ESG

Environmental data

Energy Purchase Amounts / Greenhouse Gas Emissions / Emissions Transactions / Renewable Energy Use / Total Waste / Waste Sent to Landfills / Water Resources / PRTR-VOC

・The aggregation range is equivalent to 95.2% of the entire Group (percentage figures refer to our environmental management activities

・Bold: the figures are verified by Independent Organization

Amounts of Energy Purchased

Note: Amounts are rounded and totals may therefore differ from the sum of all amounts.

Category	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Grid electricity purchased in Japan (After redemption)	GWh	**235.376**	**234.844**	**247.216**	**277.876**	272.843
Solar power purchased in Japan (PPA)	GWh	**0.000**	**0.000**	**0.000**	**0.000**	0.000
Green electricity purchased in Japan	GWh	**0.000**	**0.000**	**0.000**	**0.000**	7.204
Redemption amount of renewable energy certificates in Japan	GWh	**0.000**	**0.000**	**0.000**	**0.000**	0.000
Grid electricity purchased overseas (After redemption)	GWh	**206.664**	**194.063**	**195.829**	**137.458**	120.610
Solar power purchased overseas (PPA)	GWh	**0.228**	**1.309**	**1.730**	**3.304**	3.288
Green electricity purchased overseas	GWh	**0.000**	**0.000**	**0.000**	**0.000**	3.878
Redemption amount of renewable energy certificates overseas	GWh	**0.000**	**0.000**	**0.000**	**0.000**	9.238
Grid electricity purchased in Japan (After redemption)	GWh	**442.040**	**428.907**	**443.044**	**415.334**	393.453
Solar power purchased in Japan (PPA)	GWh	**0.228**	**1.309**	**1.730**	**3.304**	3.288
Green electricity purchased in Japan	GWh	**0.000**	**0.000**	**0.000**	**0.000**	11.082
Redemption amount of renewable energy certificates in Japan	GWh	**0.000**	**0.000**	**0.000**	**0.000**	9.238
Total electricity purchased	GWh	**442.268**	**430.217**	**444.775**	**418.637**	417.062
Fuel purchased in Japan	TJ	**2,005.359**	**1,933.460**	**1,845.059**	**1,822.379**	1,949.111
	(GWh)	**557.044**	**537.072**	**512.516**	**506.216**	541.420
Fuel purchased overseas	TJ	**148.428**	**121.560**	**128.561**	**111.763**	78.900
	(GWh)	**41.230**	**33.767**	**35.711**	**31.045**	21.917
Total Fuel purchased	TJ	**2,153.787**	**2,055.020**	**1,973.620**	**1,934.142**	2,028.011
	(GWh)	**598.274**	**570.839**	**548.228**	**537.262**	563.336
Total	GWh	**1,040.542**	**1,001.056**	**993.002**	**955.899**	980.398

Notes
1. Amount of grid connected power purchased (after amortization): The amount of renewable energy certificates amortized is deducted from the amount of grid connected power purchased.
2. The scope of data collection includes all domestic and overseas bases.
3. The totals for Indian and French bases were temporarily excluded in FY2021 and FY2022 (about 0.3%) because the objectivity and completeness of the collected data of these bases have been determined to be problematic.
   We started compiling data on results in fiscal 2023.
4. No heat was purchased.
   Volumes of fuel purchased are aggregated based on lower heating value (J) and converted at a rate of 3,600 GJ, or 3.6 TJ, to 1 GWh.
5. "Total" includes the amount of purchased electricity generated from renewable sources but excludes the amount of electricity generated in-house (both non-renewable and renewable energy)..

