cooperative thermal power plants, IPPs (independent power producers), and household generators and sold to customers; CO₂ emissions include those stemming from the generation of this purchased power.
- Figures in brackets represent total CO₂ emissions from power purchased from IPPs and household generators; CO₂ reduction efforts are expected from each generation source. For purposes of calculation, calorific value is estimated from the amount of power purchased.

■ Country-by-Country Comparison of CO₂ Emissions Intensity (per unit of energy generated) Preliminary Calculation by FEPC



Goal of 12 FEPC-Affiliated Companies

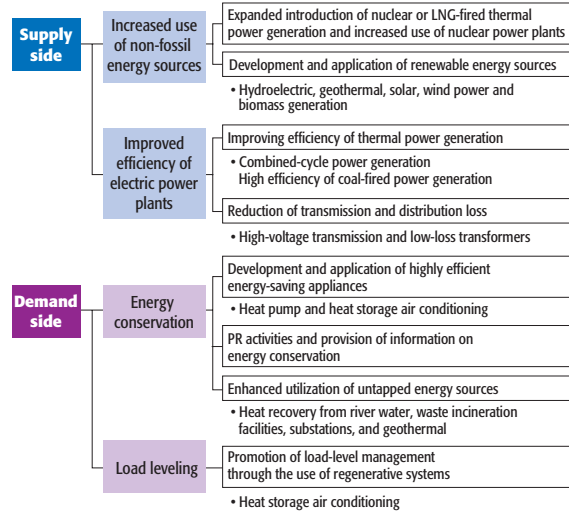
Reduce CO₂ emissions intensity (user-end electricity) by about 20%* from fiscal 1990 level by fiscal 2010



* In April 2007 the goal was revised as follows.

"To work to reduce CO₂ emissions intensity (user-end electricity) by about 20% on average for fiscal 2008 to 2012 from the fiscal 1990 level"

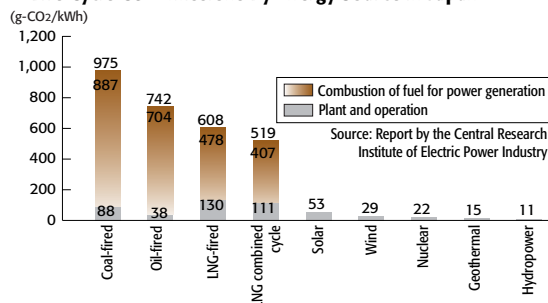
■ Summary of Measures to Reduce CO₂



Life Cycle CO₂ Emissions by Power Source, Japan

The chart below represents the CO₂ emissions for various power sources when the entire life cycle is taken into account (LCA CO₂). This method calculates CO₂ emissions not only from the combustion of fuel for power generation but also from all energy consumed from such activities as mining and drilling, building power generation facilities, transporting fuel, refining fuel, operating and maintaining facilities, and so forth.

■ Life Cycle CO₂ Emissions by Energy Source in Japan



J-POWER's Contribution for Japan to Achieve the Kyoto Target

J-POWER, one of the 12 members of the Federation of Electric Power Companies of Japan (FEPC), is supporting the federation's program—the Environmental Action Plan of the Electric Power Industry—to contribute to Japan's achievement of its Kyoto target.

The Japanese government adopted the Kyoto Protocol Target Achievement Plan, a program to provide a series of necessary measures for surely achieving the Kyoto target of the 6% reduction in greenhouse gas emissions from 1990 levels in a Cabinet resolution on April 28, 2005, based on the Law concerning the Promotion of the Measures to Cope with Global Warming (Law no. 117, 1998). As part of the industrial sector's efforts, the Keidanren Voluntary Action Plan on the Environment of the Nippon Keidanren has been incorporated into the governmental program, and the FEPC's program, composing a part of Nippon Keidanren's program, has in turn been included in the governmental program. The FEPC's program has also been incorporated into the governmental program as part of the energy supply sector's efforts to reduce CO₂ emissions.

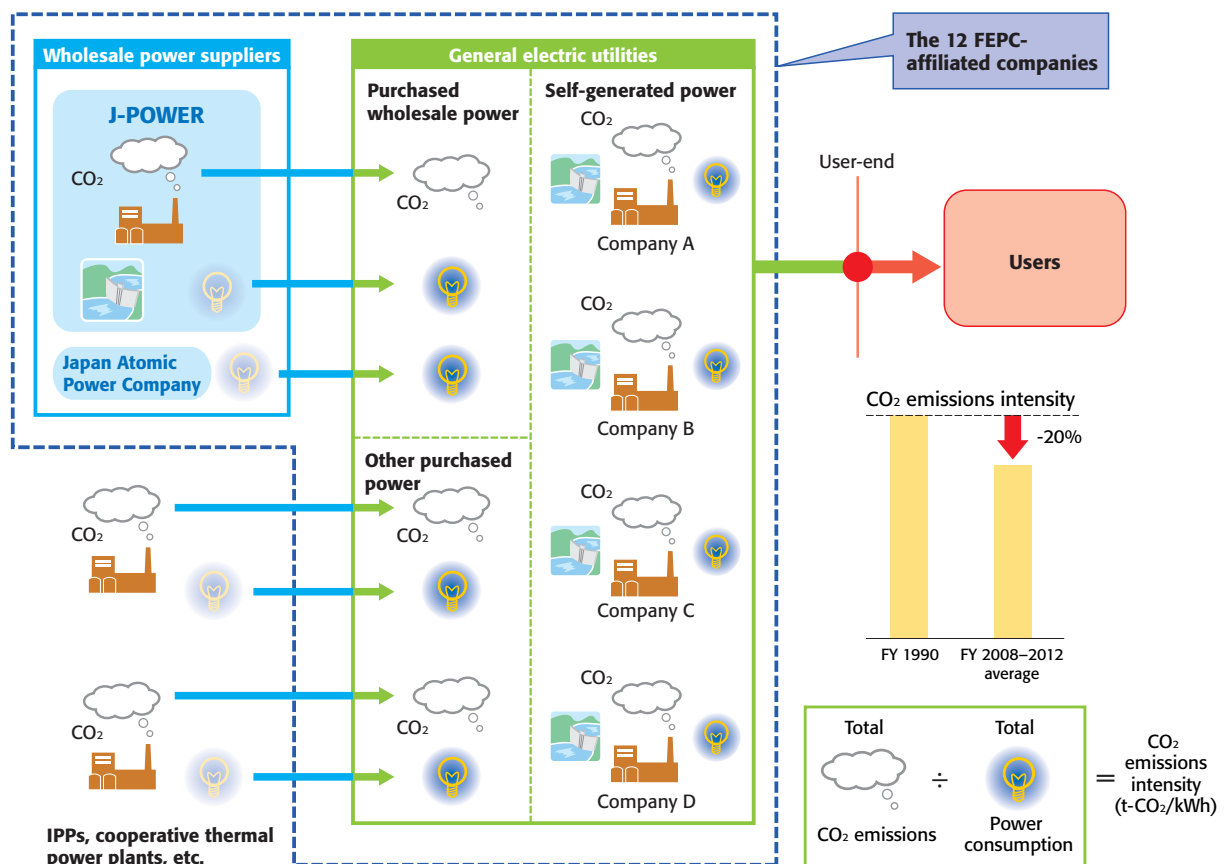
The FEPC's program, the Environmental Action Plan

