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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

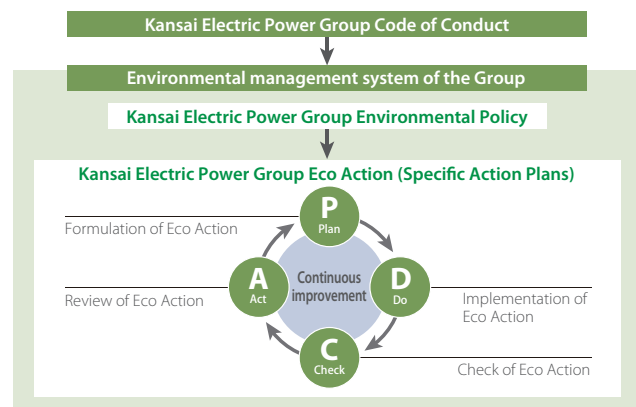
As a responsible energy business deeply involved with the environment, we recognize the importance of addressing various environmental issues, such as climate change, resource recycling promotion and local environmental conservation. We are also committed to reducing the environmental burden and risks 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.

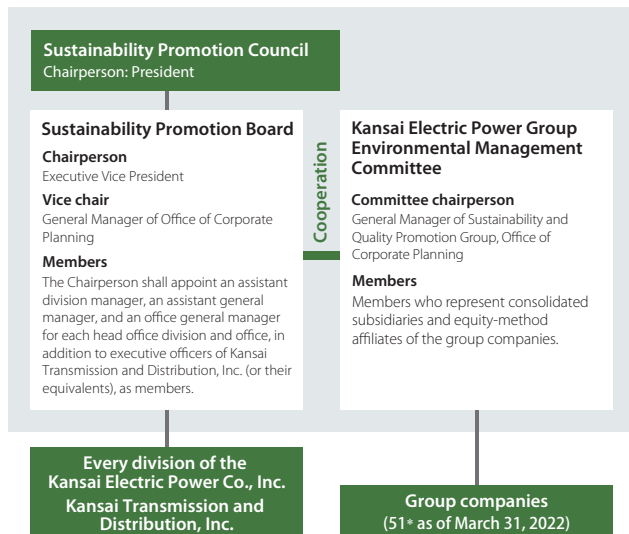


► System

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, comprised 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



* 51 companies, which are selected from 86 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 2021 and targets for fiscal 2022)

◆ Responding to climate change

Item	FY 2021		FY 2022
	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 48% from fiscal 2013 levels of CO₂ emissions associated with power generation in Japan (Emissions: About 25.4 million t-CO₂) 	Continued
Continuing safe and stable operation of nuclear power plants*1	<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 	Continued
Further development and utilization of renewable energy	<ul style="list-style-type: none"> Achieve 6 GW of installed capacity by 2030s (2 GW or more new development in Japan and abroad) 	<ul style="list-style-type: none"> Accumulated installed capacity with a total of 4.95 GW (Capacity of facilities that have begun operation (completed construction): about 4.24 GW; Project underway: about 0.70 GW) 	Achieve 5 GW scale of new development and 9 GW scale of cumulative capacity in Japan by 2040
Maintaining and improving the thermal efficiency of thermal power plants*1	<ul style="list-style-type: none"> Achieve benchmark indicators*3 (A: 1.00, B: 44.3%) 	<ul style="list-style-type: none"> We achieved benchmark indicators 	Continued
Reducing transmission and distribution loss*2	<ul style="list-style-type: none"> Maintain or reduce transmission and distribution loss 	<ul style="list-style-type: none"> 5.3% 	Continued
Promoting use of innovative forms of energy among customers and communities	<ul style="list-style-type: none"> Contribute to making energy use by customers and communities more sophisticated 	<ul style="list-style-type: none"> We worked to expand use of devices and services that contribute to more sophisticated utilization of energy by customers and communities Smart meters deployed: 0.48 million/year (Cumulative total: 12.74 million), progress rate: about 97% 	Continued
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"> 98.3% (upon inspection) 99.4% (upon removal) 	Continued

*1 Targets and results apply only to the Kansai Electric Power Co., Inc. *2 Targets apply only to Kansai Transmission and Distribution, Inc.

