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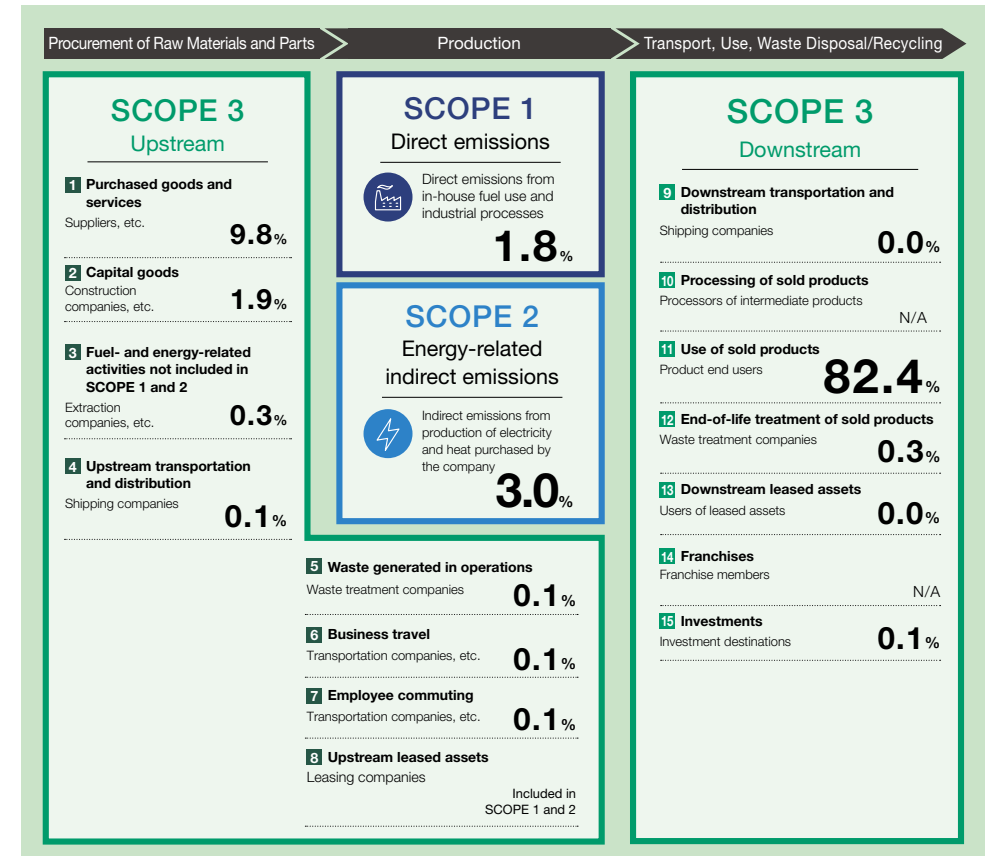
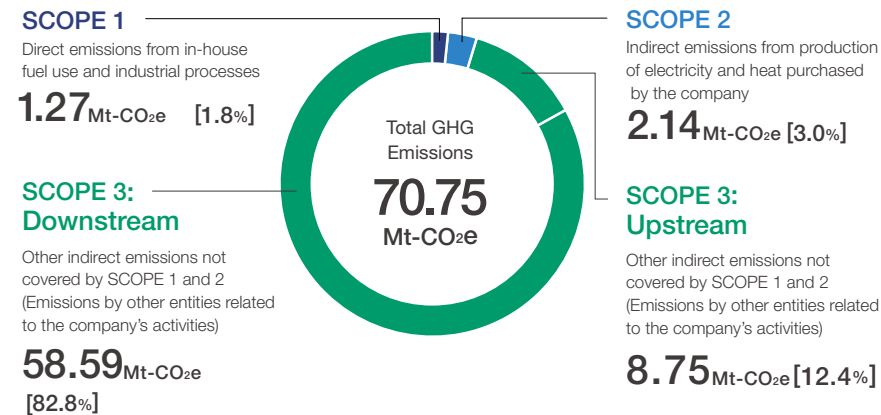
GHG Emissions Throughout the Value Chain

