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ENVIRONMENT

- ◆ Environmental Management
- ◆ Environmentally Friendly Business
- ◆ Climate Change
- ◆ Resource Circulation
- ◆ Pollution Prevention
- ◆ Efforts Toward Conserving Biodiversity
- ◆ Water Resources

Environmental Management

ENVIRONMENT



► Policy and Concept

● Environmental policy

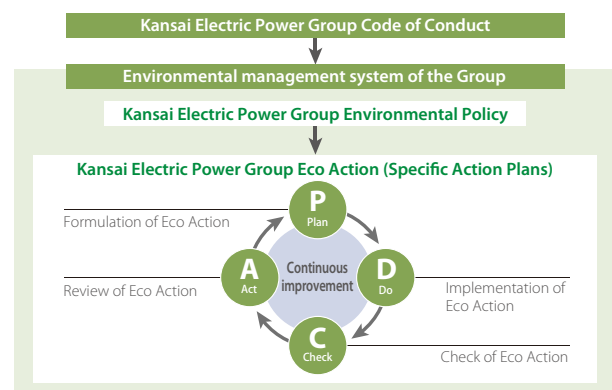
As a responsible energy business deeply involved with the environment, we recognize the importance of addressing various environmental issues, such as climate change, resource recycling promotion and local environmental conservation. We are also committed to reducing the environmental burden and risks related to our business activities in line with the Kansai Electric Power Group Code of Conduct, which aims to proactively contribute to building a better environment and a sustainable society by providing environmentally friendly products and services. Moreover, in line with our conduct standards for individuals, we fully recognize the significance of environmental conservation, pay due consideration to the environmental impact of our business operations and support environmentally friendly practices with an emphasis on resource and energy conservation.

The Kansai Electric Power Group Environmental Policy sets the direction of our medium- to long-term environmental management plans, featuring seven approaches to address climate change, each of which is being promoted. The Environmental Policy is subject to review and examination by the Sustainability Promotion Board as necessary, and the results of which are communicated to our employees as well as to employees of group companies.

● Environmental management system

Our Group has an environmental management system in place, incorporating the ISO 14001 guidelines, in order to promote measures for building a better environment and manage environmental risks. Our environmental management system, supervised by top management, is being upgraded through a continuous PDCA cycle—i.e., development of environmental policies; development, implementation, check and review of our Group's Eco Action (an action plan for environmental management); and management review by the Sustainability Promotion Board. Eco Action covers both our business activities and office activities while the latter concerns group-wide efforts to conserve resources and save energy.

◆ Environmental management system of the Kansai Electric Power Group (PDCA cycle)



● Kansai Electric Power Group Environmental Policy

1. Adhering to environmental laws, regulations and related rules

At the Kansai Electric Power Group, we adhere to laws, regulations and other rules related to the environment.

2. Responding to climate change

At the Kansai Electric Power Group, recognizing climate change as a key business challenge, we actively work to reduce greenhouse gas emissions. We pursue the goal of carbon neutrality throughout the entirety of our business activities and support our customers and society in achieving decarbonization by 2050. In addition, we also work to adapt in preparation for the harmful impacts of climate change.

3. Promoting resource circulation

At the Kansai Electric Power Group, recognizing that natural resources are limited, we advance efforts toward resource circulation in society as a whole. Our efforts include reducing natural resource consumption in our business activities, proactively promoting 3R (reduce, reuse, recycle) practices, and providing products and services that contribute to resource circulation.

4. Protecting local community environments

At the Kansai Electric Power Group, we seek to prevent environmental pollution while working to strictly manage and reduce toxic chemicals in our business activities in order to promote the environmental protection of local communities.

5. Conserving biodiversity

At the Kansai Electric Power Group, we recognize the importance of biodiversity. We properly assess, analyze and evaluate the impacts of our business activities and work to preserve biodiversity.

6. Promoting environmental communication

At the Kansai Electric Power Group, we work proactively to raise environmental awareness and disclose information related to the environment.

7. Continuously improving our environmental management systems

At the Kansai Electric Power Group, we seek to continuously improve our environmental management systems in order to increase our environmental performance.

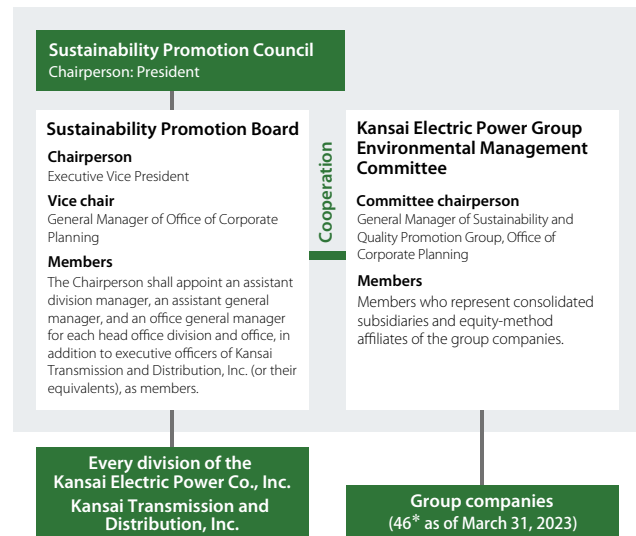


System

Environmental management efforts are ongoing, with the President (as Chief Environmental Management Officer) leading the environmental officers of each division and organization. Meanwhile, the Office of Corporate Planning and the Office of Energy and Environmental Planning are promoting corporate environmental management, utilizing their expertise in environmental issues while providing assistance and guidance to each division (support for independent environmental management).

The Sustainability Promotion Board, which is in principle held twice a year, reviews our environmental management system, the results of which are reflected in the system itself. At the same time, the Kansai Electric Power Group Environmental Management Committee, composed of representatives from consolidated subsidiaries and equity-method affiliates, usually holds an annual meeting to exchange information on issues concerning our Group's environmental management activities while cooperating as needed with the Sustainability Promotion Board.