of the Electric Power Industry, has set the following target: To work to reduce CO₂ emissions intensity (user-end electricity) by about 20% on average for fiscal 2008 to 2012 from the fiscal 1990 level. As seen in the figure below, J-POWER's emissions are calculated to be zero because J-POWER is a wholesale power supplier without consumption points.

Because J-POWER operates power plants according to the demand of general electric utilities, their actual operation is directly reflected in the volume of CO₂ emissions of these utilities. Therefore, J-POWER's efforts to reduce CO₂ emissions would be necessary in areas other than power plant operation itself. For example, J-POWER is working to maintain and improve the generation efficiency of coal-fired power plants, to develop energy sources with low CO₂ emissions such as nuclear power, to research and develop the technologies associated with these efforts, and to utilize CDM and JI credits. Through these efforts, J-POWER continues to support the Environmental Action Plan by the Japanese Electric Utility Industry to jointly achieve the FEPC's target.

Note:

The 12 companies affiliated with the Federation of Electric Power Companies of Japan are the 10 FEPC member companies (Hokkaido Electric Power Co., Inc., Tohoku Electric Power Co., Inc., Tokyo Electric Power Co., Inc., Chubu Electric Power Co., Inc., Hokuriku Electric Power Co., Inc., Kansai Electric Power Co., Inc., Chugoku Electric Power Co., Inc., Shikoku Electric Power Co., Inc., Kyushu Electric Power Co., Inc., and Okinawa Electric Power Co., Inc.) plus J-POWER and Japan Atomic Power Company.



Environmental Action Plan by the Japanese Electric Utility Industry II

(Summarized from the Environmental Action Plan by the Japanese Electric Utility Industry, Federation of Electric Power Companies of Japan, September 2006)

Measures for Waste Reduction and Recycling

Waste Recycling Rate Targets

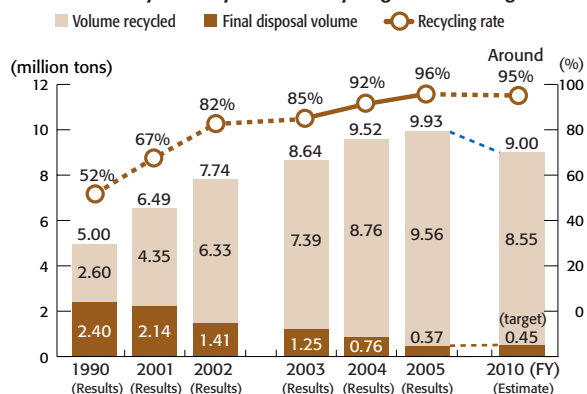
The electric utility industry has been working to reduce the volume of final waste disposal to an initial target value lower than the fiscal 1990 level of 2.4 million tons. By pursuing the 3R initiative (reduce, reuse, recycle), it has made steady progress in achieving reductions and the target volume of final disposal was revised first to no more than 2.0 million tons and then further down to no more than 1.5 million tons.

In the previous Environmental Action Plan the industry adopted the recycling rate as an indicator that is less influenced by fluctuations in demand and embraced the goal of raising the recycling rate to at least 90% by fiscal 2010. And in the latest Environmental Action Plan the target was further raised as follows.

Work to raise the recycling rate to around 95% by fiscal 2010.

Coal ash is the waste generated in the largest amount compared with any other type of waste, so the electric utility industry regards the promotion of recycling of the waste as its highest priority and continues to make efforts to recycle it.

Electric Utility Industry's Waste Recycling Rate and Target



Note: After landfills for final disposal are closed, the land is utilized to expand power generation facilities or for other industrial purposes. A portion of the coal ash used at such sites has been included in "volume recycled" from fiscal 2004 as land reclamation material in accordance with the position taken by the national government.

Trends in Recycling of Major Wastes and By-products

Unit: 1,000 tons

Type			FY 1990	FY 2003	FY 2004	FY 2005
Waste	Combustion residue, soot and dust (coal ash)	Volume generated	3,470	6,400	6,970	7,240
		Volume recycled (Recycling rate)	1,370 (39%)	5,260 (82%)	6,310 (91%)	6,970 (96%)
	Construction waste material	Volume generated	400	300	360	360
		Volume recycled (Recycling rate)	210 (53%)	290 (96%)	350 (98%)	350 (97%)
	Scrap metal	Volume generated	140	160	170	190
		Volume recycled (Recycling rate)	130 (93%)	150 (97%)	160 (98%)	180 (99%)
By-products	Gypsum from desulfurization process	Volume generated	850	1,610	1,830	1,900
		Volume recycled (Recycling rate)	850 (100%)	1,610 (100%)	1,830 (100%)	1,900 (100%)

- Notes: 1. Waste includes products of value.
- 2. FY 1990 figures for construction waste materials and scrap metal are estimates.
- 3. All gypsum from desulfurization process is sold.
- 4. Recycling rates are calculated on an actual volume basis. (Figures for volume generated and volume recycled are rounded to the nearest 1,000 tons.)