GRI 302-2/305-1/305-2/305-3/305-4/305-5

Calculating GHG Emissions Throughout the Value Chain (Fiscal 2021)

Hitachi calculates greenhouse gas (GHG) emissions throughout the value chain in conformance with GHG Protocol standards. This gives us a good grasp of emission hotspots in our value chain with which we can establish effective targets and reduction measures. Energy-related CO₂ accounts for almost all of Hitachi's GHG emissions, with there being negligible releases of other gases, making it all the more important to focus on CO₂ reduction efforts.

An extremely high share of our value chain emissions comes from the use of the products and services we sell. We thus believe that we can make a major contribution to decarbonization through our businesses by giving priority to enhancing the efficiency and energy-saving features of our products and services.



In-house: Within the scope of the company's organizational boundaries. In principle, all business activities of the company itself and activities within or controlled by its consolidated subsidiaries.

Upstream: In principle, activities related to products and services that are purchased.

Downstream: In principle, activities related to products and services that are sold.

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Detailed Data on GHG Emissions Throughout the Hitachi Value Chain (Hitachi Group, Fiscal 2021)

Category	Description	Reporting Boundary	Emissions (Mt-CO ₂ e)	Percentage (%)
Total of SCOPE 1, 2, and 3				
SCOPE 1 and 2 total		Hitachi Group	70.75	100
SCOPE 1 *2		Hitachi Group	3.41 *1	4.8
Direct emissions	Direct emissions from in-house fuel use and industrial processes	Hitachi Group	1.27	1.8
SCOPE 2*3				
Energy-related indirect emissions	Indirect emissions from the use of electricity and heat purchased by the company	Hitachi Group	2.14	3.0
SCOPE 3 total				
SCOPE 3: Upstream (other indirect emissions)				
1 Purchased goods and services	Emissions from the resource extraction stage to the manufacturing stage, including raw materials, parts, supplied products, and sales		6.91	9.8
2 Capital goods	Emissions generated in the construction, manufacture, and shipping of the company's own capital goods, such as equipment, devices, buildings, facilities, and vehicles		1.36	1.9
3 Fuel- and energy-related activities not included in SCOPE 1 and 2	Emissions from procuring the fuel necessary for electricity and other energy production, including resource extraction, production, and shipping		0.18	0.3
4 Upstream transportation and distribution	Emissions from the distribution of raw materials, parts, products supplied, and sales prior to the delivery of materials to the company, as well as other distribution activities of products for which the company bears the expense	Hitachi Group	0.07	0.1
5 Waste generated in operations	Emissions from the transportation, disposal, and treatment of waste generated from the company's operations		0.08	0.1
6 Business travel	Emissions generated from the fuel and electricity used by employees for business travel		0.05	0.1
7 Employee commuting	Emissions generated from the fuel and electricity used by employees commuting		0.10	0.1
8 Upstream leased assets	Emissions from the operation of assets leased by the company, excluding those counted in SCOPE 1 and 2		Included in SCOPE 1 and 2	—
SCOPE 3: Downstream (other indirect emissions)				
9 Downstream transportation and distribution	Emissions from the transportation, storage, loading and unloading, and retail sales of products		0.01	0.0
10 Processing of sold products	Emissions by downstream companies during the processing of intermediate products		N/A*4	—
11 Use of sold products*5	Emissions from the use of products by end users, such as consumers and businesses		58.30*6	82.4
12 End-of-life treatment of sold products sold*5	Emissions from the transportation, waste disposal, and treatment of products by end users, such as consumers and businesses	Hitachi Group	0.20	0.3
13 Downstream leased assets	Emissions from the operating of assets owned by the reporting company as the lessor which are leased to other entities		0.02	0.0
14 Franchises	Emissions by franchises under SCOPE 1 and 2		N/A	—
15 Investments	Emissions related to the management of investments		0.06	0.1

*1 In addition to this figure, the fiscal 2021 CO₂ emissions of an energy-related company and automotive business company, which became consolidated subsidiaries in fiscal 2020, were 175 kt-CO₂ and 601 kt-CO₂, respectively.