◆ Environmental management promotion system of the Kansai Electric Power Group



* 46 companies, which are selected from 80 consolidated subsidiaries and 4 equity-method affiliates, excluding those that have low environmental impacts and Kansai Transmission and Distribution, Inc.

Goals

● Environmental Management System (list of Eco Action)

Kansai Electric Power Group Eco Action (results in fiscal 2022 and targets for fiscal 2023)

◆ Responding to climate change

Item	FY 2022		FY 2023
	Targets	Results	Targets
Advancing efforts to control CO ₂ emissions	<ul style="list-style-type: none"> Keep the top spot for the amount of zero-carbon power generation in Japan Halve CO₂ emissions associated with power generation in Japan in FY 2025 (compared to FY 2013) 	<ul style="list-style-type: none"> We kept the top spot for the amount of zero-carbon power generation in Japan (based on surveys and comparisons made in the electric power statistics) Reduction of about 49% from fiscal 2013 levels of CO₂ emissions associated with power generation in Japan 	Continued
Continuing safe and stable operation of nuclear power plants*1*4	<ul style="list-style-type: none"> Continue safe and stable operation of nuclear power plants (Zero unplanned shutdowns) 	<ul style="list-style-type: none"> We continued the safe and stable operations at running plants (One unplanned shutdown) 	<ul style="list-style-type: none"> Continue safe and stable operation based on the operation plan (Zero unplanned shutdowns) (Nuclear power generated *45.3 billion kWh*)
Further development and utilization of renewable energy*5	<ul style="list-style-type: none"> Achieve 5 GW scale of new development and 9 GW scale of cumulative capacity in Japan by 2040 	<ul style="list-style-type: none"> Cumulative capacity of 3.92 GW (as of the end of FY 2022) (Capacity of facilities that have begun operation (completed construction): about 3.83 GW; Project underway: about 0.09 GW) 	Continued
Maintaining and improving the thermal efficiency of thermal power plants*2*4	<ul style="list-style-type: none"> Achieve benchmark indicators*2 (A: 1.00, B: 44.3%) 	<ul style="list-style-type: none"> We achieved benchmark indicators 	Continued
Reducing transmission and distribution loss*3	<ul style="list-style-type: none"> Maintain or reduce transmission and distribution loss 	<ul style="list-style-type: none"> 5.10% 	[Revised items] <ul style="list-style-type: none"> Introduction of equipment for GHG emission reduction Efforts to introduce renewable energy and DER utilization in the grid network [Targets] <ul style="list-style-type: none"> Number of GHG emission reduction equipment units installed <ul style="list-style-type: none"> Transformer with vegetable oil: 1 unit SF₆ alternative gas appliance: 1 unit Promptly and smoothly promote grid interconnection and facility expansion that correspond to future renewable energy power potential. Upgrade facilities and operations using IoT technology, etc. to introduce renewable energy and maximize DER utilization.
Promoting use of innovative forms of energy among customers and communities*3	<ul style="list-style-type: none"> Contribute to making energy use by customers and communities more sophisticated 	<ul style="list-style-type: none"> Install smart meters at all customer locations as originally planned Number of smart meters installed (as of end March 2023) Kansai Transmission and Distribution's service area: 13.05 million units (100%*) * Excluding areas where replacement is not feasible 	
Controlling SF ₆ emissions (calendar year basis) (gas recovery rate upon inspection/removal of equipment)	<ul style="list-style-type: none"> 97% (upon inspection) 99% (upon removal) 	<ul style="list-style-type: none"> 99.6% (upon inspection) 99.4% (upon removal) 	Continued

*1 CO₂ emissions per unit power consumed (sold)
 *2 Indicators based on the benchmark system of the Act on Rationalizing Energy Use and Shifting to Non-fossil Energy
 *3 Targets apply only to Kansai Transmission and Distribution, Inc.
 *4 Targets apply only to the Company.
 *5 Targets apply to the Company and group companies (excluding Kansai Transmission and Distribution, Inc.)



◆ Promoting resource circulation

Item	FY 2022		FY 2023
	Targets	Results	Targets
Maintaining industrial waste recycling rate	• 99.5%	• 99.8%	Continued

• Waste plastic reduction program
 Results in fiscal 2022 of waste plastic volume: About 247.8 tonnes by the Kansai Electric Power Company
 About 1,619.8 tonnes by Kansai Transmission and Distribution
 Targets for fiscal 2023: Reduce and recycle waste plastics to as great a degree as possible.

◆ Protecting local community environments

Item	FY 2022		FY 2023
	Targets	Results	Targets
Maintaining sulfur oxide (SOx) and nitrogen oxide (NOx) emission factors	SOx	Emission factors: maintain the lowest levels in the world Emissions: strictly adhere to agreed values at each power plant	Continued
	NOx	Overall: 0.024 g/kWh Thermal: 0.045 g/kWh All agreed values were met	
Proper processing of PCB* ¹ wastes	• Proceed with certainty to achieve processing before the legal deadline	• Cumulative total amount of high-level PCB processed Large equipment: 5,422 units* ²	Continued
Proper handling of products containing asbestos	(New items effective FY 2023)	(New items effective FY 2023)	Proper control and processing in compliance with relevant laws and regulations

*1 PCB: Poly chlorinated biphenyl, a compound widely used for transformer insulating oil, etc., because of its excellent electrical insulation properties. Being hazardous to ecological systems, however, PCB production/use is generally banned. High-level PCB is used deliberately while low-level PCB is accidentally mixed in.