Number of Patent Rights Held by J-POWER (As of the end of March 2007)

	Global environment	Local environment/recycling	Power generation/transmission/transformation	Civil engineering/construction	Frontier technologies	Total
Independent application	0	23	9	7	0	39
Joint application	23	30	89	5	6	153
Total	23	53	98	12	6	192

Global environment-related research includes the following areas: high efficiency power generation using coal gasification technology, solid oxide fuel cells, and carbon dioxide capture and storage.

Glossary

(Page numbers indicate major citations.)

Advanced boiling water reactor (ABWR) p. 35

A nuclear reactor that incorporates all the latest BWR (boiling-water reactor) technologies, including use of steel reinforced concrete for the containment vessel and a self-contained reactor recirculation pump, resulting in significant improvements in terms of safety, reliability, and cost.

Annex I countries p. 75

Countries, designated in Annex I of the United Nations Framework Convention on Climate Change, that have committed themselves to reducing emissions of greenhouse gases (also referred to as “developed countries” in this report).

Biomass pp. 8, 16, 27, 29, 35, 36, 51, 52, 53, 70, 71, 76

Renewable organic resources of plant and animal origin other than fossil fuels.

Biotope pp. 47, 56

The habitat of a community of organisms. The concept originated in Germany and the term was initially used to mean a broad-ranging ecosystem. It now often refers to an artificially created habitat for plants, fish, insects, etc.

Carbon dioxide capture and storage (CCS) pp. 15, 40

Please refer to pages 15 and 40.

Chemical oxygen demand (COD) p. 30

The amount of oxygen required to oxidize the pollutants (primarily organic) in water. Used as an indicator to measure pollution of coastal waters and lakes.

Clean Development Mechanism (CDM) pp. 16, 27, 37, 38, 71, 75, 77

A component of the Kyoto Mechanisms. Please refer to page 75.

Compliance pp. 5, 17, 21, 22, 26, 54, 56, 67

Observance of legal statutes. Please refer to pages 21 and 22.

Corporate Governance pp. 17, 67

Governance of corporations.

Dioxins pp. 45, 51, 56, 71

Collective name for polychlorinated

dibenzo-p-dioxin (PCDD), polychlorinated dibenzofuran (PCDF), and coplanar polychlorinated biphenyl (coplanar-PCB). Toxic substances generally present in the environment in trace amounts and suspected of posing grave danger to human life and health. Under the Law Concerning Special Measures against Dioxins, which came into force in January 2000, dioxin emissions from waste incinerators and other sources are strictly regulated.

Environmental accounting pp. 31, 54, 72

A mechanism for accurately determining and disclosing what a company invests and spends on environmental conservation and the effect of such spending—something not reflected in traditional financial analysis. Environmental accounting benefits companies by providing a quantitative assessment of their efforts to protect the environment so that they can improve the cost-effectiveness of their business activities with respect to environmental costs. It benefits stakeholders by making available corporate environmental accounting data in the form of environmental reports, etc., which can be used as yardsticks for measuring and comparing the environmental efforts of different companies.

Environmental Action Plan by the Japanese Electric Utility Industry p. 27, 41, 76, 77, 78

Plan for positive, voluntary environmental action by electric utilities, compiled by 12 organizations affiliated with the Federation of Electric Power Companies of Japan. Establishes concrete goals and outlines active efforts to address global warming, build a recycling-based society, etc. To ensure transparency, progress under the plan is reviewed each year and the results are made available to the public.

Eco-efficiency pp. 25, 31, 32, 34, 43, 72

A method for quantifying, comparing, and evaluating activities to reduce the amount of water, electricity, and raw materials used and to reduce the volume of waste, effluent, and exhaust gas generated in business operations, as well as efforts at legal compliance and control of environmental pollution.

Environmental management system (EMS) pp. 28, 48, 50, 54, 55, 56, 72

Please refer to page 54.

Environmental Priorities Index for Japan (JEPIX) p. 32

A method for assessing the overall environmental impact of a company and expressing it by means of a single figure by assigning weights to 300 environmental pollutants in terms of their impact on water and air quality using a single index model called ecopoint.

Fuel cell pp. 13, 14, 31, 39, 40, 71

A device that converts externally supplied hydrogen and oxygen into electricity through a chemical reaction. Because fuel cells can achieve high generating efficiency and the heat generated can also be utilized, they have a high net energy efficiency and offer an effective means of saving energy and reducing CO₂ emissions. Fuel cells are particularly friendly to the environment because they dispense with combustion, thus giving off few air pollutants, and because they generate electricity without using rotating parts, and thus are relatively quiet.

Gas-turbine combined-cycle generation pp. 8, 27, 35, 52, 71

A power generation method combining gas turbines and steam turbines. The pressure of the exhaust gas created when the fuel is burned within compressed air drives the gas turbine, and the residual heat is used to run the steam turbine. Combining these two processes results in high generating efficiency.

Generation efficiency (thermal efficiency) pp. 13, 14, 16, 31, 32, 34, 35, 39, 41, 53, 73, 76, 77

For an electric power generating facility, the ratio of electric power generated (converted to thermal units) to heat energy input.

Green purchasing pp. 28, 58, 72, 74

Placing priority on minimizing the environmental burden in the purchase of goods and services by emphasizing environmental load, as opposed to price, quality, convenience, or design.