Breakdown of Amount of Fuel Purchased in Fiscal 2022

	Unit	Japan	Overseas	Total	Unit	Japan	Overseas	Total
Gasoline	kL	92.911	49.400	142.311	GWh	0.893	0.475	1.368
Kerosene	kL	324.022	0.000	324.022	GWh	3.303	0.000	3.303
Diesel oil	kL	53.087	85.730	138.817	GWh	0.556	0.898	1.454
Fuel oil	kL	352.016	12.000	364.016	GWh	3.823	0.130	3.954
Liquified petroleum gas	t	321.150	71.328	392.477	GWh	4.532	1.007	5.538
Liquified natural gas	t	3,288.500	0.000	3,288.500	GWh	49.876	0.000	49.876
City gas (converted to calorific value*)	1,000 m^3	38,274.963	1,552.580	39,827.543	GWh	478.437	19.407	497.844
					total (GWh)	541.420	21.917	563.336

* As the calorific value per area of gas varies by supplier and pressure varies by supply pipe, amounts are converted at a rate of 1,000 m^3 at a pressure of 0℃ 1 to 45 GJ.

In-House Power Generation

(GWh)

Category		FY2018	FY2019	FY2020	FY2021	FY2022
Non-renewable energy	**Electricity generated in Japan**	141.579	140.512	133.232	125.387	138.601
	Electricity generated overseas	0.050	0.289	0.113	0.079	0.064
	Total electricity generated	141.629	140.802	133.345	125.466	138.665
Renewable energy	**Electricity generated in Japan**	0.487	0.539	0.592	0.621	0.619
	Electricity generated overseas	0.672	2.113	1.575	1.609	1.739
	Total electricity generated	1.158	2.652	2.167	2.230	2.358

Greenhouse Gas Emissions

(kt-CO_2e)

Category	FY2018	FY2019 (New base year)	FY2020	FY2021	FY2022	FY2030 ▲46%	FY2050 ▲100%
CO_2 in Japan	**219.3**	**207.2**	**203.7**	**213.7**	216.8		
Non-CO_2 greenhouse gases in Japan	**74.6**	**59.7**	**53.6**	**54.1**	35.1		
Total greenhouse gas emissions in Japan	**293.9**	**266.9**	**257.2**	**267.8**	252.0		
CO_2 in overseas	**138.0**	**128.8**	**131.7**	**93.2**	80.1		
Non-CO_2 greenhouse gases overseas	**88.9**	**55.8**	**48.0**	**3.0**	2.2		
Total greenhouse gas emissions overseas	**226.9**	**184.6**	**179.7**	**96.2**	82.3		
Total CO_2 emissions	**357.3**	**336.0**	**335.4**	**306.9**	296.9		
Total emissions of non-CO_2 greenhouse gases	**163.5**	**115.5**	**101.6**	**57.1**	37.4		
Total greenhouse gas emissions	**520.8**	**451.5**	**437.0**	**364.0**	334.2	243.8	0.0
(per unit of net sales [t-CO_2e/¥100 million])	56.92	50.13	49.89	39.99	33.11	(Forecast: 21.37)	

Greenhouse gas emissions reclassified based on Scope 1 (direct CO_2 from fuel use and non-CO_2 greenhouse gas emissions) and Scope 2 (indirect CO_2 emissions from electricity use)

Category	FY2018	FY2019 (New base year)	FY2020	FY2021	FY2030 ▲46%	FY2050 ▲100%
Scope 1 (direct) emissions in Japan	**177.2**	**158.1**	**147.5**	**145.8**	133.0	
Scope 2 (indirect) emissions in Japan	**116.7**	**108.7**	**109.8**	**122.0**	119.0	
Scope 1 (direct) emissions overseas	**96.6**	**62.2**	**54.7**	**8.7**	6.3	
Scope 2 (indirect) emissions overseas	**130.3**	**122.4**	**125.0**	**87.5**	76.0	
Total Scope 1 emissions	**273.8**	**220.3**	**202.2**	**154.5**	139.3	
Total Scope 2 emissions	**247.0**	**231.1**	**234.8**	**209.5**	194.9	
Total emissions (Same as total greenhouse gas emissions above)	**520.8**	**451.5**	**437.0**	**364.0**	334.2	243.8