*3 Indicators based on the benchmark system of the Law Concerning the Rational Use of Energy



◆ Promoting resource circulation

Item	FY 2021		FY 2022
	Targets	Results	Targets
Maintaining industrial waste recycling rate*	• 99.5%	• 99.8%	Continued

* Waste plastic reduction program

Results in fiscal 2021 of waste plastic volume: About 290 tonnes by the Kansai Electric Company
About 1,017 tonnes by Kansai Transmission and Distribution

Targets for fiscal 2022: Reduce and recycle waste plastics to as great a degree as possible.

◆ Protecting local community environments

Item	FY 2021		FY 2022
	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: 0.027 g/kWh Thermal: 0.054 g/kWh All agreed values were met	
Proper processing of PCB wastes	• Proceed with certainty to achieve processing before the legal deadline	• Amount of high-level PCB processed (Cumulative total): 5,419*	Continued

* 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 2021		FY 2022
	Targets	Results	Targets
Conservation of biodiversity	• Consideration of biodiversity through business activities	• In fiscal 2021, field studies were conducted at four hydropower plants along the Kizu River system in Nara Prefecture to gather data on the habitats of plants and animals. Experts were consulted for guidance and advice where flora with conservation value contributing to biodiversity was identified.	Continued

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

Item	Reducing office electricity consumption	Reducing office water consumption	Improving fuel efficiency of company vehicles	Reducing copy paper consumption
	Targets	Targets	Targets	Targets
	Reduce by 1% or more from previous year	Reduce as much as possible	Improve as much as possible	Reduce as much as possible
Record of results	(GWh) 	(1,000 m ³) 	(km/L) 	(t)
	(GWh) 	(1,000 m ³) 	(km/L) 	(t)

* Calculated for 38 consolidated subsidiaries (excluding Kansai Transmission and Distribution, Inc.) for which three-year data (FY 2019–2021) 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 2019 to 2021 are summarized below.

◆ Major environmental compliance violations

Item	Targets	Results		
		FY 2019	FY 2020	FY 2021
Major environmental compliance violations	0	4	1	4

• 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.”

Major violations of environmental compliance occurred or reported in fiscal 2021 are summarized below.

◆ Summary of major violations of environmental compliance

- Inappropriate processing of transformer parts contaminated with low concentration of PCB during replacement work.
- Inappropriate processing of facilities containing asbestos during replacement work (3 cases identified)

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 2019	FY 2020	FY 2021
SF ₆ gas emissions		t	0.1	0.1	0.1
	• Upon inspection		0.1	0.0	0.0
	• Upon removal		0.0	0.1	0.1
SF ₆ gas recovery rate					
	• Upon inspection	%	99.0	99.6	98.3
	• Upon removal		99.4	99.3	99.4
Transmission and distribution loss rate*1*2			4.8	5.1	5.3
Number (cumulative total) and rate of smart meters installed*2		million %	About 11.53 About 88	About 12.25 About 93	About 12.74 About 97

*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 Data of Kansai Transmission and Distribution, Inc. only

Office-related		Unit	FY 2019	FY 2020	FY 2021
Energy and resource conservation (Office division)	Office electricity consumption*1	GWh	75	74	72
	Office water consumption*1	1,000 m ³	413	388	392
	Fuel efficiency of company vehicles	km/L	10.95	10.9	10.81
	Vehicle fuel consumption (gasoline)	1,000 kL	1.9	1.6	1.6
	Vehicle fuel consumption (diesel oil)		0.8	0.8	0.8
	Copy paper consumption	t	747	662	521
CO ₂ emissions resulting from office activities*2	Office electricity	10,000 t-CO ₂	2.4	2.6	2.2
	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 2019	FY 2020	FY 2021
Amount of limestone used*1		1,000 t	61	56	71
Amount of ammonia used*1			8	8	7
Revegetation rate*2 (end of fiscal year)	Thermal power plants*3	%	42	42	41
	Nuclear power plants		67	67	66
	Electric power offices (substations)		28	28	28

*1 Data of the Kansai Electric Power Co., Inc. 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 2019	FY 2020	FY 2021
Rate of conversion to underground transmission lines (end of fiscal year)		%	17.5	17.6	17.6
Rate of conversion to underground distribution lines (end of fiscal year)			10.3	10.4	10.4

* Data of 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 2021 assessment

We invested a total of about 7.5 billion yen in environmental conservation, a year-on-year decrease of about 0.4 billion yen, while the total cost amounted to about 16.17 billion yen, a year-on-year decrease of about 0.29 billion yen, due to a lower radioactive waste processing cost, etc.