Hydrochlorofluorocarbons (HCFCs) pp. 41, 74, 75

Chemicals used in refrigerators and in the manufacture of semiconductors in place of chlorofluorocarbons, which destroy the ozone layer. Because their greenhouse effect is several thousands or even tens of

thousands times that of CO₂, they were included among the gases targeted for reduction at COP3, held in Kyoto in December 1997.

Hydrofluorocarbons (HFCs)

pp. 41, 71, 74, 75

Chemicals used in refrigerators, car air conditioners, etc., beginning around 1991, after CFCs and HCFCs were subject to controls out of concerns that they destroy the ozone layer. HFCs are artificial greenhouse gases with a greenhouse effect ranging from 140 to 11,700 times that of CO₂.

Independent power producer (IPP)

pp. 1, 2, 35, 52, 53, 55, 67, 76, 77

A business, other than a wholesale power supplier, that supplies electricity to general electric utilities.

Industrial waste

pp. 28, 30, 31, 48, 49, 56, 57, 71, 72, 74

Wastes such as ash, sludge, waste oil, waste acid, waste alkali, and waste plastics generated in the course of business operations. The Waste Management and Public Cleansing Law calls for proper disposal and incineration of industrial waste.

Integrated coal gasification fuel cell combined cycle (IGFC)

pp. 13, 14, 27, 39, 40, 71

A triple combined power generation system achieved by combining the fuel cell, gas turbine, and steam turbine; the ultimate coal-fired thermal power generation system.

Integrated coal gasification combined cycle (IGCC)

pp. 13, 14, 39, 40, 71

A combined power generation system consisting of gas turbines that generate electricity by firing gas produced from coal and steam turbines that use the exhaust heat from the gas turbines.

IPCC (Intergovernmental Panel on Climate Change)

pp. 6, 13, 15

Please refer to page 13.

ISO 14001

pp. 28, 54, 55, 56, 72

An international standard specifying the requirements for an environmental management system; one of the ISO 14000 series of international standards for environmental management adopted by the International Standards Organization (ISO).

Japanese version of the SOX Act (J-SOX)

p. 18

A common name given to certain stipulations of the Financial Instruments and Exchange Law, generally referring to Article 24.4.4 and Article 193, which set forth

matters relating to corporate governance. Preparations are now being made toward application of these stipulations based on the recommendation issued by the Financial Services Agency's Business Accounting Council titled "On the Setting of the Standards and Practice Standards for Management Assessment and Audit concerning Internal Control Over Financial Reporting (Council Opinions)." J-SOX was inspired by the enactment in the United States of the Public Company Accounting Reform and Investor Protection Act (commonly known as the Sarbanes-Oxley Act) in 2002. It requires applicable corporations and corporate groups to issue internal control reports evaluating the internal structures essential to ensuring validity of financial reports and other information and to be audited by certified public accountants or audit firms.

Joint Implementation (JI)

pp. 27, 37, 38, 71, 75, 77

A component of the Kyoto Mechanisms. Please refer to page 75.

Kyoto Mechanisms

pp. 6, 16, 26, 27, 34, 37, 38, 71, 75

Please refer to page 75.

Kyoto Protocol

pp. 37, 38, 41, 75, 77

Please refer to page 75.

Life cycle assessment (LCA)

pp. 68, 72, 76

A method for quantitatively and objectively assessing the resources and energy used and the total environmental load from emissions produced by a product in all its phases—including manufacture, transport, use, and disposal—and the impact of this consumption and burden on the earth and its ecosystems.

Life cycle impact assessment method based on endpoint modeling (LIME)

p. 32

A method for scientifically analyzing the contribution of substances such as CO₂ to various environmental problems, such as global warming and destruction of the ozone layer, and calculating the potential damage caused to various objects of protection, such as human health and ecosystems; weighting the relative importance of these objects; and integrating the information into an overall impact assessment.

Methane (CH₄)

pp. 41, 75

A main component of natural gas. Also produced through the decay or fermentation of organic matter. The second most common greenhouse gas, after carbon dioxide, with a greenhouse effect 21 times that of CO₂.

Micro-hydropower

pp. 36, 71

Hydroelectric power produced in smaller plants (usually generating 100 kW or less, although there is no precise definition).

Mixed-oxide fuel (MOX fuel)

p. 35

Mixed oxide fuel consisting of uranium mixed with plutonium recovered by reprocessing spent nuclear fuel. In Japan, light-water and other reactors that use MOX fuel to generate electricity are referred to as "pluthermal." While Japan's pluthermal plan originally called for use of a one-third MOX core for fuel, the "full MOX" plan calls for a 100% MOX core.

Municipal solid waste (MSW)

pp. 30, 50, 51

Defined as waste other than industrial waste under the Waste Management and Public Cleansing Law. Further divided into household waste, business waste (waste from offices, eating and drinking establishments, etc.) and excrement.

Nitrogen oxides (NO_x)

pp. 28, 30, 31, 42, 43, 44, 52, 71, 74

Collective term for compounds made up of nitrogen and oxygen. NO_x is invariably produced during combustion as oxygen binds with nitrogen in the air and/or in the substance being burned. High-temperature combustion in the boilers of electric power plants or in automobile engines yields nitrogen monoxide, and this NO is further oxidized to form the stable compound nitrogen dioxide (NO₂), which is emitted into the atmosphere. Ultraviolet light from the sun reacts with nitrogen oxides in the atmosphere to create ozone and other photochemical oxidants.

Nitrous oxide (N₂O)

pp. 41, 75

Also known as dinitrogen monoxide. A major greenhouse gas (along with carbon dioxide, methane, tropospheric ozone, and chlorofluorocarbons) with a greenhouse effect 310 times that of CO₂. Said to be generated by combustion and application of nitrogen fertilizer.

PDCA management cycle

p. 54

Management cycle, consisting of *plan*, *do*, *check*, and *action*, whose repetition provides the basis for continuous improvement in environmental management systems.