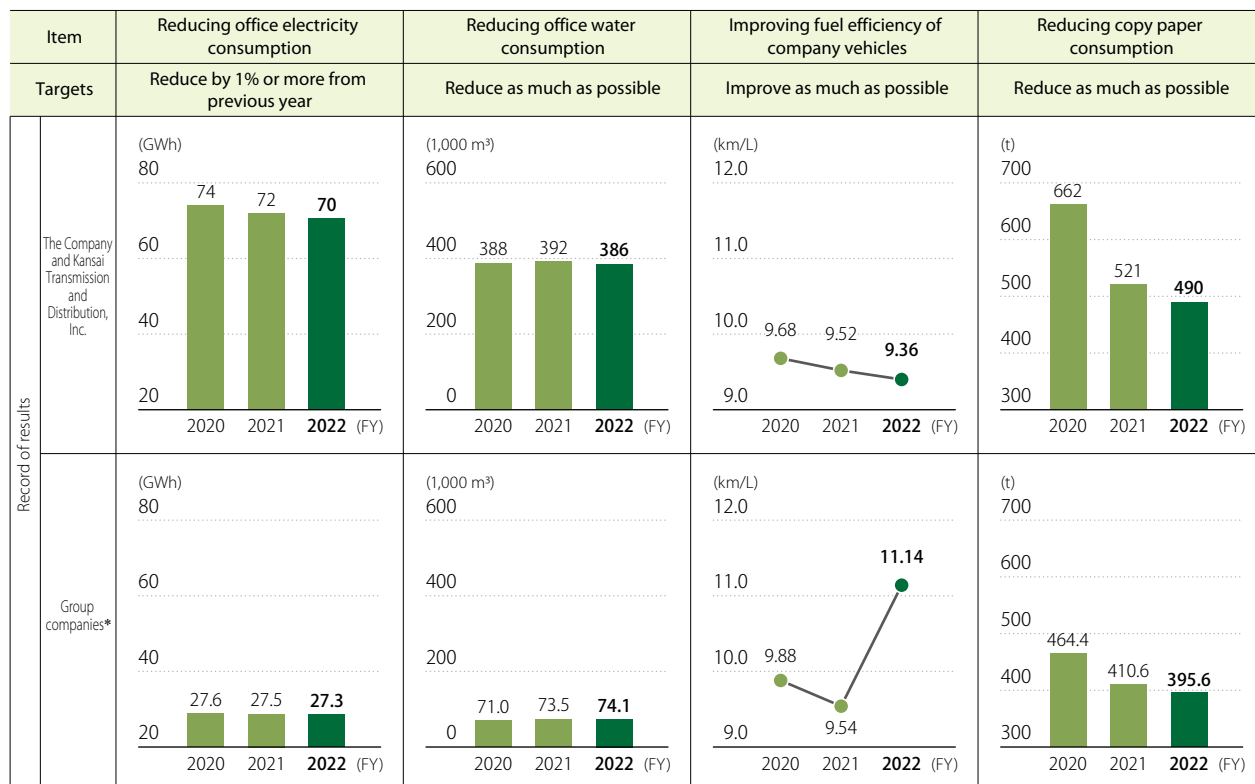
*2 Number of high-voltage transformers, capacitors and other electrical equipment that were subcontracted to the Japan Environmental Storage & Safety Corporation (JESCO).

◆ Conserving biodiversity

Item	FY 2022		FY 2023
	Targets	Results	Targets
Conservation of biodiversity	• Consideration of biodiversity through business activities	• Field studies were conducted around the hydropower plant located near the Kiso River system in Nagano Prefecture, with a focus on the habitat and the growth environment for flora and fauna (Sep. 14-15, Oct. 12-14).	Continued



◆ Office energy and resource conservation activities (group-wide items)



* Calculated for 36 consolidated subsidiaries (excluding Kansai Transmission and Distribution, Inc.) for which three-year data (FY 2020–2022) is available.

▶ Efforts

● Environmental compliance

Recognizing “strict enforcement of compliance” as part of materiality (important issues), our Group is committed to eliminating any major violations of environmental compliance.

Major violations of environmental compliance reported in fiscal 2020 to 2022 are summarized below.

◆ Major environmental compliance violations

Item	Targets	Results		
		FY 2020	FY 2021	FY 2022
Major environmental compliance violations	0	1	4	2

• Major violations of environmental compliance occurred or reported in each fiscal year are included.
 • “Major violations of environmental compliance” are defined as “violations that have impacted (or could impact) the surrounding environment and/or human health.”
 • None of these major environmental compliance violations resulted in fines due to penalization.

Major violations of environmental compliance occurred or reported in fiscal 2022 are summarized below.

◆ Summary of major violations of environmental compliance

- Non-conformance to effluent standards set by the Water Pollution Control Law, etc. (discharge of muddy water into the surrounding area)
- Discharge of sodium hypochlorite into the sea

We are implementing efforts to identify root causes, review in-house rules (observance of relevant laws and regulations), and educate employees to prevent any recurrence of these violations.

In addition, details of these incidents are communicated company-wide and preventive measures are shared between all those concerned to prevent similar violations from taking place at other offices.

● Performance data

Eco Action-related		Unit	FY 2020	FY 2021	FY 2022
SF ₆ gas emissions		t	0.1	0.1	0.1
	• Upon inspection		0.0	0.0	0.1
	• Upon removal		0.1	0.0	0.0
SF ₆ gas recovery rate		%	99.6	98.3	99.6
	• Upon inspection		99.3	99.4	99.4
	• Upon removal				
Transmission and distribution loss rate*1*2			5.1	5.3	5.1
Number (cumulative total) and rate of smart meters installed*2		million %	About 12.25 About 93	About 12.74 About 97	About 13.05 100

*1 Transmission and distribution loss rates = (area transmission-end power – area consumption power (end use) – substation power) / area transmission-end power × 100 [%]
"Area" in this case refers to the entire supply area of Kansai Transmission and Distribution, Inc.

*2 Figures representing Kansai Transmission and Distribution, Inc. only

Office-related		Unit	FY 2020	FY 2021	FY 2022
Energy and resource conservation (Office division)	Office electricity consumption*1	GWh	74	72	70
	Office water consumption*1	1,000 m ³	388	392	386
	Fuel efficiency of company vehicles	km/L	9.68	9.52	9.36
	Vehicle fuel consumption (gasoline)	1,000 kL	1.6	1.6	1.5
	Vehicle fuel consumption (diesel oil)		0.8	0.8	0.8
	Copy paper consumption	t	662	521	490
CO ₂ emissions resulting from office activities*2	Office electricity	10,000 t-CO ₂	2.6	2.2	2.9
	Office water		0.01	0.01	0.01
	Vehicle fuels		0.6	0.6	0.6

*1 The scope of this calculation was reviewed for the actual consumption amounts of office electricity and water.