Notes

1. The scope of data collection includes all domestic and overseas bases.
2. The totals for Indian and French bases were temporarily excluded in FY2021 and FY2022 (about 0.3%) because the objectivity and completeness of the collected data of these bases have been determined to be problematic.
   We started compiling data on results in fiscal 2023.
3. Power coefficients are used to calculate the indirect CO_2 emissions from power plants for each kWh of electricity purchased.
   Japan source - Average power coefficient factor for Japan (adjusted value: confirmed value) according to the Electric Power Council for a Low Carbon Society (ELCS): Use of 0.436 kg-CO_2e/kWh in fiscal 2022.
   Overseas source - Average power coefficients for the respective countries described in IEA-Emission Factors (2022 edition) : Coefficients for [fiscal] 2020 are used for fiscal 2022.

Breakdown of Scope 1 Emissions

(kt-CO_2e)

	Gas type	FY2018	FY2019	FY2020	FY2021	FY2022	Major Applications
Scope 1 emissions in Japan	CO_2	**102.5**	**98.5**	**93.9**	**91.7**	97.9	Cogeneration systems, boilers, drying furnaces, automobile operation on Company premises, heating
	HFCs	**2.8**	**3.5**	**1.4**	**1.5**	2.3	Coolants, heat insulating materials (polyurethane foam), semiconductor etching materials※
	PFCs	**45.5**	**33.7**	**31.4**	**33.4**	22.7	Semiconductor etching materials※
	SF_6	**25.8**	**22.1**	**20.1**	**18.6**	9.8	Semiconductor etching materials※, isolating gas
	NF_3	**0.6**	**0.4**	**0.7**	**0.6**	0.5	Semiconductor etching materials※
	total	**177.2**	**158.1**	**147.5**	**145.8**	133	
Scope 1 emissions overseas	CO_2	**7.7**	**6.3**	**6.7**	**5.7**	4.1	Boilers, automobile operation on Company premises, drying furnaces, non-emergency generators
	HFCs	**58.6**	**42.5**	**46.6**	**1.4**	0.1	Semiconductor etching materials※, isolating gas
	PFCs	**1.0**	**0.9**	**1.0**	**1.2**	1.3	Semiconductor etching materials※
	SF_6	**29.2**	**12.4**	**0.5**	**0.4**	0.8	Semiconductor etching materials※, isolating gas
	NF_3	**0.0**	**0.0**	**0.0**	**0.0**	0.0	Semiconductor etching materials※
	total	**96.6**	**62.2**	**54.7**	**8.7**	6.3	
Total Scope 1 emissions	CO_2	**110.2**	**104.8**	**100.6**	**97.4**	101.9	Cogeneration systems, boilers, drying furnaces, automobile operation on Company premises, heating
	HFCs	**61.4**	**46.0**	**47.9**	**2.9**	2.3	Semiconductor etching materials※, isolating gas
	PFCs	**46.5**	**34.6**	**32.4**	**34.6**	24	Semiconductor etching materials※
	SF_6	**55.0**	**34.5**	**20.5**	**19.0**	10.6	Semiconductor etching materials※, isolating gas
	NF_3	**0.6**	**0.4**	**0.7**	**0.6**	0.5	Semiconductor etching materials※
	total	**273.8**	**220.3**	**202.2**	**154.5**	139.3	

※'semiconductor etching materials' include use in semiconductor etching processes as well as in chamber cleaning processes in semiconductor manufacturing equipment.