Perfluorocarbons (PFCs)

pp. 41, 75

Chemicals used for semiconductor manufacturing beginning in the 1980s. PFCs are artificial greenhouse gases with a greenhouse effect 6,500 to 9,200 times that of CO₂.

Pollutant Release and Transfer Register (PRTR)

pp. 45, 71

Please refer to page 45.

Polychlorinated biphenyl (PCB)

pp. 45, 54, 71, 83

An organic chlorinated compound first produced industrially in 1929 and thereafter used for a wide range of applications because of its stability, heat resistance, and performance as an insulator. In time it became clear that PCB, which takes a long time to break down, tends to accumulate in living tissue and cause long-term toxicity, and its manufacture, import, and use in new products was banned in 1974 under the Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances. In addition, the Law Concerning Special Measures Against PCB Waste, which came into force in July 2001, calls for detoxification treatment of PCB waste currently in storage by 2016.

Power producer and supplier (PPS)

pp. 1, 2, 55

A business that provides electricity to meet a certain level of demand (in general, contract demand of at least 2,000 kW in a single service area served by extra-high voltage lines maintained by general electric utilities, excluding Okinawa Electric Power Co.; in the case of Okinawa Electric Power Co., contract demand of at least 20,000 kW in a single service area served by power lines carrying at least 60,000 volts), excluding the general electric utilities that maintain the transmission lines. A new category of business established under the revised Electric Utility Law of 1999.

Renewable energy

pp. 15, 27, 31, 32, 35, 37, 52, 69, 71, 76

Energy derived from such natural phenomena as sunlight, water, wind, waves, and biomass, as opposed to such fossil fuels as coal and oil that exist in the earth in limited quantities.

River maintenance flow

p. 47

A minimum river flow determined for each river by considering all the conditions needed to restore or create a sound river environment, as by restoring habitat for fish, improving the scenery, etc. Established with the goal of minimizing problems caused by low water around hydroelectric power stations, as a tool for improving the river environment and restoring clean water flow.

Soil pollution

pp. 44, 48

Contamination of soil or groundwater by hazardous substances, or the state of being so contaminated. May occur

directly, as when raw materials leak from containers or pollutants enter the soil from dumped waste matter or landfills, or indirectly, via air or water pollution. Soil pollution is not easily visible and is difficult to mitigate.

Solid oxide fuel cells (SOFC)

pp. 39, 71, 78

Please refer to page 39.

Soot and dust

pp. 30, 31, 43, 44, 71, 74, 78

The Air Pollution Control Law classifies particles that remain suspended in the atmosphere according to source. Soot and dust is that generated when matter is burned, general dust is that generated or dispersed when matter is broken up by mechanical treatment or from deposition of resultant particles, and particulate matter is that generated by the operation of motor vehicles.

Specially controlled industrial waste

pp. 30, 56

Explosive, toxic, or infectious industrial waste requiring strict controls under the Waste Management and Public Cleansing Law. Includes waste oil with a low flash point, medical waste, PCBs, asbestos, and sludge containing high concentrations of heavy metals.

Sulfur hexafluoride (SF₆)

pp. 41, 71, 73, 75

A compound of sulfur and fluorine produced industrially; SF₆ does not exist in nature. Because it is chemically stable and an excellent insulator, it is widely used in the electric industry as a gas insulator in circuit breakers and other devices. Its greenhouse effect is 23,900 times that of CO₂.

Sulfur oxides (SO_x)

pp. 28, 30, 31, 42, 43, 44, 52, 71, 74

Collective term for compounds made up of sulfur and oxygen, including sulfur dioxide (SO₂), sulfur trioxide (SO₃), and sulfuric acid mist (H₂SO₄). Sulfur oxides are generated from the sulfur content in coal and heavy oil when they are fired as fuel in factories and thermal power plants and are released into the atmosphere in exhaust gases. As a substance responsible for acid rain, they are a source of atmospheric pollution.

Sustainability Reporting Guidelines

pp. 3, 84

Set of guidelines adopted by the Global Reporting Initiative (GRI; an international nongovernmental organization involving the UN Environmental Programme, environmental groups, institutional investors, accountants' associations, and corporations from various countries) to standardize sustainability reports, i.e., company

reports that cover not only environmental but also social and economic aspects of business activity from the standpoint of sustainable development.

Sustainable development

pp. 4, 5, 6, 25, 26, 32, 53, 61, 67, 70, 75

The 1987 report of the World Commission on Environment and Development, *Our Common Future*, defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The 1991 report *Caring for the Earth*, jointly compiled by the International Union for Conservation of Nature, the United Nations Environmental Programme, and the World Wide Fund for Nature, defines it as "improving the quality of people's lives while living within the carrying capacity of supporting ecosystems."

Thermal water discharge

p. 44

In thermal and nuclear power generation, the steam that powers the turbine is cooled and turned to water in a condenser so that it can be used again. In almost all Japanese power plants, seawater is used to cool the condensers. As the seawater passes through the condenser, its temperature rises. It is then returned to the ocean through the discharge outlet, at which point it is referred to as thermal water discharge.

Ultra super critical (USC)

pp. 13, 14, 32, 34, 39

A steam turbine technology that makes use of advanced steam conditions, beyond those used in conventional super critical turbines (pressure 246 kg/cm²; temperature 566°C), to improve the efficiency of thermal power plants.

Zero emissions

pp. 8, 15, 26, 28, 40, 49, 69, 71

A concept developed by United Nations University in 1994 in response to the idea of sustainable development put forth at the 1992 Earth Summit. It aims to build a system of recycling-based industries in which one industry uses the waste of another to create a situation in which no net waste is generated. It involves a process of continuous improvement in the quest for that ideal. In Japan different entities are now approaching the goal of "no garbage" (as the concept is popularly known) in a variety of different ways.