*2 CO₂ emissions from office activities = amount of electricity consumption × adjusted emission factor
CO₂ emissions from office water consumption = amount of office water consumption × emission factor
CO₂ emissions from vehicle use = amount of vehicle fuel consumption × emission factor by type of fuel

Material-related, revegetation rate		Unit	FY 2020	FY 2021	FY 2022
Amount of limestone used*1		1,000 t	56	71	62
Amount of ammonia used*1			8	7	8
Revegetation rate*2 (end of fiscal year)	Thermal power plants*3	%	42	41	44
	Nuclear power plants		67	66	66
	Electric power offices (substations)		28	28	28

*1 Figures representing the Company only

*2 Revegetation rate = (business site revegetation area ÷ business site total area) × 100

*3 The method of calculating the area of forests was revised.

Rates of conversion to underground transmission and distribution lines*		Unit	FY 2020	FY 2021	FY 2022
Rate of conversion to underground transmission lines (end of fiscal year)		%	17.6	17.6	17.6
Rate of conversion to underground distribution lines (end of fiscal year)			10.4	10.4	10.4

* Figures representing Kansai Transmission and Distribution, Inc. only



● Environmental conservation cost

We practice and announce the results of environmental accounting for the Company and Kansai Transmission and Distribution, Inc. as well as those for our group companies, where the costs and effects of environmental conservation in our business activities are determined.

◆ FY 2022 assessment

We invested a total of about 8.3 billion yen in environmental conservation, a year-on-year increase of about 0.8 billion yen, while the total cost amounted to about 17.19 billion yen, a year-on-year increase of about 1.02 billion yen, due to a higher radioactive waste processing cost, etc.

◆ Environmental conservation costs (100 million yen)

Category	Investment		Expenses		Major items
	FY 2021	FY 2022	FY 2021	FY 2022	
1. Global environmental conservation costs (CO ₂ reductions, etc.)	0.0	0.0	2.0	2.0	SF ₆ gas recovery
2. Local environmental conservation costs	70	80	38.3	40.2	—
(1) Measuring/monitoring environmental impact	2.3	1.4	13.7	12.1	Radiation control and measurement, air quality concentration measurement, marine area surveys
(2) Pollution control (air pollution, water contamination, oil leakage, etc.)	68.2	78.1	18.2	21.6	Air pollution control measures, water contamination prevention measures
(3) Nature conservation	0	0	6.3	6.5	Revegetation
3. Costs to build a circular economy	4.5	3.4	118.3	124.7	—
(1) Industrial waste processing, recycling	4.5	3.3	52.1	55.1	Industrial waste processing, PCB processing
(2) General waste processing, recycling	0	0	0.0	0.0	Paper recycling
(3) Radioactive waste processing	0	0	66.0	69.6	Low-level radioactive waste processing
(4) Green purchasing	0.0	0.0	0.0	0.0	Research-related work
4. Environmental management costs	0	0	0.6	0.6	Environmental reports
5. R&D costs	0	0	2.4	4.6	Load leveling, environmental conservation, energy savings and recycling, natural energy
6. Other costs	0	0	0.2	0.2	Research Center repairs
Total	75.0	83.0	161.7	171.9	—
Total capital investment during the period	5,228	4,658	—	—	—
Operating expenses during the period	—	—	27,526	40,039	—

Note: Based on the Environmental Accounting Guidelines 2005 issued by the Ministry of the Environment.

Depreciation is not calculated into expenses.

Composite costs are tallied proportionally by one of three methods: (1) calculation of differences; (2) proportional division based on rational criteria; and (3) proportional division based on criteria of expediency.

Costs involved in generating nuclear power are calculated with the sum of individual measures to protect the environment taken as environmental conservation costs (radiation control and measurement, low-level radioactive waste processing, etc.).

Figures may not add up due to rounding off.



● Effects of environmental conservation

◆ FY 2022 assessment

Fiscal 2022 CO₂ emissions before adjustment increased from fiscal 2021 levels with nuclear power plants operating at lower rates. As a leading company in zero-carbon energy, we are committed to operating its nuclear power stations in a safe and stable manner while developing and promoting renewable energy.

SO_x and NO_x emission intensities improved as our coal-fired thermal power plants operated at lower rates, with lower emissions.

◆ Effects of environmental conservation

Category	Item (unit)		FY 2021	FY 2022
1. Global environmental conservation	CO ₂ emissions (before adjustment)	(10,000 t-CO ₂)	3,011	4,012
	CO ₂ emission intensity (before adjustment)	(kg-CO ₂ /kWh)	0.299	0.360
	CO ₂ emissions (after adjustment)	(10,000 t-CO ₂)	3,107	4,689
	CO ₂ emission intensity (after adjustment)	(kg-CO ₂ /kWh)	0.309	0.420
2. Local environmental conservation	Air pollution control			
	SO _x emissions	(t)	2,645	2,111
	SO _x emission intensity	(g/kWh)	0.054	0.045
	NO _x emissions	(t)	4,125	3,875
	NO _x emission intensity	(g/kWh)	0.084	0.082
	Landscape integration			
	Revegetation area	(1,000 m ²)	3,168	3,167
3. Building a circular economy	Industrial and other waste generated	(1,000 t)	681	591
	Recycling rate for industrial waste, etc.	(%)	99.8	99.8
	Low-level radioactive waste	(Rods)	-1,577	-2,245

Note: CO₂ emissions: including from power supplied by other companies; CO₂ emissions and CO₂ emission intensity: the results for FY 2022 are provisional and the actual CO₂ emission factor will be officially announced by the government in accordance with the Law Concerning the Promotion of the Measures to Cope with Global Warming, etc.; CO₂ emission factor: by the amount of power sold (adjusted CO₂ emissions include environmental value adjustments under the surplus solar power purchasing system and the renewable energy feed-in tariff system in addition to deduction reflecting carbon credits); SO_x and NO_x emissions: only the Company's self-generated power; SO_x and NO_x emission factor: by the amount of power generated by thermal power plants of the Company; Low-level radioactive waste: Net generation (generated amount – reduced amount)

● Economic benefits from environmental conservation measures

◆ FY 2022 assessment

Economic benefits increased approximately 0.3 billion yen from the previous year due to an increase of gain on sale of disused articles, etc.