1. The scope of data collection includes all domestic and overseas bases.
2. The totals for Indian and French bases were temporarily excluded in FY2021 and FY2022 (about 0.3%) because the objectivity and completeness of the collected data of these bases have been determined to be problematic.
   We started compiling data on results in fiscal 2023.
3. Greenhouse effect coefficient (GWP): Used AR5, the 100-year coefficient in the 5th IPPCC periodic report since fiscal 2021 in accordance with the COP24 international agreement. Used AR4 for fiscal 2013 to 2020.
4. The calculation of emissions other than CO_2 uses the IPCC inventory & (default) emission factors (IPCC1996 Tier2c factors) in accordance with the calculation guidelines of the Act on Promotion of Global Warming Countermeasures.
   In addition, emissions due to SF_6 use (proprietary inventory) in high-voltage manufacturing processes have also been added.
   The default values (90%, 95% for NF_3 only) are used for the exclusion rate of exhaust gas elimination systems for the etching process of semiconductors.
   However, in each inventory for product HFC refrigerant filling processes and SF_6 insulating gas filling processes, actual measured values are used instead of default emission coefficients.

(Note) Since fiscal 2017, we have been undergoing third-party verification within the year following the year under review with respect to calculation methods, data sources, calculation processes, and companywide totals.

Breakdown of Scope 1 and 2 Emissions by Country in Fiscal 2022

(kt-CO_2e)

Country	Scope 1	Scope 2	Total	Power coefficient (kg-CO_2e/kWh)
Japan	133.000	118.960	251.960	0.4360
Malaysia	2.292	34.649	36.941	0.6510
China	3.565	28.593	32.158	0.6143
Philippines	0.058	8.907	8.964	0.7084
Thailand	0.385	3.552	3.937	0.4718
Singapore	0.000	0.283	0.283	0.3841

These power coefficient figures are sourced from
Japan: The Electric Power Council for a Low Carbon Society
Overseas: IEA(2021)EMISSION FACTORS

Scope3 Emissions

Category		Details	Scope3 Emissions(kt-CO_2e)						Scope and Method of Calculations[*1]
			FY2018	FY2019	FY2020	FY2021	FY2022	rate	
Upstream	1	Products and services purchased	248	**1,978**	**1,795**	**1,924**	2,300	1.30%	Purchase amount by product type X industry-related database
	2	Capital goods	124	**138**	**103**	**170**	241	0.14%	Company-wide capital investments, plant and equipment
	3	Fuel and energy purchases (outside Scope 1/2)	30.8	**52.9**	**52.9**	**50.6**	50.9	0.03%	Emissions from fuel used at Company production sites and in connection with procurement of electric power
	4	Transport and delivery (upstream)	14.0	**15.9**	**13.6**	**15.5**	16.2	0.01%	"Japan: Emissions pertaining to own transport[*2] (estimated from all arrangement slips) Overseas: Estimated from domestic transport (sales weighting)"
	5	Waste discharged from business operations	5.39	**6.49**	**5.93**	**7.16**	6.46	0.00%	Emissions related to disposal of waste generated by Company plants
	6	Business travel	1.93	**3.65**	**3.60**	**3.49**	3.54	0.00%	Emissions related to business travel of Company employee
	7	Commuting	8.23	**13.8**	**13.7**	**13.4**	13.7	0.01%	"Japan:Emissions related to commuting to Company offices and plants Overseas: Estimated with ratio of employees"
	8	Use of lease assets (upstream)	0.00	**5.83**	**5.67**	**4.99**	4.98	0.00%	"Japan: Emissions from offices with tenancies (leases) Overseas: Estimated with ratio of employees in office departments"
Subtotal			433	**2,215**	**1,993**	**2,190**	2,637	1.49%	
Down	9	Transport/delivery (downstream)	×	×	×	×	×		Excluded from calculations because of minimal movement from product delivery (category 4) destinations
	10	Processing of sold products	×	×	×	×	×		Excluded from calculations owing to no sales of intermediary products requiring downstream processing
	11	Use of products sold	4,111	**122,066**	**54,453**	**177,383**	173,930	98.51%	Calculation ranges are our company's seven product families, which account for 80% or more of the entire emissions when all of our products are in use.
	12	Waste processing of products sold	×	×	×	×	×		Excluded from calculations because most of products are made from metal and emissions during recycling are expected to be very minimal
	13	Use of lease assets (downstream)	0	0	**0**	**0**	0	0.0%	No applicable emissions
	14	Franchise	0	0	**0**	**0**	0	0.0%	No applicable emissions
	15	Investment	0	0	**0**	**0**	0	0.0%	No applicable emissions
Total			4,544	**124,281**	**56,447**	**179,572**	176,567	100%	