J-POWER Business Sites and Significant Consolidated Subsidiaries

J-POWER Business Sites

(As of the end of March 2007)

In Japan	Name	Location
Head Office		Chuo-ku, Tokyo
Hydropower & Transmission System Department		
	Hokkaido Regional Headquarters	Sapporo-shi, Hokkaido
	East Regional Headquarters	Kawagoe-shi, Saitama
	Chubu Regional Headquarters	Kasugai-shi, Aichi
	West Regional Headquarters	Osaka-shi, Osaka
	Ohma Main-Transmission Line Project Construction Office	Mutsu-shi, Aomori
	Nishi-Tokyo Main Transmission Line Construction Office	Kawagoe-shi, Saitama
Civil and Electrical Engineering Department		
	Ibigawa Hydro Project Survey Office	Ibi-gun, Gifu
	Kumagawa Hydro Project Survey Office	Hitoyoshi-shi, Kumamoto
Thermal Power Department		
	Isogo Thermal Power Station	Yokohama-shi, Kanagawa
	Takasago Thermal Power Station	Takasago-shi, Hyogo
	Takehara Thermal Power Station	Takehara-shi, Hiroshima
	Tachibanawan Thermal Power Station	Anan-shi, Tokushima
	Matsushima Thermal Power Station	Saikai-shi, Nagasaki
	Matsuura Thermal Power Station	Matsuura-shi, Nagasaki
	Ishikawa Coal Thermal Power Station	Uruma-shi, Okinawa
	Onikobe Geothermal Power Station	Osaki-shi, Miyagi
Thermal Power Engineering Department		
	Isogo Thermal Power Station No. 2 Unit Construction Office	Yokohama-shi, Kanagawa
Nuclear Power Department		
	Ohma Nuclear Power Project Construction Preparation Office	Shimokita-gun, Aomori
	Aomori Branch Office	Aomori-shi, Aomori

In Japan	Name	Location
Business Planning Department		
	Wakamatsu Operations & General Management Office	Kitakyushu-shi, Fukuoka
Corporate Planning & Administration Department		
	Sendai Office	Sendai-shi, Miyagi
	Takamatsu Office	Takamatsu-shi, Kagawa
	Fukuoka Office	Fukuoka-shi, Fukuoka
	Hokuriku Office	Toyama-shi, Toyama
	Chugoku Office	Hiroshima-shi, Hiroshima
Technology Development Center		
	Chigasaki Research Institute	Chigasaki-shi, Kanagawa
	Wakamatsu Research Institute	Kitakyushu-shi, Fukuoka

Overseas Offices

Washington Office (U.S.A.)
EPDC Beijing Office (China)
Kuala Lumpur Office (Malaysia)
Hanoi Office (Vietnam)
Purulia Pumped Storage Project Office (India)
Upper Kotomale Hydropower Project Office (Sri Lanka)
Dai Ninh Hydropower Project Office (Vietnam)

Significant Consolidated Subsidiaries

(As of the end of March 2007)

Company Name	Investment Rate (%)	Main Activities	Head Office
Bay Side Energy Co., Ltd.	100	Electric power supply	Chuo-ku, Tokyo
Green Power Kuzumaki Co., Ltd.	100	Construction and operation of wind power generation facilities	Iwate-gun, Iwate
Green Power Setana Co., Ltd.	100	Construction and operation of wind power generation facilities	Kudo-gun, Hokkaido
Green Power Koriyama Nunobiki	100	Construction and operation of wind power generation facilities	Koriyama-shi, Fukushima
Dream-Up Tomamae Co., Ltd.	100	Construction and operation of wind power generation facilities	Tomamae-gun, Hokkaido
Green Power Aso Co., Ltd.	81	Construction and operation of wind power generation facilities	Aso-gun, Kumamoto
ITOIGAWA POWER Inc.	80	Electric power supply	Itoigawa-shi, Niigata
Nagasaki-Shikamachi Wind Power Co., Ltd.	70	Construction and operation of wind power generation facilities	Kitamatsuura-gun, Nagasaki
Nikaho Kogen Wind Power Co., Ltd.	67	Construction and operation of wind power generation facilities	Nikaho-shi, Akita
J-Wind TAHARA Ltd.	66	Construction and operation of wind power generation facilities	Tahara-shi, Aichi
Ichihara Power Co., Ltd.	60	Electric power supply	Ichihara-shi, Chiba
JPec Co., Ltd.	100	Engineering, technical development, design, consulting, and maintenance/surveys of thermal and nuclear power generation facilities; coal loading at thermal power plants; sale of fly ash and marine transportation of coal fuel; surveys, construction, and management related to green landscaping; surveys and planning related to environmental conservation	Chuo-ku, Tokyo
JPHYTEC Co., Ltd.	100	Engineering, technical development, design, consulting, maintenance/surveys and work related to land compensation for hydropower facilities and transmission and transformer facilities; land surveying; civil engineering; general construction; and construction management	Chiyoda-ku, Tokyo
KEC Corporation	100	Construction and maintenance of electronics application facilities and communications facilities	Bunkyo-ku, Tokyo
EPDC Coal Tech and Marine Co., Ltd.	100	Marine transportation of coal ash and fly ash	Chuo-ku, Tokyo
KDC Engineering Co., Ltd.	100	Civil engineering, general construction, surveys and design related to electric power generation facilities, and construction management	Nakano-ku, Tokyo
J-POWER EnTech, Inc.	100	Engineering of equipment for the removal of air and water pollutants	Minato-ku, Tokyo
J-POWER RESOURCES Co., Ltd.	100	Coal surveys, mining, development, and related investment	Chuo-ku, Tokyo
JP Business Service Corporation	100	Operation of welfare facilities; building management; provision of general affairs, labor, and accounting services; development of computer software	Koto-ku, Tokyo
Omuta Plant Services Co., Ltd.	100	Operation and maintenance of waste power generation stations	Omuta-shi, Fukuoka
Japan Network Engineering Co., Ltd.	100	Telecommunications; operation and maintenance of telecommunications equipment	Chuo-ku, Tokyo
Kaihathiryou Co., Ltd.	100	Production of fertilizers using coal ash	Takehara-shi, Hiroshima
Kaihathiryou Hanbai Co., Ltd.	100	Sale of fertilizers made from coal ash	Shinjuku-ku, Tokyo
J-Power Investment Netherlands B.V.	100	Management of overseas investments	Netherlands
J-POWER North America Holdings Co., Ltd.	100	Management of overseas investments	U.S.A.