◆ Environmental conservation costs (100 million yen)

Category	Investment		Expenses		Major items
	FY 2020	FY 2021	FY 2020	FY 2021	
1. Global environmental conservation costs (CO ₂ reductions, etc.)	0.0	0.0	2.0	2.0	SF ₆ gas collection
2. Local environmental conservation costs	76	70	38.5	38.3	
(1) Measuring/monitoring environmental impact	5.3	2.3	14.7	13.7	Radiation control and measurement
					Air quality concentration measurement
					Marine area surveys
(2) Pollution control (air pollution, water contamination, oil leakage, etc.)	70.2	68.2	17.1	18.2	Air pollution control measures, water contamination prevention measures
(3) Nature conservation	0	0	6.8	6.3	Revegetation
3. Costs to build a circular economy	3.5	4.5	119.6	118.3	
(1) Industrial waste processing, recycling	3.4	4.5	48.4	52.1	Industrial waste processing, PCB processing
(2) General waste processing, recycling	0	0	0.1	0.0	Paper recycling
(3) Radioactive waste processing	0	0	71.2	66.0	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	0.7	0.6	Environmental reports
5. R&D costs	0.2	0	3.5	2.4	Load leveling, environmental conservation, energy savings and recycling, natural energy
6. Other costs	0	0	0.2	0.2	Research Center repairs
Total	79.2	75.0	164.6	161.7	
Total capital investment during the period	6,558	5,229			
Operating expenses during the period			29,467	27,526	

Note: Based on the Environmental Reporting Guidelines (FY 2005 version) 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 2021 assessment

The CO₂ emission intensity in fiscal 2021 is estimated to be much lower than that in fiscal 2020. 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.

These efforts have resulted in a significant reduction in CO₂ emissions, down 48% from fiscal 2013 levels.

SO_x and NO_x emission intensities also decreased year on year through the optimized use of sulfur and nitrogen scrubbers.

◆ Effects of environmental conservation

Category	Item (unit)		FY 2020	FY 2021	Year-on-year change
1. Global environmental conservation	CO ₂ emissions (basic)	(10,000 t-CO ₂)	3,702	3,006	-696
	CO ₂ emission intensity (basic)	(kg-CO ₂ /kWh)	0.362	0.299	-0.063
	CO ₂ emissions (after adjustment)	(10,000 t-CO ₂)	3,583	3,099	-484
	CO ₂ emission intensity (after adjustment)	(kg-CO ₂ /kWh)	0.350	0.308	-0.042
2. Local environmental conservation	Air pollution control				
	SO _x emissions	(t)	2,098	2,645	547
	SO _x emission intensity	(g/kWh)	0.033	0.054	0.021
	NO _x emissions	(t)	4,551	4,125	-426
	NO _x emission intensity	(g/kWh)	0.072	0.084	0.012
	Landscape integration				
3. Building a circular economy	Revegetation area	(1,000 m ²)	3,102	3,168	66
	Industrial and other waste generated	(1,000 t)	567	681	114
	Recycling rate for industrial waste, etc.	(%)	99.8	99.8	0.0
	Low-level radioactive waste	(Rods)	2,034	-1,577	-426

Note: CO₂ emissions: including from power supplied by other companies; CO₂ emissions and CO₂ emission intensity: the results for FY 2021 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 2021 assessment

Economic benefits increased approximately 2.8 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 2020	FY 2021	Major items
Revenue	Operating revenues from recycling, etc.	43.7	71.5	Gain on sale of disused articles (recycling)
Cost savings	Cost savings from reuse, recycling, etc.	0.1	0.1	Cost savings from the purchase of recycled items
Total		43.8	71.6	



● 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 2021).