*1 Calculation methods have been revised as follows since FY2019.
- In Category 8 (Upstream leased assets), the emissions from our company's office spaces are excluded from SC1 and 2 amounts because these spaces are rental properties as tenants or leased assets.
- Calculation methods of Category 11 (Use of Sold products) have been revised as follows:

Calculation ranges are our company's seven product families, which account for 80% or more of the entire emissions when all of our products are in use.
The calculation methods of emissions from our products during entire product lifetime as follows
Finished products: The number of delivered products × Total annual power consumption (fuel consumption) × Lifetime × CO_2 coefficient
Intermediate products: The number of delivered products × Total annual power loss (energy loss of components) × Lifetime × CO_2 coefficient
Finished products include thermal power generation as prime contracts, industrial electric heating, showcases and others, which end users use as finished products.
Intermediate products include turbines/generators as subcontracts, power semiconductors, motors, transformers and others, which are incorporated in our clients' products which end users use.
- Third party evaluation will be performed for Category 1 to 8 and 11 but emission evaluation is expected to be performed around February of the next fiscal year.

Greenhouse Gas Emissions in Fuji Electric's Overall Supply Chain

(kt-CO_2e)

	FY2018	FY2019	FY2020	FY2021	FY2022	%
Scope3 (upstream)	433	**2,215**	**1,993**	**2,190**	2,637	1.49%
Scope1 (Direct emissions)	**274**	**220**	**202**	**155**	139	0.08%
Scope2 (Indirect emissions)	**247**	**231**	**235**	**209**	195	0.11%
Subtotal	953	**2,666**	**2,430**	**2,554**	2,972	1.68%
Scope3 (Down stream)	4,111	**122,066**	**54,453**	**177,383**	173,930	98.32%
Total	5,065	**124,733**	**56,884**	**179,936**	176,902	100%

Notes : The scope of calculations for categories 3 through 8 of Scope 3 were expanded Company-wide in fiscal 2019

Emissions Transactions

(t-CO_2e)

Location (Period)	Emissions credit acquisition	Emissions credit purchase	Emissions credit redemption	Outstanding credits
Tokyo (Tokyo Factory) (FY2015–2021)	0 (0)	0 (0)	316 (407)	3,508 (3,824)
Saitama prefecture (Fukiage Factory) (FY2011–2020)	3,193 (3,615)	0 (0)	0 (0)	38,203 (35,010)
Shenzhen (FY2013–2021)	0 (0)	0 (0)	649 (4,529)	4,533 (5,183)

Notes : Figures in parentheses are from the report for the previous fiscal year.

Emissions Transaction System

Location	Second reduction period	Reduction target (Result from first reduction period)
Tokyo (Tokyo Factory)	FY2020–2024	25% reduction in emissions from base year (15% reduction)
Saitama prefecture (Fukiage Factory)	FY2020–2024	20% reduction in emissions from base year (13% reduction)
Shenzhen	FY2021–2025	Annual reduction in emissions of 6.88% (6.39% reduction)

Renewable Energy Use

(MWh)

Category	FY2018	FY2019	FY2020	FY2021	FY2022
Renewable energy certificates purchased					9,238
Solar power generated in Japan	487	539	592	621	619
Solar power generated overseas	672	2,113	1,575	1,609	1,739
Renewable power ※1 purchased in Japan					7,204
Renewable power ※1 purchased overseas	228	1,309	1,730	3,304	7,166
Total	1,386	3,962	3,897	5,533	25,967
Ratio of renewable energy consumption/power consumption ※2	0.3%	0.9%	0.9%	1.3%	6.2%
Ratio of renewable energy consumption/energy consumption ※3	0.1%	0.4%	0.4%	0.6%	2.6%