Note: Kaihathiryou Co., Ltd. merged with Kaihathiryou Hanbai Co., Ltd. in April 2007.

Environmental Chronology

WORLD	J-POWER GROUP	JAPAN
	1952 Establishment of J-POWER	
	1960 Shokawa cherry trees transplanted at Miboro Power Station	
	1964 Pollution Control Agreement concerning Isogo Thermal Power Station concluded with Yohohama City (Yokohama method)	1967 Basic Law for Environmental Pollution Control promulgated
1972 United Nations Conference on the Human Environment (UNCHE) held in Stockholm	1973 Numappara Power Station started operation (wetland conservation)	1968 Air Pollution Control Law promulgated
1975 Washington Convention (Convention on International Trade in Endangered Species, CITES) came into force	1975 Flue-gas desulfurization system completed at Takasago Thermal Power Station No.1 (Japan's first complete flue-gas desulfurization system)	1968 Noise Pollution Regulation Law promulgated
1985 Vienna Convention for the Protection of the Ozone Layer adopted	1976 Totsugawa Power Station No. 1 improved water intake by introducing surface intake facilities	1970 Water Pollution Control Law promulgated
1988 Intergovernmental Panel on Climate Change (IPCC) established	1977 Funagira Dam started operation (fish ladder installed)	1970 Waste Management (Disposal) and Public Cleansing Law promulgated
	1980 Yanase Power Station improved water intake by introducing selective intake facilities	1971 Offensive Odor Control Law promulgated
	1982 Takehara Thermal Power Station No. 1 installed flue-gas denitrification system	1974 Air Pollution Control Law amended and promulgated (regulation of total emissions introduced)
	1986 Isogo Thermal Power Station received Pollution Prevention Award from Kanagawa Prefecture	1975 Vibration Regulation Law promulgated
	1987 Ishikawa Coal-Fired Thermal Power Station selected as one of Public Color Prize Ten Environmental Winners	1977 Notification of Ministry of International Trade and Industry (currently Ministry of Economy, Trade and Industry) regarding the Ministerial Meeting on Assessment issued
	1988 Takasago Thermal Power Station received Director General's Award (Energy Saving) from the Agency for Natural Resources and Energy	1984 Implementation Outline of Environmental Impact Assessment approved by the Cabinet
1992 United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro	1990 Committee for Coping with Global Environment Problems established	1990 Global Warming Prevention Action Plan approved
1994 Framework Convention on Climate Change came into force	1990 Nishi-Yoshino Power Station No. 1 started discharging for river flow maintenance (first hydraulic power station of J-POWER)	1993 Law for Promotion of Utilization of Recyclable Resources promulgated
1995 1st Conference of Parties to the UN Framework Convention on Climate Change (COP1) held in Berlin	1990 Tagokura Power Station started producing driftwood charcoal	1993 Basic Environment Law promulgated
1996 2nd Conference of Parties to the UN Framework Convention on Climate Change (COP2) held in Geneva	1990 Takehara Thermal Power Station received Director General's Award (Energy Saving) from the Agency for Natural Resources and Energy	1994 Basic Environment Plan approved by the Cabinet
1996 ISO 14001 Environmental Management System formulated	1993 Environmental Activities Promotion Board established	1995 Law for Promotion of Sorted Collection and Recycling of Containers and Packaging promulgated
1997 3rd Conference of Parties to the UN Framework Convention on Climate Change (COP3) held in Kyoto	1993 Denpatsu Environmental Action Guidelines established	1997 Environment Impact Assessment Law promulgated
1998 4th Conference of Parties to the UN Framework Convention on Climate Change (COP4) held in Buenos Aires	1993 Driftwood charcoal received Minister's Prize (Recycling Concept) from Ministry of International Trade and Industry	1997 River Law amended (for not only irrigation and water use but also improvement and conservation of river environment)
1999 5th Conference of Parties to the UN Framework Convention on Climate Change (COP5) held in Bonn	1994 Kumaushi Power Station received Good Design Prize from Ministry of International Trade and Industry	1998 Law Concerning the Rational Use of Energy (Energy Saving Law) amended
	1994 Huang Dao Power Station in China started high-sulfur coal desulfurization demonstration test	1998 Law Concerning the Promotion of the Measures to Cope with Global Warming promulgated
	1997 Okukiyotsu Power Station No. 2 received Technology Award (Cohabitation with Local Community/Open Type Power Station) from the Japan Society of Civil Engineers	1999 Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management promulgated
	1998 New J-POWER Environmental Action Guidelines established	1999 Law Concerning Special Measures against Dioxins promulgated
	1998 Afforestation operation in Australia began	
	1998 Matsuura Thermal Power Station No. 2 received Director-General's Prize from the Agency of Industry Science and Technology (Prevention of Air Pollution) for its microfiltration-type flue-gas desulfurization wastewater treatment system	
	1999 Matsuura Thermal Power Station acquired ISO 14001 certification	
	1999 Okutadami-Otori Hydro Project Construction Office acquired ISO 14001 certification (first construction organization in Japan to receive ISO 14001 certification)	
	1999 Matsuura Thermal Power Station No. 2 Generator Turbine received an award (improvement of combustion efficiency, etc.) from the Japan Society of Mechanical Engineers	
2000 6th Conference of Parties to the UN Framework Convention on Climate Change (COP6) held in The Hague	2000 Environmental Management Regulations and J-POWER Environmental Policy formulated	2000 Fundamental Law for Establishing a Sound Material-Cycle Society promulgated