◆ Environmental conservation costs (thousand yen)

Category	Major items	Investment		Expenses	
		FY 2020	FY 2021	FY 2020	FY 2021
Costs for pollution control	Air, water and soil pollution prevention	0	7,690	51,593	54,634
Costs for resource recycling	General and industrial waste processing and recycling	0	0	1,325,428	1,461,799
Costs for management activities	Environmental protection efforts, environmental education and related activities at business places and in their neighborhoods	9,198	1,662	32,178	29,666
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	1,800
Costs related to environmental damages	Natural restoration, damage compensation, etc.	0	0	264	255
Other costs		—	—	0	0
Total		9,198	9,352	1,411,263	1,548,154

◆ Environmental conservation effects (physical effects)

Category	Item (unit)	FY 2020	FY 2021
Global and local environmental conservation	CO ₂ emissions (10,000 t-CO ₂)	12.1	16.9
	SO _x emissions (t)	0.6	0.4
	NO _x emissions (t)	55.7	59.1
Environmental management	ISO or other external certifications (locations)*	4	5
Building a circular economy	Industrial waste generated (1,000 t)	63.3	84.0

* Cumulative to end of fiscal year

◆ Economic benefits from environmental conservation measures (million yen)

Category	Major items	FY 2020	FY 2021
Revenue	Operating revenues from recycling, etc.	25.9	194.9
Cost savings	Cost savings from reuse, recycling, etc.	0.4	0.4
Total		26.3	195.3



◆ Management of chemical substances (PRTR)

Name of targeted chemical substance	Releases (t/year)		
	FY 2019	FY 2020	FY 2021
Asbestos (specified)	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Ethylbenzene	8.6	5.9	3.2
	(8.6)	(5.9)	(3.2)
Ferric chloride	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Xylene	12	9.1	3.7
	(12)	(9.1)	(3.7)
Dioxins (specified)	0.24 (mg-TEQ/year)	0.11 (mg-TEQ/year)	0.061 (mg-TEQ/year)
	(0.24 (mg-TEQ/year))	(0.11 (mg-TEQ/year))	(0.061 (mg-TEQ/year))
1,2,4-trimethylbenzene	—	<0.1	—
	(—)	(<0.1)	(—)
Toluene	8.7	5.0	3.6
	(8.7)	(5.0)	(3.6)
Hydrazine	<0.1	0.0	<0.1
	(<0.1)	(0.0)	(<0.1)
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	0.0	—	—
	(0.0)	(—)	(—)
Methylnaphthalene	1.2	2.3	1.1
	(1.2)	(2.3)	(1.1)
Bromotrifluoromethane	—	—	—
	(—)	(—)	(—)
Nonylphenoxypolyoxyethanol	—	—	—
	(—)	(—)	(—)
Ethylenediaminetetraacetic acid	0.0	0.0	—
	(0.0)	(0.0)	(—)
Manganese and its compounds	—	—	0.0
	(—)	(—)	(—)
2,6-di-tert-butyl-p-cresol	(0.0)	(0.0)	(0.0)
n-Hexane	(0.0)	(0.0)	(0.0)



Name of targeted chemical substance	Transfers (t/year)		
	FY 2019	FY 2020	FY 2021
Asbestos (specified)	1.6	14	4.2
	(1.6)	(14)	(4.2)
Ethylbenzene	<0.1	0.0	0.0
	(<0.1)	(0.0)	(0.0)
Ferric chloride	0.9	0.0	0.0
	(0.9)	(0.0)	(0.0)
Xylene	0.4	0.0	0.0
	(0.4)	(0.0)	(0.0)
Dioxins (specified)	0.0043 (mg-TEQ/year)	0.079 (mg-TEQ/year)	0.0019 (mg-TEQ/year)
	(0.0043 (mg-TEQ/year))	(0.079 (mg-TEQ/year))	(0.0019 (mg-TEQ/year))
1,2,4-trimethylbenzene	—	0.0	—
	(—)	(0.0)	(—)
Toluene	0.8	0.0	0.0
	(0.8)	(0.0)	(0.0)
Hydrazine	0.0	0.0	6.3
	(0.0)	(0.0)	(6.3)
Benzenes (specified)	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Boron compound	0.0	6.9	—
	(0.0)	(6.9)	(—)
PCB	2.3	—	—
	(2.3)	(—)	(—)
Methylnaphthalene	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)
Bromotrifluoromethane	—	—	—
	(—)	(—)	(—)
Nonylphenoxypolyoxyethanol	—	—	—
	(—)	(—)	(—)
Ethylenediaminetetraacetic acid	0.0	0.0	—
	(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)
n-Hexane	(2.0)	(2.1)	(1.4)

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 includes the results of group companies (excluding those of some group companies)



◆ Radioactive substances, radioactive waste (non-consolidated)