※1 Renewable power: On-site photovoltaic power generation (PPA), off-site renewable energy power generation, and green electricity
※2 Power consumption: Total amount of all power purchased + amount of photovoltaic (self-generated) power
※3 Energy consumption: Total amount of all power purchased + amount of photovoltaic (self-generated) power + amount of fuel consumed
Note) Since fiscal 2022, we have been purchasing renewable energy and amortizing electricity certificates in Japan and abroad.

Power Supply Capacity from Renewable Energy Projects (Feed-In Tariff Scheme Electricity Sales)

(MWh)

Category	FY2018	FY2019	FY2020	FY2021	FY2022
Wind power	2,628	2,628	2,628	2,628	2,628
Solar power	4,205	4,205	4,205	4,205	4,205
Total	6,833	6,833	6,833	6,833	6,833

Renewable Energy Power Supply Shipment Amounts

(MW)

Category	FY2018	FY2019	FY2020	FY2021	FY2022
Total	590	488	422	181	377

Notes : Figures above represent total shipment amounts of geothermal power generation systems, hydro power generation systems, biomass power generation systems, and solar power generation systems (including power conditioning sub-systems).

CO_2 Emissions Reductions from Provision of Renewable Energy Power Supplies

(kt-CO_2e)

Category	FY2018	FY2019	FY2020	FY2021	FY2022
Total	924	1,107	1,282	1,340	1,451※1

※1: This is equivalent to 43.4 times our fiscal 2022 greenhouse gas emissions of 334,000 tons.

Notes : CO_2 emissions reductions are calculated by using the power generated during one year of operation of products shipped for each fiscal year after fiscal 2009 and converting that amount into an amount of CO_2 corresponding with the emissions that would have occurred should that amount of power have been generated through thermal power.

Total Waste / Waste Sent to Landfills

(t)

Region	Total / Landfill	Category	FY2018	FY2019	FY2020	FY2021	FY2022	FY2022 (Target)
Japan	Total waste	Sludge	1,268	1,667	1,778	2,188	2,453	
		Waste oil	1,198	1,309	1,105	1,477	1,384	
		Acid / alkali waste	1,672	1,523	1,305	1,183	1,486	
		Waste plastic	2,051	1,951	1,699	1,812	1,868	
		Paper / wood scraps	4,364	4,157	3,561	3,699	3,610	
		Metal scraps	12,039	12,097	9,996	10,836	12,024	
		Others	226	275	284	334	247	
		Total	22,819	22,979	19,728	21,529	23,073	
	Sent to landfills		145	115	122	24	29	
		Ratio of waste sent to landfills	0.6%	0.5%	0.6%	0.1%	0.1%	0.5%
Over-seas	Total waste	Sludge	1,719	1,976	2,051	1,360	1,226	
		Waste oil	287	250	323	442	316	
		Acid / alkali waste	3,720	2,689	1,394	102	196	
		Waste plastic	317	272	335	747	232	
		Paper / wood scraps	270	255	324	284	449	
		Metal scraps	4,235	3,716	3,235	5,510	4,458	
		Others	211	250	192	112	198	
		Total	10,759	9,408	7,856	8,558	7,077	
	Sent to landfills		399	229	367	654	122	
		Ratio of waste sent to landfills	3.7%	2.4%	4.7%	7.6%	1.7%	2.4%
Total	Total waste	Sludge	2,987	3,643	3,829	3,548	3,679	
		Waste oil	1,485	1,559	1,428	1,919	1,701	
		Acid / alkali waste	5,392	4,212	2,699	1,285	1,683	
		Waste plastic	2,368	2,224	2,034	2,559	2,101	
		Paper / wood scraps	4,634	4,412	3,885	3,983	4,059	
		Metal scraps	16,274	15,813	13,232	16,346	16,482	
		Others	437	525	476	447	445	
		Total	33,578	32,387	27,584	30,087	30,150	
	Sent to landfills		543	345	489	678	151	
		Ratio of waste sent to landfills	1.6%	1.1%	1.8%	2.3%	0.5%	(1.2%)