*2 Including SF₆, PFC, HFC, N₂O, NF₃, and CH₄. The gas and fuel oil conversion factor is based on the list of emissions and calculation methods

*3 CO₂ emissions were calculated using the 2019 CO₂ electrical power conversion factor for countries (in CO₂ per kWh) in Emission Factors (2021 edition), published by the International Energy Agency (IEA).

*4 Cannot be determined due to insufficient information about the processing.

*5 CO₂ emissions per unit is based on the Inventory Database for Environmental Analysis (IDEA), developed by the National Institute of Advanced Industrial Science and Technology (AIST) and the Japan Environmental Management Association for Industry (JEMAI).

*6 In addition to this figure, the fiscal 2021 CO₂ emissions of an energy-related company, which became a consolidated subsidiary in fiscal 2020, was 66,907 kt-CO₂.

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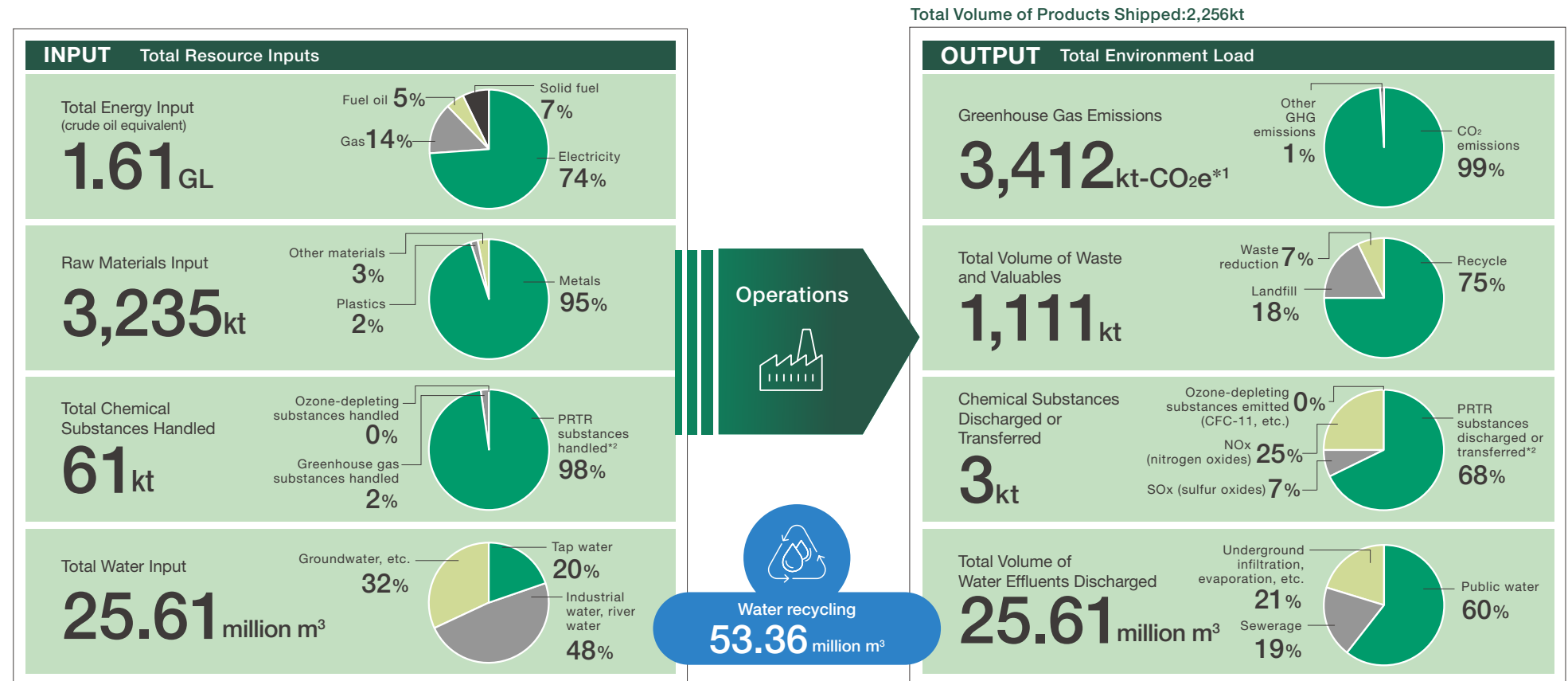
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GRI 301-1/301-2/302-1/302-4/303-1/303-2/303-3/303-4/303-5/305-4/305-5/305-6/ 305-7/306-1/306-3/306-4/306-5