◆ Economic benefits from environmental conservation measures (100 million yen)

Category		FY 2021	FY 2022	Major items
Revenue	Operating revenues from recycling, etc.	71.5	74.3	Gain on sale of disused articles (recycling)
Cost savings	Cost savings from reuse, recycling, etc.	0.1	0.5	Cost savings from the purchase of recycled items
Total		71.6	74.7	—



● Environmental accounting (group companies)

◆ Environmental accounting of group companies

The environmental accounting applies to 18 group companies that participate in the Kansai Electric Power Group Environmental Management Committee (as of FY 2022).

◆ Environmental conservation costs (thousand yen)

Category	Major items	Investment		Expenses	
		FY 2021	FY 2022	FY 2021	FY 2022
Costs for pollution control	Air, water and soil pollution prevention	15,706	8,952	54,634	36,992
Costs for resource recycling	General and industrial waste processing and recycling	0	0	1,086,113	549,639
Costs for management activities	Environmental protection efforts, environmental education and related activities at business places and in their neighborhoods	1,662	1,632	30,182	33,610
Costs for community activities	Contributions to and support of environmental protection activities and environmental protection organizations outside the company	0	0	0	0
Costs for research and development	Research and development of products, for example, that contribute to environmental protection	0	0	1,800	2,500
Costs related to environmental damages	Natural restoration, damage compensation, etc.	0	0	255	238
Other costs		—	—	0	0
Total		9,352	10,584	1,172,984	622,978

• Only group companies with proven track records that comprise the Kansai Electric Power Group Environmental Management Committee (excluding Kansai Transmission and Distribution, Inc.)

◆ Environmental conservation effects (physical effects)

Category	Item (unit)	FY 2021	FY 2022
Global and local environmental conservation	CO ₂ emissions (10,000 t-CO ₂)	16.8	9.9
	SO _x emissions (t)	0.4	0.4
	NO _x emissions (t)	59.1	42.9
Environmental management	ISO or other external certifications (locations)*	5	5
Building a circular economy	Industrial waste generated (1,000 t)	84.0	57.4

* Cumulative to end of fiscal year

• Only group companies with proven track records that comprise the Kansai Electric Power Group Environmental Management Committee (excluding Kansai Transmission and Distribution, Inc.)

◆ Economic benefits from environmental conservation measures (million yen)

Category	Major items	FY 2021	FY 2022
Revenue	Operating revenues from recycling, etc.	42.0	59.0
Cost savings	Cost savings from reuse, recycling, etc.	0.4	0.3
Total		42.4	59.3

• Only group companies with proven track records that comprise the Kansai Electric Power Group Environmental Management Committee (excluding Kansai Transmission and Distribution, Inc.)



◆ Management of chemical substances (PRTR)

Name of targeted chemical substance	Releases (t/year)		
	FY 2020	FY 2021	FY 2022
Asbestos (specified)	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Ethylbenzene	5.9	3.2	6.5
	(5.9)	(3.2)	(6.5)
Ferric chloride	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Xylene	9.1	3.7	7.4
	(9.1)	(3.7)	(7.4)
Styrene	—	—	1.2
	(—)	(—)	(1.2)
Dioxins (specified)	0.11 (mg-TEQ/year)	0.061 (mg-TEQ/year)	0.019 (mg-TEQ/year)
	(0.11 (mg-TEQ/year))	(0.061 (mg-TEQ/year))	(0.019 (mg-TEQ/year))
1,2,4-Trimethylbenzene	<0.1	—	<0.1
	(<0.1)	(—)	(<0.1)
Toluene	5.0	3.6	4.7
	(5.0)	(3.6)	(4.7)
Hydrazine	0.0	<0.1	<0.1
	(0.0)	(<0.1)	(<0.1)
n-Hexane	—	—	0.2
	(0.0)	(0.0)	(0.2)
Benzenes (specified)	<0.1	0.1	0.1
	(<0.1)	(0.1)	(0.1)
Boron compound	0.0	—	0.0
	(0.0)	(—)	(0.0)
PCB	—	—	—
	(—)	(—)	(—)
Methylnaphthalene	2.3	1.1	1.2
	(2.3)	(1.1)	(1.2)
Bromotrifluoromethane	—	—	—
	(—)	(—)	(—)
Nonylphenoxyethanol	—	—	—
	(—)	(—)	(—)
Ethylenediaminetetraacetic acid	0.0	—	—
	(0.0)	(—)	(—)
Manganese and its compounds	—	0.0	—
	(—)	(0.0)	(—)
2,6-Di-tert-butyl-p-cresol	(0.0)	(0.0)	(—)
Methanol	(—)	(—)	(—)
4-Methyl-2-pentanone	(—)	(—)	(—)
Tetrachloroethylene	(—)	(—)	(—)