Fiscal year		2019	2020	2021	Unit	
Gaseous waste	Evaluated dose values for the public in the vicinity of power plants (inert gases)	Mihama Nuclear Power Station	N.D.	N.D.	<0.001	millisievert* ¹
		Takahama Nuclear Power Station	N.D.	N.D.	<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.	N.D.	500000000	becquerel* ²	
	Takahama Nuclear Power Station	N.D.	N.D.	740000000		
	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	860000000000	1100000000000	1400000000000	becquerel* ²	
	Takahama Nuclear Power Station	1300000000000	2300000000000	2000000000000		
	Ohi Nuclear Power Station	5600000000000	6600000000000	3400000000000		
Radioactive solid waste generated (200-L drum equivalent)* ⁴		12,312	13,223	10,089	Equivalent in drums	
	• Mihama Nuclear Power Station	3,918	3,202	2,469		
	• Takahama Nuclear Power Station	4,624	6,516	4,905		
	• Ohi Nuclear Power Station	3,770	3,505	2,715		
Radioactive solid waste reduced (200-L drum equivalent)* ⁵		11,805	11,189	11,666	Equivalent in drums	
	• Mihama Nuclear Power Station	2,946	2,409	2,196		
	• Takahama Nuclear Power Station	3,959	5,715	5,451		
	• Ohi Nuclear Power Station	4,900	3,065	4,019		
Amount of solid radioactive waste generated – Amount of solid radioactive waste reduced (200-L drum equivalent)* ⁶		507	2,034	-1,577	Equivalent in drums	
	• Mihama Nuclear Power Station	972	793	273		
	• Takahama Nuclear Power Station	665	801	-546		
	• Ohi Nuclear Power Station	-1,130	440	-1,304		
Cumulative amount of solid radioactive waste stored (200-L drum equivalent)* ^{7*8}		100,818	102,853	101,276	Equivalent in drums	
	• Mihama Nuclear Power Station	27,144	27,938	28,211		
	• Takahama Nuclear Power Station	44,888	45,689	45,143		
	• Ohi Nuclear Power Station	28,786	29,226	27,922		

ND: Not Detectable

*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.



◆ 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			L	L	Heavy/crude	Kerosene	Coal	Heavy/crude	L	L	L	Heavy/crude		
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	—	186	90	—	—	0	62	
		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	46,650 × 10 ³ m ³ N	—	—	0.263 × 10 ³ m ³ N	64.7 × 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	70.8	85	94	
			Actual value	41.9	31	Stopped	—	216	47	45	63	41	69	
		Amount emitted daily (t/d)	Agreed value	7.7	1.8	—	—	—	—	—	—	—	—	
			Actual value	1.8	0.8	—	—	—	—	—	—	—	—	
			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	497 × 10 ³ m ³ N	390 × 10 ³ m ³ N	340 × 10 ³ m ³ N
	Actual value	404	75	Stopped	—	1,285 × 10 ³ m ³ N	43,981 × 10 ³ m ³ N	93,64 × 10 ³ m ³ N	262 × 10 ³ m ³ N	23.0 × 10 ³ m ³ N	102.6 × 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	—	0.005	0.002	—	<0.002	0	0.004	
	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			7.7	8.2	5.8–8.0	—	6.5–7.5	6.2–8.1	7.0–7.7	6.9–7.7	6.7–7.5	6.2–7.5		
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	15	
			Actual value	3.2	—	7.8	—	5.2	6.7	1.8	6.6	3	2.9	
		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	21.45	—	0.2	—	5.80	19.6	2.4	22.2	3.1	2.4	
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	20	
			Actual value	<5	8	3	—	3	1.1	1	<5	1	<1	
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	1	
			Actual value	<1	<1.0	0.7	—	<1.0	0.4	0.1	<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



▶ Reporting Coverage

● Reporting coverage of the Kansai Electric Power Co., Inc. and its 90 consolidated subsidiaries (as of the end of March 2022)

Specific data of environmental impact including electricity consumption in an office is grasped and reported in this report ⇒ **98.9%**

<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).