Overview of the Environmental Load from Business Operations (Fiscal 2021)

The following is an outline of total resource inputs (energy, raw materials, etc.) and the environmental load (greenhouse gas emissions, waste generation, etc.) of Hitachi Group operations during fiscal 2021.



*1 CO₂e: CO₂ equivalent. *2 PRTR substances: The 462 chemicals designated in Japan's Pollutant Release and Transfer Register (PRTR) Law.

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Detailed Data on Resource Input and Environmental Load Output

Energy Inputs and GHG Emissions During Business Operations

The following is an outline of the energy consumed during Hitachi's business operations and the part of our environmental load consisting of greenhouse gas (GHG) emissions.

Energy Inputs

			Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total energy consumption (crude oil equivalent)			Hitachi Group	PJ (GL)	91(2.35)	88(2.27)	81(2.07)	61(1.51)	62(1.61)
Renewable energy	Electricity	Total Electricity	Hitachi Group	GWh (PJ)	3.2(0.012)	7.1(0.026)	18.0 (0.065)	138.2(0.498)	192.6 (0.693)
		Self-generated amount	Hitachi Group	GWh (PJ)	3.2(0.012)	7.1(0.026)	18.0 (0.065)	22.0(0.079)	34.0(0.122)
		Purchased amount	Hitachi Group	GWh (PJ)	—	—	—	116.2(0.418)	158.6(0.571)
Non-renewable energy	Electricity	Total Electricity	Hitachi Group	GWh (PJ)	6,020(58.4)	6,021(58.4)	5,992 (58.2)	4,498 (43.9)	4,584 (44.7)
		For heating	Hitachi Group	GWh (PJ)	130(1.3)	128(1.3)	128(1.3)	96(1.0)	101(1.0)
		For cooling	Hitachi Group	GWh (PJ)	277(2.7)	273(2.7)	273(2.7)	208(2.0)	214(2.1)
		To generate steam	Hitachi Group	kt (PJ)	3.2(0.008)	3.2(0.008)	3.2(0.008)	3.2(0.008)	4.6(0.011)
	Gas	Natural gas	Hitachi Group	Billion m ³ (PJ)	0.19(8.6)	0.18(8.4)	0.15 (7.0)	0.11 (4.8)	0.11 (4.9)
		For heating	Hitachi Group	Million m ³ (PJ)	18.4(0.9)	18.6(0.9)	18.6(0.9)	14.2(0.6)	14.6(0.7)
		For cooling	Hitachi Group	Million m ³ (PJ)	10.3(0.5)	10.5(0.5)	10.5(0.5)	8.0(0.4)	8.2(0.4)
	To generate steam	Hitachi Group	kt (PJ)	291(0.68)	268(0.63)	232(0.54)	161(0.38)	165(0.39)	
	LPG, LNG, etc.	Hitachi Group	kt (PJ)	269(14.5)	251(13.5)	150 (8.0)	111 (5.9)	118 (6.3)	
	Fuel oil (heavy oil, kerosene, etc.)	Hitachi Group	ML (PJ)	117(4.5)	87(3.3)	75 (2.9)	61 (2.3)	47 (1.8)	
	Solid fuel (coke)	Hitachi Group	kt (PJ)	179(5.4)	188(5.5)	162 (4.8)	137 (4.0)	156 (4.6)	