Name of targeted chemical substance	Transfers (t/year)		
	FY 2020	FY 2021	FY 2022
Asbestos (specified)	14	4.2	4.6
	(14)	(4.2)	(4.6)
Ethylbenzene	0.0	0.0	<0.1
	(0.0)	(0.0)	(<0.1)
Ferric chloride	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Xylene	0.0	0.0	<0.1
	(0.0)	(0.0)	(<0.1)
Styrene	—	—	0.0
	(—)	(—)	(0.0)
Dioxins (specified)	0.079 (mg-TEQ/year)	0.0019 (mg-TEQ/year)	0.00055 (mg-TEQ/year)
	(0.079 (mg-TEQ/year))	(0.0019 (mg-TEQ/year))	(0.00055 (mg-TEQ/year))
1,2,4-Trimethylbenzene	0.0	—	0.0
	(0.0)	(—)	(0.0)
Toluene	0.0	0.0	0.1
	(0.0)	(0.0)	(0.1)
Hydrazine	0.0	6.3	2.8
	(0.0)	(6.3)	(2.8)
n-Hexane	—	—	0.0
	(2.0)	(1.4)	(1.7)
Benzenes (specified)	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Boron compound	6.9	—	0.0
	(6.9)	(—)	(0.0)
PCB	—	—	—
	(—)	(—)	(—)
Methylnaphthalene	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Bromotrifluoromethane	—	—	—
	(—)	(—)	(—)
Nonylphenoxypolyoxyethanol	—	—	—
	(—)	(—)	(—)
Ethylenediaminetetraacetic acid	0.0	—	—
	(0.0)	(—)	(—)
Manganese and its compounds	—	0.3	—
	(—)	(0.3)	(—)
2,6-Di-tert-butyl-p-cresol	<0.1	<0.1	<0.1
Methanol	(—)	(—)	<0.1
4-Methyl-2-pentanone	(—)	(—)	<0.1
Tetrachloroethylene	(—)	(—)	<0.1

Notes:

- The chart shows total values reported in compliance with the PRTR Law.
- "0" indicates no releases or transfers at targeted business sites.
- "<0.1" indicates less than 0.1 t/year releases, etc.
- "—" indicates no business sites targeted for totaling.
- Significant figures are displayed in two digits.
- The figures in parentheses include the results from the Company, Kansai Transmission and Distribution, Inc., and the majority of group companies.
- Reporting coverage is shown on page 26.



◆ Radioactive substances, radioactive waste (non-consolidated)

Fiscal year			2020	2021	2022	Unit
Gaseous waste	Evaluated dose values for the public in the vicinity of power plants (inert gases)	Mihama Nuclear Power Station	N.D.	<0.001	<0.001	millisievert* ¹
		Takahama Nuclear Power Station	N.D.	<0.001	<0.001	
		Ohi Nuclear Power Station	N.D.	N.D.	N.D.	
	Evaluated dose values for the public in the vicinity of power plants (iodine)	Mihama Nuclear Power Station	N.D.	N.D.	N.D.	millisievert* ¹
		Takahama Nuclear Power Station	N.D.	N.D.	N.D.	
		Ohi Nuclear Power Station	N.D.	N.D.	N.D.	
Liquid waste	Evaluated dose values for the public in the vicinity of power plants	Mihama Nuclear Power Station	<0.001	<0.001	<0.001	millisievert* ¹
		Takahama Nuclear Power Station	<0.001	<0.001	<0.001	
		Ohi Nuclear Power Station	<0.001	<0.001	<0.001	
Radioactive gaseous waste discharged (inert gas)	Mihama Nuclear Power Station	N.D.	500,000,000	170,000,000	becquerel* ²	
	Takahama Nuclear Power Station	N.D.	747,000,000	89,000,000		
	Ohi Nuclear Power Station	N.D.	N.D.	N.D.		
Radioactive gaseous waste discharged (iodine)	Mihama Nuclear Power Station	N.D.	N.D.	N.D.	becquerel* ²	
	Takahama Nuclear Power Station	N.D.	N.D.	N.D.		
	Ohi Nuclear Power Station	N.D.	N.D.	N.D.		
Radioactive liquid waste discharged (excluding tritium)	Mihama Nuclear Power Station	N.D.	N.D.	N.D.	becquerel* ²	
	Takahama Nuclear Power Station	N.D.	N.D.	N.D.		
	Ohi Nuclear Power Station	N.D.	N.D.	N.D.		
Radioactive liquid waste (tritium) discharged	Mihama Nuclear Power Station	1,100,000,000,000	1,400,000,000,000	2,800,000,000,000	becquerel* ²	
	Takahama Nuclear Power Station	23,000,000,000,000	20,000,000,000,000	26,000,000,000,000		
	Ohi Nuclear Power Station	66,000,000,000,000	34,000,000,000,000	24,000,000,000,000		
Radioactive solid waste generated (200-L drum equivalent)* ⁴			13,223	10,089	9,973	Equivalent in drums
	• Mihama Nuclear Power Station		3,202	2,469	1,918	
	• Takahama Nuclear Power Station		6,516	4,905	4,695	
	• Ohi Nuclear Power Station		3,505	2,715	3,360	
Radioactive solid waste reduced (200-L drum equivalent)* ⁵			11,189	11,666	12,218	Equivalent in drums
	• Mihama Nuclear Power Station		2,409	2,196	2,195	
	• Takahama Nuclear Power Station		5,715	5,451	6,336	
	• Ohi Nuclear Power Station		3,065	4,019	3,687	
Amount of solid radioactive waste generated – Amount of solid radioactive waste reduced (200-L drum equivalent)* ⁶			2,034	-1,577	-2,245	Equivalent in drums
	• Mihama Nuclear Power Station		793	273	-277	
	• Takahama Nuclear Power Station		801	-546	-1,641	
	• Ohi Nuclear Power Station		440	-1,304	-327	
Cumulative amount of solid radioactive waste stored (200-L drum equivalent)* ^{7*8}			102,853	101,276	99,031	Equivalent in drums
	• Mihama Nuclear Power Station		27,938	28,211	27,934	
	• Takahama Nuclear Power Station		45,689	45,143	43,501	
	• Ohi Nuclear Power Station		29,226	27,922	27,596	

*1 Millisievert (effective dose): unit indicating the degree of radiation's effect on the human body

*2 Becquerel: unit of radioactivity (one becquerel is defined as one nucleus decaying per second, representing the rate at which radioactive material emits radiation.)