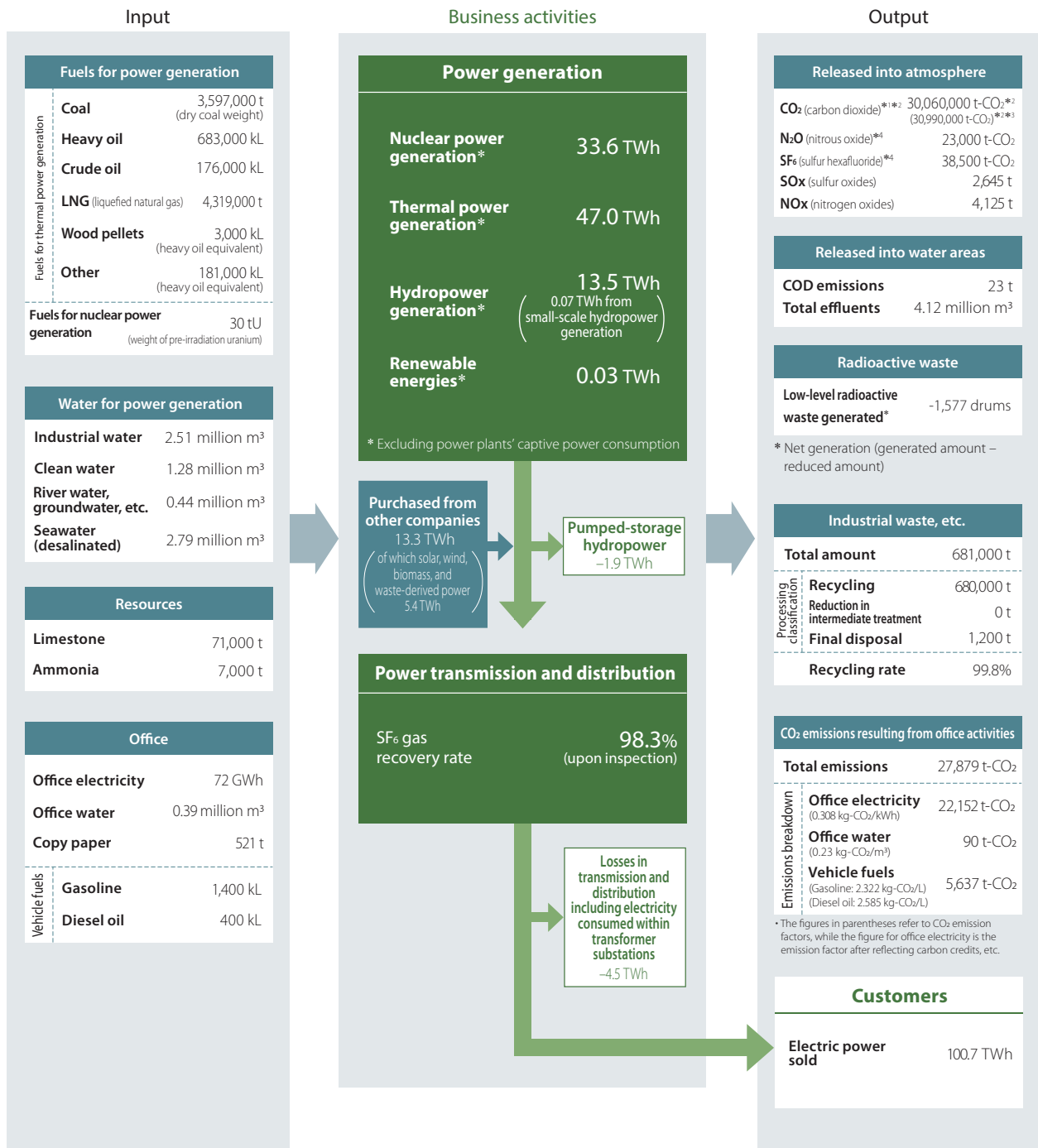
◆ Calculation method

$$\left(\begin{array}{l} \text{Sales of the Kansai} \\ \text{Electric Power Co.,} \\ \text{Inc. in FY 2021} \end{array} \right) + \left(\begin{array}{l} \text{Sales of 39 consolidated subsidiaries in FY 2021} \\ \text{that are performing Eco Action as of the end of} \\ \text{March 2022} \end{array} \right)$$

$$\left(\begin{array}{l} \text{Sales of the Kansai} \\ \text{Electric Power Co.,} \\ \text{Inc. in FY 2021} \end{array} \right) + \left(\begin{array}{l} \text{Sales of 90 consolidated} \\ \text{subsidiaries in FY 2021} \end{array} \right)$$



◆ Status overview of our business activities and environmental load (FY 2021 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 2021 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