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Greenhouse Gases Emitted

		Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total GHGs*1		Hitachi Group	kt-CO ₂ e	5,488	5,026	4,415	3,313	3,412
CO ₂ emissions	Total CO ₂ emissions	Hitachi Group	kt-CO ₂ e	5,433	4,973	4,374	3,296	3,384*2
	Direct emissions	Hitachi Group	kt-CO ₂	2,062	1,869	1,489	1,202	1,245*2
	Energy-related indirect emissions	Hitachi Group	kt-CO ₂	3,371	3,104	2,885	2,094	2,139
Other GHGs	SF ₆ (sulfur hexafluoride)	Hitachi Group	kt-CO ₂ e	40	35	24	11	20.4
	PFCs (perfluorocarbons)	Hitachi Group	kt-CO ₂ e	4	5	4	0	1.9
	HFCs (hydrofluorocarbons)	Hitachi Group	kt-CO ₂ e	7	3	3	1	3.3
	N ₂ O, NF ₃ , CH ₄ (dinitrogen monoxide, nitrogen trifluoride, methane)	Hitachi Group	kt-CO ₂ e	1	3	2	2	2.5
	CO ₂ from non-energy sources	Hitachi Group	kt-CO ₂ e	3	7	8	3	0.1

Notes: • CO₂ emissions indicate the total of SCOPE 1 and SCOPE 2 emissions which are associated with those emerging from energy use. Those emissions emerging from renewable energy are considered zero.

• CO₂ emissions from electricity consumption is calculated using a market-based calculation method. Regarding CO₂ electrical power conversion factors: In Japan (including power plants), adjusted conversion factors for individual power businesses based on the Act on Promotion of Global Warming Countermeasures are used; outside of Japan, the latest values for each fiscal year supplied by the International Energy Agency (IEA) and by power supply companies as conversion factors for individual countries are used.

• The gas and fuel oil conversion factor is based on the list of emissions and calculation methods published by Japan's Ministry of the Environment.

• In addition to this figure, the fiscal 2021 CO₂ emissions of an energy-related company and automotive business company, which became consolidated subsidiaries in fiscal 2020, were 175 kt-CO₂ and 601 kt-CO₂, respectively.

*1 Total GHGs: SCOPE 1 and 2 total

*2 3.2 kt-CO₂ through the use of carbon-neutral city gas and 3.6 kt-CO₂ achieved with credits for neutralization are excluded from SCOPE 1.

Raw Material Inputs and Waste and Valuables Generation During Business Operations

The following is an outline of the raw materials used during Hitachi's business operations and the part of our environmental load consisting of the generation of waste and valuables.

Raw Material Inputs

		Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Total amount of raw materials		Hitachi Group	kt	3,797	4,403	3,776	3,066	3,235	
Raw materials	Metals	Total metals	Hitachi Group	kt	3,388	4,031	3,454	2,861	3,083
		New materials	Hitachi Group	kt	1,571	1,624	1,372	1,075	909
		Recycled materials, etc.	Hitachi Group	kt	1,817	2,407	2,082	1,786	2,175
	Plastics	Total plastics	Hitachi Group	kt	151	165	147	115	74
		New materials	Hitachi Group	kt	150	163	143	113	72
		Recycled materials, etc.	Hitachi Group	kt	1	2	4	2	2
	Other materials	Total other materials	Hitachi Group	kt	258	207	175	90	77
		New materials	Hitachi Group	kt	250	201	173	89	76
		Recycled materials, etc.	Hitachi Group	kt	8	6	2	1	1

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Waste and Valuables Generated

		Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total waste and valuables generated		Hitachi Group	kt	1,356	1,384	1,302	1,061	1,111
Waste reduction		Hitachi Group	kt (kt ^{*1})	83(9.0)	94(5.6)	101(17.5)	75(9.8)	74(10.5)
Recycle	Reuse	Hitachi Group	kt (kt ^{*1})	1(0.4)	1(0.0)	5(2.2)	35(11.4)	36(18.7)
	Materials recycled	Hitachi Group	kt (kt ^{*1})	1,038(20.2)	1,044(25.6)	919(25.3)	740(17.6)	784(19.3)
	Thermal recovery	Hitachi Group	kt (kt ^{*1})	11(1.4)	13(1.4)	21(4.9)	11(5.4)	13(6.5)
Landfill		Hitachi Group	kt (kt ^{*1})	223(5.2)	232(3.7)	256(6.1)	200(4.9)	204(5.7)
Nonhazardous (hazardous)		Hitachi Group	kt (kt ^{*1})	1,320(36)	1,348(36)	1,246(56)	1,012(49) ^{*2}	1,050(61)

Note: In addition to this figure, the fiscal 2021 waste and valuables generated by an energy-related company and automotive business company, which became consolidated subsidiaries in fiscal 2020, were 71 kt and 59 kt, respectively.

^{*1} Figures in parentheses are the generation of waste defined as hazardous under the Basel Convention.

^{*2} The hazardous wastes imported and exported are zero metric tons, and hazardous wastes transported internationally are 0%.

Inputs, Discharges, and Transfers of Chemical Substances During Business Operations

The following is an outline of the chemical substances handled during Hitachi's business operations and the part of our environmental load consisting of chemical substance discharges and transfers.

Chemical Substances Handled

		Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total amount of chemicals handled		Hitachi Group	kt	212	196	186	56	61
Chemical Substances Handled	PRTR substances handled	Hitachi Group	kt	205	189	177	51 ^{*1}	60
	Ozone-depleting substances handled	Hitachi Group	kt	1	1	0	0	0
	Greenhouse gas substances handled	Hitachi Group	kt	6	6	9	5	1

^{*1} Due to deconsolidation of material company, the handling volume decreased.

Chemical Substances Discharged or Transferred

		Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total Amount of Discharges and Transfers		Hitachi Group	kt	5.5	5.3	4.5	3.1	3.0
Chemical Substances Discharged or Transferred	PRTR substances discharged or transferred	Hitachi Group	kt	4.3	4.1	3.4	2.1	2.1
	SOx (sulfur oxides)	Hitachi Group	kt	0.3	0.3	0.3	0.2	0.2
	NOx (nitrogen oxides)	Hitachi Group	kt	0.9	0.9	0.8	0.7	0.8
	Ozone-depleting substances emitted (CFC-11, etc.)	Hitachi Group	t (t-ODP ^{*1})	24(0.61)	27(0.70)	9.8(0.28)	0.06(0.002)	0

^{*1} ODP (ozone depletion potential): A coefficient indicating the extent to which a chemical compound may cause ozone depletion relative to depletion by CFC-11 (trichlorofluoromethane, ODP = 1.0). The conversion factor uses the ODP and global warming potential published by Japan's Ministry of the Environment.

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Water Inputs and Effluent Discharges During Business Operations

The following is an outline of the total amount of water resources used during Hitachi's business operations and the part of our environmental load consisting of effluent discharges.

Water Input

		Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total water use		Hitachi Group	Million m ³	38.54	37.02	36.41	26.35	25.61
Surface water	Tap water (water for drinking and other household uses)	Hitachi Group	Million m ³	7.4	7.61	7.95	5.10	5.01
	Industrial water, river water	Hitachi Group	Million m ³	17.46	16.63	15.58	12.62	12.43
Groundwater		Hitachi Group	Million m ³	13.56	12.74	12.84	8.60	8.16
Rain water		Hitachi Group	Million m ³	0.02	0.01	0.02	0.01	0.01
Recycled water (recycled from the wastewater of other organizations)		Hitachi Group	Million m ³	0.1	0.03	0.02	0.01	0.00

Note: In addition to this figure, the fiscal 2021 water inputs of an energy-related company and automotive business company, which became consolidated subsidiaries in fiscal 2020, were 4.75 million m³/year and 3.91 million m³/year, respectively.

