

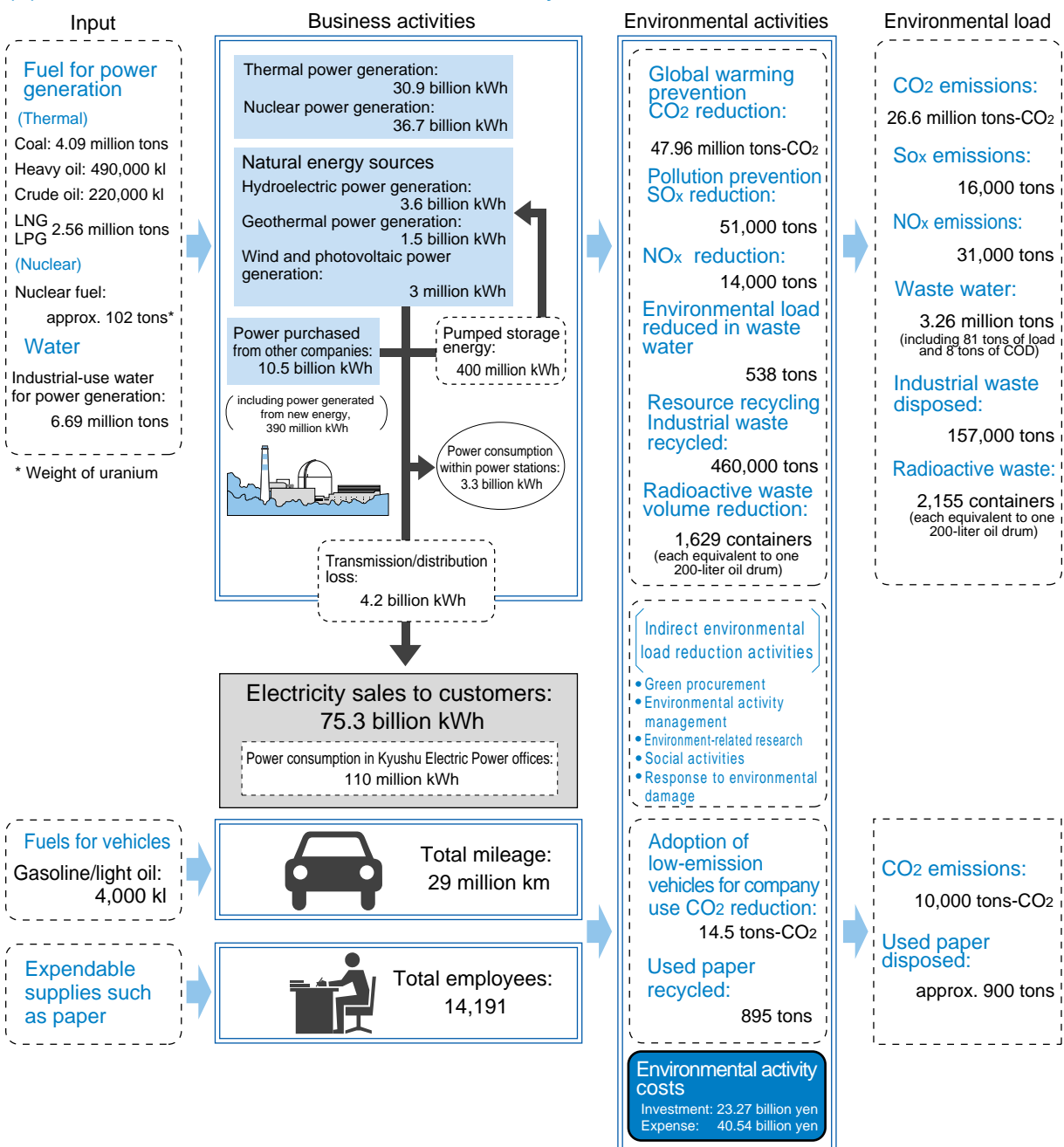
## 2. Environmental Accounting

Kyushu Electric Power introduced environmental accounting in fiscal 2000. The costs and benefits of environmental activities are taken into account in decision-making regarding environmental-activity deployment, and are disclosed to the public. We focused our efforts on improving our environmental accounting system in fiscal 2001, including the calculation of benefits in addition to costs. Please refer to the table on the next page for the results.

For efficient, effective environmental activity deployment, the environmental accounting system must evolve into a comprehensive system. It must enable quantitative understanding of the environmental load (environmental impact) caused by business activities, the costs and benefits of the environmental activities, as well as a thorough analysis that includes consideration of their relation to business activities.

See Related Information I2. (pp.34-37) for a detailed view of the environmental accounting system and its use.