*3 Notes 4-7 are for the storage status at power plants.

*4 The amount of solid low-level radioactive waste produced in the fiscal year.

*5 The total of amount of solid waste with low-level radioactivity reduced through incineration, etc. and transported out of facilities in the fiscal year.

*6 The net increase of solid waste with low-level radioactivity calculated by deducting the amount reduced from the amount generated in the fiscal year.

*7 Cumulative amount of low-level solid radioactive waste

*8 Totals might not match due to rounding after conversion to drum equivalent

Notes:

• "N.D." in the table stands for "not detected" (below detection limits).

• Figures representing the Company only

◆ Environmental protection records at thermal power plants

Item				Sakaiko Power Station	Nanko Power Station	Miyazu Energy Research Center	Kansai International Airport Energy Center	Maizuru Power Station	Gobo Power Station	Himeji No. 1 Power Station 5, 6 U & GT 1, 2 U	Himeji No. 2 Power Station	Aioi Power Station	Ako Power Station	
Main fuel				LNG	LNG	Heavy/crude oil	Kerosene	Coal	Heavy/crude oil	LNG	LNG	LNG	Heavy/crude oil	
Air quality related	Sulfur oxides	Amount emitted hourly (m ³ N/h)	Air Pollution Control Law (total amount regulation)	84	98	306* ¹	13	515* ¹	6,510* ³	129	195	2,757* ³	2,158* ³	
			Agreed value	—	—	112	—	255	184	—	—	165	180	
			Actual value	—	—	Stopped	—	173	72	—	—	3	32	
		Amount emitted daily (t/d)	Agreed value	10.1	—	—	—	—	—	—	—	—	—	—
			Actual value	—	—	—	—	—	—	—	—	—	—	—
		Amount emitted annually (t/y)	Agreed value	940	—	492 × 10 ³ m ³ N	—	1,523 × 10 ³ m ³ N	—	970 × 10 ³ m ³ N	—	—	885 × 10 ³ m ³ N	650 × 10 ³ m ³ N
	Actual value		—	—	Stopped	—	815 × 10 ³ m ³ N	—	65.155 × 10 ³ m ³ N	—	—	0.528 × 10 ³ m ³ N	40.8 × 10 ³ m ³ N	
	Nitrogen oxides	Amount emitted hourly (m ³ N/h)	Air Pollution Control Law (total amount regulation)	625	255	—	—	—	—	—	—	—	—	
			Agreed value	—	—	58	—	244	110	123.5	72	85	94	
			Actual value	41.4	31	Stopped	—	215	43	51	66	40	68	
		Amount emitted daily (t/d)	Agreed value	7.7	1.8	—	—	—	—	—	—	—	—	
			Actual value	1.8	1.1	—	—	—	—	—	—	—	—	
		Amount emitted annually (t/y)	Agreed value	1,420	400	244 × 10 ³ m ³ N	—	1,457 × 10 ³ m ³ N	—	560 × 10 ³ m ³ N	701 × 10 ³ m ³ N	505 × 10 ³ m ³ N	390 × 10 ³ m ³ N	340 × 10 ³ m ³ N
	Actual value		345	69	Stopped	—	1,169 × 10 ³ m ³ N	—	49.955 × 10 ³ m ³ N	71.526 × 10 ³ m ³ N	274 × 10 ³ m ³ N	18.453 × 10 ³ m ³ N	106.9 × 10 ³ m ³ N	
	Soot particles	Emission concentration (g/m ³ N)	Air Pollution Control Law	0.04	0.03	0.05	0.05	0.1	0.07	0.05	0.05	0.07	0.05	
			Agreed value	0.02	Not emitted	0.014	—	0.009	0.01	—	—	0.015	0.015	
			Actual value	<0.002	<0.002	Stopped	—	0.007	0.004	—	<0.002	0	0.005	
	Water quality related	Hydrogen ion concentration index	Water Pollution Control Law and ordinances	5.8–8.6	5.0–9.0* ²	5.0–9.0	—	5.0–9.0	—	5.0–9.0	5.0–9.0	5.0–9.0	5.0–9.0	
Agreed value			—	—	5.8–8.6	—	5.8–8.6	5.8–8.6	5.8–8.6	5.8–8.6	5.8–8.6	5.8–8.6		
Actual value			8.0	7.8	6.0–7.6	—	6.6–8.1	6.2–7.8	6.8–7.7	7.1–7.7	6.6–7.5	6.2–7.4		
Chemical oxygen demand		Highest concentration (mg/L)	Water Pollution Control Law and ordinances	12	—	160	—	160	—	70	70	70	70	
			Agreed value	—	—	15	—	15	10	15	15	15		
			Actual value	2.1	—	7.7	—	7.2	6.7	2.7	5.6	3	1.6	
		Pollution load amount (kg/d)	Water Pollution Control Law and ordinances	209.2	—	—	—	—	—	38.8	54.6	67.8	85.5	
			Agreed value	—	—	20.8	—	22	36.8	15.2	35	18	22.4	
			Actual value	7.46	—	0.2	—	6.90	18.9	2.7	9	3.2	2.5	
Amount of suspended solids		Highest concentration (mg/L)	Water Pollution Control Law and ordinances	50	600* ²	200	—	200	—	90	90	90	90	
			Agreed value	—	—	20	—	15	20	20	20	20		
			Actual value	<5	<5	3	—	1	9.9	4	<5	2	1.6	
Amount of inclusion of n-hexane extractable substances		Highest concentration (mg/L)	Water Pollution Control Law and ordinances	2	4* ²	5	—	5	—	5	5	5	5	
			Agreed value	—	—	1	—	1	1	1	1	1		
			Actual value	<1	<1.0	<0.6	—	<1.0	0.3	0.2	<1	<0.1	<0.5	

*1 Regulated value of Kyoto Prefecture ordinance execution rules to protect and nurture the environment

*2 Regulated value of Osaka City sewer ordinance execution rules

*3 Regulated K value

Notes:

• Agreed values include those from Aioi Biomass Power Station.