* Total waste is the amount of unnecessary articles created during production activities (industrial waste, general waste, and valuable waste).
* Ratio of waste sent to landfills is calculated as follows: Waste sent to landfills ÷ Total waste
* In fiscal 2021, landfill waste increased due to difficulties in recycling fluorine sludge into cement overseas.

1. The scope of data collection includes all domestic and overseas bases.
2. The totals for Indian and French bases were temporarily excluded in FY2021 and FY2022 because the objectivity and completeness of the collected data of these bases have been determined to be problematic. We started compiling data on results in fiscal 2023.

Hazardous waste / non-hazardous waste

(t)

Type	Indicator	FY2018	FY2019	FY2020	FY2021	FY2022
Hazardous waste	Total waste	9,864	9,415	7,957	6,754	7,084
	Amount of waste recycled	8,370	8,707	6,774	5,340	5,887
	incl. Thermal recycling *	–	–	–	–	156
	Recycling rate	85%	92%	85%	79%	83%
	Sent to landfills	175	83	288	564	33
	Ratio of waste sent to landfills	1.8%	0.9%	3.6%	8.3%	0.5%
Non-hazardous waste	Total waste	23,714	22,972	19,627	23,332	23,066
	Amount of waste recycled	22,854	21,993	18,988	22,862	22,372
	incl. Thermal recycling *	–	–	–	–	2,612
	Recycling rate	96%	96%	97%	98%	97%
	Sent to landfills	368	262	201	114	118
	Ratio of waste sent to landfills	1.6%	1.1%	1.0%	0.5%	0.5%
Total	Total waste	33,578	32,387	27,584	30,087	30,150
	Amount of waste recycled	31,224	30,700	25,762	28,202	28,259
	incl. Thermal recycling *	–	–	–	–	2,769
	Recycling rate	93%	95%	93%	94%	94%
	Sent to landfills	543	345	489	678	151
	Ratio of waste sent to landfills	1.6%	1.1%	1.8%	2.3%	0.5%

* We started compiling data of thermal recycling included in amount of waste recycled in fiscal 2022.

Notice : Hazardous waste: Hazardous waste: Under Japan’s Waste Management and Public Cleansing Act, businesses are responsible for all of the industrial waste they generate (including the issuing of manifests and final disposal). This law does not distinguish between hazardous waste and non-hazardous waste. We consider hazardous waste to be harmful waste materials and we therefore retallied our figures according to the following types of waste: waste oil, waste acid and waste alkali, organic and inorganic sludge, and used activated carbon.

Water Resources

Water Intake

(km^3)

Category		FY2018	FY2019	FY2020	FY2021	FY2022
Japan	**Potable water purchased**	**591**	**925**	**1,100**	**990**	984
	Industrial water purchased	**2,836**	**2,749**	**2,766**	**2,589**	2,605
	Total water purchased	**3,427**	**3,674**	**3,866**	**3,579**	3,589
	Groundwater intake	**4,077**	**3,962**	**3,894**	**3,900**	4,055
	Total water intake in Japan	**7,503**	**7,636**	**7,760**	**7,479**	7,645
Overseas	**Industrial water purchased**	**5,974**	**5,762**	**5,575**	**2,272**	1,740
	Groundwater intake	**0**	**0**	**1**	**0**	0
	Industrial water purchased	**5,974**	**5,762**	**5,576**	**2,272**	1,740
Total	**Total water intake**	**13,478**	**13,398**	**13,336**	**9,751**	9,385