2001 Resumed Session of 6th Conference of Parties to the UN Framework Convention on Climate Change (COP6 Resumed Session) held in Bonn	2000 Okinawa Seawater Pumped-Storage Project Demonstration Test Office received the Technology Award (Restored Environment Area) from the Japan Society of Civil Engineers and recognition for Energy PR Facility/PR Activities, receiving the Steering Committee Chairman's Prize (for activities promoting understanding of environmental problems)	2001 Inauguration of Ministry of the Environment following the reorganization of ministerial offices
2001 7th Conference of Parties to the UN Framework Convention on Climate Change (COP7) held in Marrakesh	2000 Tomamae Winvilla Wind Farm started operation	2001 Law Concerning Special Measures against PCB Waste enforced
2001 Operational Rules for the Kyoto Protocol adopted	2000 Received Technical Development Award of the Japanese Geotechnical Society (Cyclic Use of Resources) for deep-chemical mixing method for utilizing coal ash	2001 Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Law on Promoting Green Purchasing) enforced
2002 World Summit on Sustainable Development held in Johannesburg	2000 Tachibanawan Thermal Power Station received award from the Japan Society of Civil Engineers (measures for peripheral environmental conservation and harmonizing, reuse of sea-floor dredging earth, recycling of coal ash in large quantities, etc.)	2002 Law Concerning the Rational Use of Energy amended
2002 8th Conference of Parties to the UN Framework Convention on Climate Change (COP8) held in New Delhi	2000 Construction Division acquired ISO 14001 certification	2002 Law Concerning the Promotion of the Measures to Cope with Global Warming amended
2003 9th Conference of Parties to the UN Framework Convention on Climate Change (COP9) held in Milan	2001 Nikaho Kogen Wind Farm started operation	2002 Law for the Promotion of Nature Restoration promulgated
2003 3rd Water Forum held	2001 Isogo Thermal Power Station received Public Color Award and Top Ten Environmental Color Award from the Study Group for Color in Public Places	2003 Law Concerning Measures against Soil Pollution enforced
2004 10th Conference of Parties to the UN Framework Convention on Climate Change (COP10) held in Buenos Aires	2001 Introduction of EMS based on ISO 14001 throughout the company completed	2003 Law on Special Measures Concerning New Energy Use for Electric Utilities (RPS Law) enforced
2004 2004 version of ISO 14001 released	2002 Received Japan Institute of Energy Award for development of ash-circulating-type PFBC technology (improvement of desulfurization efficiency and combustion efficiency, reduction of coal ash, etc.)	2003 Law for Enhancing Motivation on Environmental Conservation and Promoting of Environmental Education enforced
2005 Kyoto Protocol came into force	2002 Omuta Recycling Power Station started operation	2004 Waste Disposal and Public Cleansing Law amended
2005 11th Conference of Parties to the UN Framework Convention on Climate Change (COP11) and 1st conference of the parties serving as a meeting of the parties to the Kyoto Protocol (COP/MOP 1) held in Montreal	2002 Tokyo Bayside Wind Power Plant started operation	2004 Air Pollution Control Law amended
2006 12th Conference of Parties to the UN Framework Convention on Climate Change (COP12) and 2nd conference of the parties serving as a meeting of the parties to the Kyoto Protocol (COP/MOP 2) held in Nairobi	2003 Omuta Power Recycling Station received New Energy Award and Chairman's Prize from the New Energy Foundation	2004 Law Concerning the Promotion of Business Activities with Environmental Consideration by Specified Corporations, etc., by Facilitating Access to Environmental Information, and Other Measures promulgated
	2003 Okutadami-Otori Hydro Project Construction Office received Technology Award from the Japan Society of Civil Engineers (for natural environmental conservation and overcoming of obstacles to technological development)	2004 Scenery Law enforced
	2003 Green Power Kuzumaki Wind Farm put into commercial operation	2005 Waste Disposal and Public Cleansing Law amended
	2004 Report prepared by Okutadami-Otori Hydro Project Construction Office received an encouragement prize at 7th Environmental Report Awards ceremony	2006 Law Concerning the Promotion of the Measures to Cope with Global Warming amended
	2004 Concrete action plan for the J-POWER Group Environmental Management Vision formulated	2007 Green Contract Law promulgated
	2004 J-POWER certified and registered for Eco-Leaf Environmental Labeling Program	
	2004 Ichihara Power's Ichihara Power Station put into commercial operation	
	2005 Three J-POWER-owned wind power stations (Tahara Wind Farm, Aso Wind Farm, and Shikamachi Wind Farm) put into commercial operation	
	2005 All of J-POWER's coal-fired thermal power stations and a geothermal power station acquired ISO 14001 certification	
	2005 Bay Side Energy's Ichihara Power Station put into commercial operation	
	2005 Okutadami/Otori Power Station expanded, received Environment Award from the Japan Society of Civil Engineers (for wetland restoration)	
	2005 Setana Rinkai Wind Power Plant started operation	
	2006 All of J-POWER's power generation, transmission, substation, and communication sites acquired ISO 14001 certification	
	2006 Yala Biomass Power Plant in Thailand started operation	
	2007 Koriyama Nunobiki Kogen Wind Farm started operation	

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The Table of Correspondences represents the J-POWER Group's understanding of how the specific information contained in this report corresponds to the sections of the GRI Guidelines.

* GRI (Global Reporting Initiative): A global network of NGOs, corporations, and international organizations, a goal of which is to encourage reporting of the economic, environmental, and social aspects of corporate activities. A copy of the GRI Guidelines is available at the following web address: http://www.globalreporting.org/NR/rdonlyres/529105CC-89D8-405F-87CF-12A601AB3831/0/2002_Guidelines_ENG.pdf

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Published October 2007
Printed in Japan