• Actual values refer exclusively to those from Aioi Power Station for the Air Pollution Control Law and include figures from Aioi Biomass Power Station for the Water Pollution Control Law.

• "<0.1" refers to a maximum concentration of less than 0.1 mg/L.

• Figures representing the Company only



▶ Reporting Coverage

● Reporting coverage of the Kansai Electric Power Co., Inc. and its 90 consolidated subsidiaries (as of the end of March 2023)

Specific data of environmental impact including electricity consumption in an office is grasped and reported in this report ⇒ **97.4%**

<Explanation>

It represents the ratio of companies that are performing Eco Action among the Kansai Electric Power Co., Inc. and its 90 consolidated subsidiaries (ratio of sales).

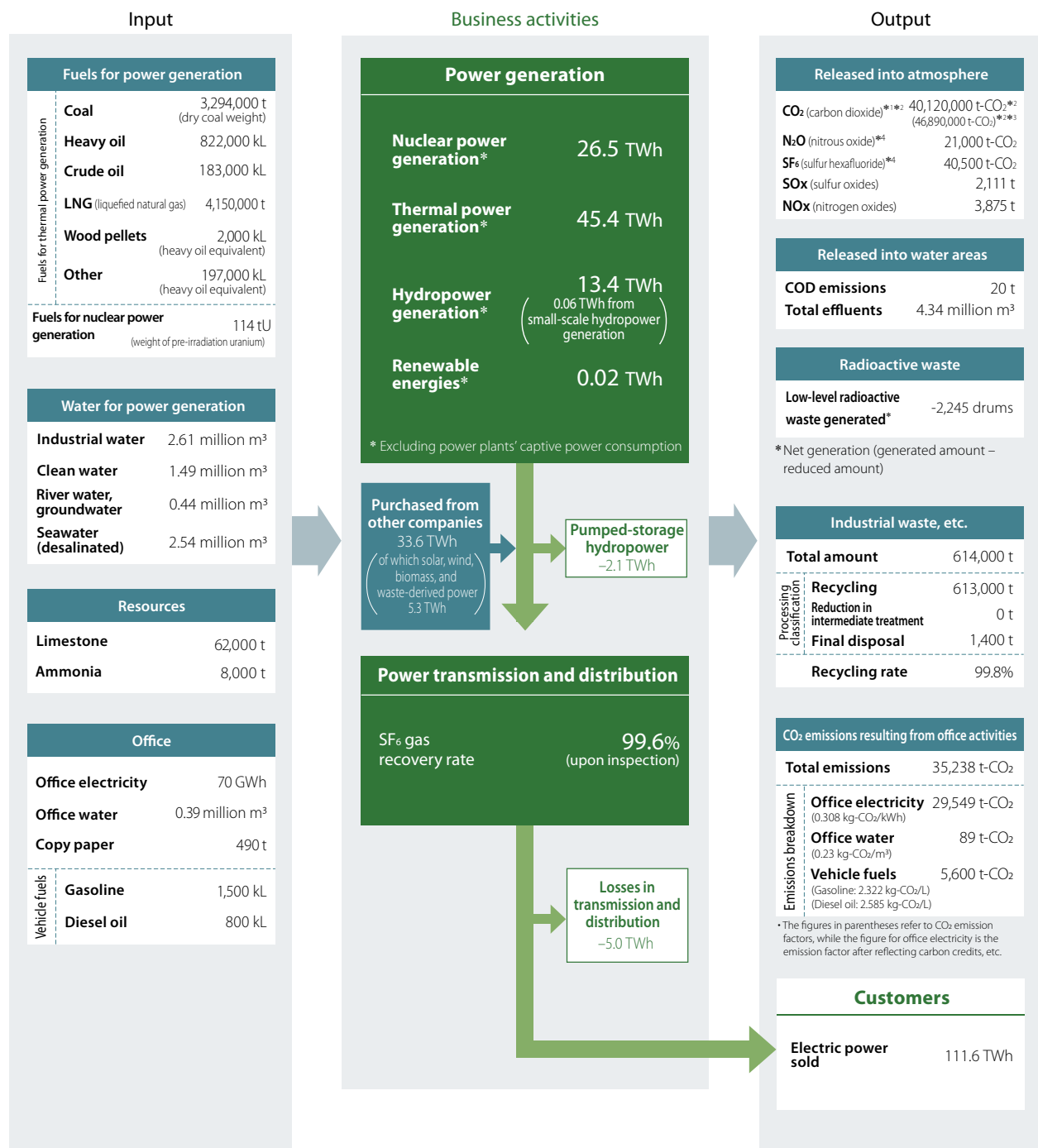
◆ Calculation method

$$\left(\begin{array}{l} \text{Sales of the Kansai} \\ \text{Electric Power Co.,} \\ \text{Inc. in FY 2022} \end{array} \right) + \left(\begin{array}{l} \text{Sales of 37 consolidated subsidiaries in FY 2022} \\ \text{that are performing Eco Action as of the end of} \\ \text{March 2023} \end{array} \right)$$

$$\left(\begin{array}{l} \text{Sales of the Kansai} \\ \text{Electric Power Co.,} \\ \text{Inc. in FY 2022} \end{array} \right) + \left(\begin{array}{l} \text{Sales of 90 consolidated} \\ \text{subsidiaries in FY 2022} \end{array} \right)$$



◆ Status overview of our business activities and environmental load (FY 2022 results)



Note 1: Totals may not sum due to rounding.

Note 2: Thermal power generation figures do not include biomass power generation.

*1 Includes CO₂ originating from electricity purchased from other companies*2 The results for FY 2022 are provisional; the actual CO₂ emission factor will be officially announced by the government in accordance with the Law Concerning the Promotion of the Measures to Cope with Global Warming, etc.

*3 Emissions reflecting carbon credits, etc.

*4 CO₂ conversion