Water Effluents Discharged

		Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total water effluents discharged		Hitachi Group	Million m ³	35.13	34.1	33.41	23.25	25.61
Public water		Hitachi Group	Million m ³	23.12	22.44	22.46	15.29	15.40
Sewerage		Hitachi Group	Million m ³	8.62	8.18	7.74	5.44	4.99
Underground infiltration, evaporation, etc.		Hitachi Group	Million m ³	3.39	3.48	3.21	2.52	5.22
Water quality	BOD (biochemical oxygen demand)	Hitachi Group	t	399	392	232	204	156
	COD (chemical oxygen demand)	Hitachi Group	t	587	1,657	400	406	301

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Number of ISO 14001 Certified Companies (as of March 2022)

	Reporting Boundary	Unit	FY 2020	FY 2021
Total	Hitachi Group*1	Companies	202	185
Japan			85	66
China			43	43
ASEAN, India, and other Asian regions			42	43
North America	Hitachi Group*1	Companies	10	9
Europe			17	15
Other regions			5	9

Note: In addition to this figure, in fiscal 2021 there were additional 106 ISO 14001-certified companies, comprising an energy-related company that became a consolidated member of the Group in fiscal 2020 and its subsidiaries. These companies will all be incorporated into the Hitachi Group's number of ISO 14001 certified companies from fiscal 2022.

*1 Companies with at least one certified business site.

Number of Regulatory Violations and Complaints

	Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Regulatory violations	Hitachi Group	Water quality	3	4	4	5	2
		Air quality	1	2	0	0	0
		Waste materials	0	3	0	4	3
		Other (equipment registration, etc.)	4	4	1	1	3
Complaints	Hitachi Group	Cases	5	3	5	3	3

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Environmental Protection Costs

			Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total			Hitachi Group	Billions of yen	92.46	94.16	105.71	86.62	79.97
Expenses	Business area	Maintenance costs for equipment with low environmental loads, depreciation, etc.*1			22.17	23.57	22.62	19.14	19.56
	Upstream/Downstream	Green procurement expenses, recovery and recycling of products and packaging, recycling expenses			0.72	0.68	0.68	0.62	0.64
	Administration	Labor costs for environmental management and the implementation and maintenance of environmental management systems			5.69	6.72	4.98	5.88	5.40
	Research and development	Costs of research and development and product designs to reduce the environmental burden caused by products and production processes	Hitachi Group	Billions of yen	62.55	61.86	77.01	60.64	53.79
	Social activities	Planting, beautification, and other environmental improvement costs			1.00	0.93	0.25	0.22	0.26
	Environmental remediation	Environmental mitigation costs, contributions, and charges			0.33	0.40	0.17	0.12	0.32

*1 Equipment depreciation costs are calculated using the straight-line method over five years

Environmental Protection Effects

Economic Effects*1

Major FY 2021 Activities		Reporting Boundary	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total		Hitachi Group	Billions of yen	21.44	16.05	18.62	14.28	19.20
Net income effects	Recovering value from waste by sorting and recycling	Hitachi Group	Billions of yen	6.90	8.35	12.42	9.66	15.15
Cost reduction effects	Installing high-efficiency equipment (lighting, power supply, etc.)			14.54	7.70	6.20	4.62	4.05

*1 Economic effects include the following:

Net income effects: Real income from the sale of valuable materials and environmental technology patents.

Cost reduction effects: Reductions in electricity, waste treatment, and other expenses through activities that reduce environmental loads.

Environmental Liability

As the amounts that we can reasonably project as future environmental liabilities as of end of March 2022, we have appropriated 5.34 billion yen in costs for the disposal of waste containing PCB and 1.19 billion yen to clean up contaminated soil.