### (1) Business activities, environmental activity benefits and environmental load



## (2) Environmental activity costs and benefits (fiscal 2001 records)

Environmental activity category		Main activities	Environmental costs (100 million yen)		Environmental activity benefits*1		
			Investment	Expense	Items	Extent of benefits, etc.	
Global environment preservation	Global warming prevention	Installation of power sources with low CO <sub>2</sub> emissions, thermal efficiency improvement, introduction and support for new energy equipment, contribution to World Bank Prototype Carbon Fund, energy conservation (including low-emission vehicles) and SF <sub>6</sub> emission control	6.0	44.3	CO <sub>2</sub> reduction	Nuclear power generation	30.1 million ton-CO <sub>2</sub> /yr
						LNG power generation	6.58 million ton-CO <sub>2</sub> /yr
						Hydro, geothermal power generation	5.49 million ton-CO <sub>2</sub> /yr
						New energy power generation and purchase	300,000 ton-CO <sub>2</sub> /yr
						Improvement of facility efficiency	4.93 million ton-CO <sub>2</sub> /yr
						World Bank PCF	- ton-CO <sub>2</sub> /yr
						Energy saving activities	15 ton-CO <sub>2</sub> /yr
	Ozone layer protection	Measures for freons and halon recovery	0.0	0.4	SF <sub>6</sub> emissions reduction*2	560,000 ton-CO <sub>2</sub> /yr	
Local natural environment preservation	Air pollution prevention	Flue gas treatment (desulfurization, denitrification, particulate reduction equipment) and use of fuel with low sulfur content	93.4	87.2	Freons emissions*3	1.3 ODP ton/yr	
	Water pollution prevention	Waste water treatment, measures against oil leaks and warm waste water at power stations	14.4	28.3	SOx reduction	51,177 ton/yr	
	Noise and vibration prevention	Noise and vibration measures at power stations, substations and transmission facilities	8.8	0.0	NOx reduction	14,431 ton/yr	
Resource recycling	Industrial waste	Reduction and recycling of industrial waste	11.9	25.2	Particulate reduction	239,583 ton/yr	
		Disposal of industrial waste and PCB storage	13.8	9.3	Environmental load reduced in waste water*4	538 ton/yr	
	General waste	Reduction and recycling of general waste	0.5	1.3	Amount recycled	459,500 tons/yr	
		Disposal of general waste	0.0	1.8	Proper final disposal amount	157,000 tons/yr	
	Measures for dealing with radioactive waste, and spent nuclear fuel*5	Disposal and other treatment of radioactive waste	4.7	67.5	Used paper recycled	895 tons/yr	
Green procurement	Additional expenses incurred from green procurement	-	-	Used paper properly disposed	Approx. 900 tons/yr		
Environmental activity management	Environmental activity organization	Expenses from environment-related license acquisition, education and training, and for personnel	0.0	0.5	Volume reduction of the Low-level radioactive waste	1,629 containers/yr (each equivalent to one 200-liter oil drum)	
	ISO and EMS application and maintenance	ISO14001 and EMS (ISO-based system) acquisition, application and maintenance	0.2	1.1	Amount of spent nuclear fuel stored	2,474 assemblies	
	Environmental load measurement and monitoring	Environmental impact assessment, monitoring and measurement of environmentally burdening substances, and PRTR measures	2.7	15.9	As a rule, general-purpose goods are procured from FY 2002.		
Environment related research	Environmental preservation	Prevention of global warming, improvement of air and water quality and effective use of waste	0.0	3.9	Participants to training and lectures	4,765 people/yr	
	Environmental load control during transmission and distribution	Improvement in thermal efficiency and transmission/distribution loss factor	0.0	0.3	Personnel with environment-related licenses	1,368 people	
Social activities	Greening of sites	Greening, maintenance and management of Kyushu Electric power station sites	7.9	17.7	Offices that acquired ISO certificate	4 offices	
					Offices that applied EMS	10 offices	
	Maintaining quality townscapes and surroundings	Measures to create harmony with surroundings such as buildings with scenic care and underground transmission and distribution lines	68.2	89.4	No. of monitoring and measurement locations	17,323 locations	
					No. of research cases in practical use phase	5 cases	
	Environment Month	Environment Month and Kyushu Homeland Forestation Program	0.1	0.8	Total area of greening	47.28 million m <sup>2</sup>	
	Supporting local environmental activities	Support for local environmental activities and environmental organizations	0.0	0.3	No. of buildings with scenic care	176 buildings	
Environmental information disclosure	Environment Action Report, pamphlet and website preparation	0.0	0.2	No. of steel towers with scenic care	80 units		
Response to environmental impairment	Pollution load levy under the Pollution-related Health Damage Compensation Law	0.0	9.7	Length of underground distribution lines	1,795km		
Total			232.7	405.4	No. of participants at lectures, etc.	2,406 people/yr	
Reference	Percentage in Kyushu Electric Power total investments and expenses		8%	3%	No. of trees and saplings	193,083/yr	
	Total investments: 297.9 billion yen						
	Total expenses: 1,290.2 billion yen						
					Reference: Measures for dealing with spent nuclear fuel		
					Main activities	Environmental costs (100 million yen)	
					Allowance etc. for spent nuclear fuel reprocessing	Investment Expense	
						0.0 395.3	

N.B. Listed are Kyushu Electric Power's costs and benefits from environmental activities. Figures are rounded, and may not add up to the total.

\*1: See Related Information 12. (pp.34-37) for the details of activity benefit calculation.

\*2: SF<sub>6</sub> emission reduction is converted to the weight of CO<sub>2</sub> using the global warming potential for SF<sub>6</sub> (23,900). The amount of reduction includes those attained by equipment overhaul and dismantlement.

\*3: The emissions reduction for freons is converted into a relative value taking ozone depletion potential (ODP) per unit weight of CFC-11 as 1.

\*4: Environmental load in waste water is obtained by assessing each pollutant in waste water based on environmental standards, and converting it into weight by the COD (chemical oxygen demand) standard.

\*5: The figure does not include allowance for spent nuclear fuel reprocessing (refer to the reference table).

### Economic effects from environmental activities

Among environmental activities, real economic effects that lead to savings and income are as shown at the table on the right.

Environmental activity category	Main activities	Quantity of benefits
Global environment preservation	Global warming prevention	Fuel cost savings from improvement of thermal efficiency and the transmission/distribution loss factor
Resource recycling	Waste measures	Income from sale of unneeded supplies
	Waste reduction	Final disposal cost savings from recycling
Savings in statutory charges	Pollution load levy savings from SOx emission reduction	
Total		29.13 billion yen