Notes:
1. “Potable water” refers to drinkable tap water. “Industrial water” refers to water for industrial purposes that is not drinkable.
2. Total water intake in Japan is the sum of potable water purchased, industrial water purchased, and groundwater intake.
3. Volume of groundwater does not include groundwater used for soil cleanup, for agricultural purposes, or for melting snow.
4. The scope of data collection includes all domestic and overseas bases.
5. The totals for Indian and French bases were temporarily excluded in FY2021 and FY2022 because the objectivity and completeness of the collected data of these bases have been determined to be problematic. We started compiling data on results in fiscal 2023.

Water Recycled

(km^3)

Category		FY2018	FY2019	FY2020	FY2021	FY2022
Japan	**Amount of water recycled**	1,055	1,940	2,087	2,303	2,347
	Recycling rate	12.3%	20.3%	21.2%	23.5%	23.5%
Overseas	**Amount of water recycled**	822	725	917	258	106
	Recycling rate	12.1%	11.2%	14.1%	10.2%	5.7%
Total	**Amount of water recycled**	1,877	2,665	3,004	2,561	2,453
	Recycling rate	12.2%	16.6%	18.4%	20.8%	20.7%

Notes : Recycling rate is calculated as follows: Amount of water recycled ÷ Amount used (Intake amount + Amount recycled)

Wastewater

(km^3)

Category		FY2018	FY2019	FY2020	FY2021	FY2022
Japan	**Volume of wastewater to the sewer**	1,233	1,170	1,166	1,278	1,483
	Volume of wastewater to the river	6,270	6,466	6,593	6,201	6,162
	Subtotal	7,503	7,636	7,760	7,479	7,645
Overseas	**Volume of wastewater to the sewer**	568	520	510	499	486
	Volume of wastewater to the river	5,406	5,242	5,066	1,772	1,254
	Subtotal	5,974	5,762	5,576	2,272	1,740
Total	**Volume of wastewater to the sewer**	1,801	1,690	1,676	1,778	1,969
	Volume of wastewater to the river	11,676	11,708	11,660	7,973	7,416
	Total	13,478	13,398	13,336	9,751	9,385

Note) Sewerage includes the drainage sent to general sewage treatment facilities in industrial parks.
Rivers and waterways include direct discharge to sea areas, drainage that has seeped underground, and evaporation at factories. However, it does not include the amount of drainage from rainwater at factories.

PRTR-VOC

Volume of PRTR Law Regulated Substances Handled / Emitted

(t)

		FY2018	FY2019	FY2020	FY2021	FY2022	FY2022 (Target)
Japan	**Handled**	824.2	782.1	723.6	683.4	646.9	
	Emitted	152.9	143.6	169.7	189.7	210	165
Over-seas	**Handled**	1,912.70	1,516.50	939.4	525.5	437.5	
	Emitted	936.4	755.3	478.6	305.5	304.5	1,340
Total	**Handled**	2,737.0	2,298.6	1,663.0	1,208.9	1,084.4	
	Emitted	1,089.3	898.9	648.3	495.2	514.5	1,505

Volume of VOCs Handled / Emitted

(t)

		FY2018	FY2019	FY2020	FY2021	FY2022	FY2022 (Target)
Japan	**Handled**	**617.4**	**565.4**	**597.5**	**699.1**	787.9	
	Emitted	**233.5**	**257**	**260.8**	**269.1**	297.7	214
Over-seas	**Handled**	**1,205.3**	**922.1**	**650.1**	**494.5**	491.4	
	Emitted	**1,023.2**	**826**	**557.8**	**348.3**	327.5	1,480
Total	**Handled**	**1,822.7**	**1,487.5**	**1,247.6**	**1,193.6**	1,279.3	
	Emitted	**1,256.7**	**1,083.0**	**818.6**	**617.4**	625.2	1,694