Environmental Data

Environmental data calculations of FY2024 have been assured by a third party to improve their reliability.
★: Indicators assured by a third party
See Independent Assurance Report (PDF)

Environmental Impact Data

■INPUT

			FY2022	FY2023	FY2024
Energy consumption		**GJ**	**2,067,582**	**2,107,997**	**★ 2,229,707**
Intensity		GJ/100 million yen	722	1,004	1,037
Total electricity consumption		MWh	342,676	345,968	★ 365,784
Electricity from renewable energy sources		MWh	96,590	149,961	★ 175,207
Purchased power		MWh	96,500	149,499	174,515
In-house power generation [1]		MWh	90	461	692
Electricity from non-renewable energy sources		MWh	246,086	196,008	190,576
Rate of renewable energy use		%	28	43	★ 48
Steam		t	–	6,400	5,947
Heavy oil, light oil, gasoline		kL	1,087	895	822
Natural gas, city gas		thousand m³	17,597	20,264	21,632
LPG・LNG		t	174	158	157
Materials		**t**	**18,079**	**15,217**	**14,100**
Raw materials [2]		t	14,839	13,043	11,624
Chemical substances		t	3,240	2,174	2,475
Water resources					
Total water withdrawal		thousand m³	4,336	4,368	★ 5,097
By water source	Municipal water	thousand m³	993	941	1,043
	Ground water	thousand m³	3,343	3,428	4,054
Recycled water volume		thousand m³	3,305	2,806	2,556
Recycling rate		%	43	39	33

Data boundary
Shinko Group in Japan and overseas production sites

Some items have totals that do not match due to rounding

[1] No energy sales
[2] To improve calculation accuracy, weight conversion factors for procured components are revised accordingly.
Due to data availability restrictions, figures for previous years have not been revised.
[3] Only in Japan

■OUTPUT

			FY2022	FY2023	FY2024
Emissions into the air					
Scope 1		t-CO_2	44,135	45,737	★ 48,411
Intensity		t-CO_2/100 million yen	15	22	23
Energy sources		t-CO_2	42,453	43,792	★ 46,394
Non-energy sources		t-CO_2	1,682	1,945	★ 2,017
Carbon dioxide (CO_2)		t-CO_2	40	32	21
Methane (CH_4)		t-CO_2	0	6	7
Telafluoromethane (CF_4)		t-CO_2	1,428	1,110	1,251
Sulfur hexafluoride (SF_6)		t-CO_2	0	579	621
Nitrogen trifluoride (NF_3)		t-CO_2	0	0	0
Nitrous oxide (N_2O)		t-CO_2	–	38	42
Hydrofluorocarbon (HFC)		t-CO_2	215	174	69
Acetylene (C_2H_2)		t-CO_2	–	5	6
Lubricants and grease		t-CO_2	–	0	0
Scope 2	Location-based	t-CO_2	153,211	154,882	★ 157,682
	Market-based	t-CO_2	105,620	94,077	★ 83,035
Intensity (market standard)		t-CO_2/100 million yen	37	45	39
Electricity	Location-based	t-CO_2	153,211	153,883	156,724
	Market-based	t-CO_2	105,620	93,079	82,076
Steam		t-CO_2	–	999	958
NOx		t	26	20	20
SOx		t	0	0	0
Chemical substances					
PRTR		kg	5,297	8,442	★ 7,563
By emission destination	Atmosphere	kg	1,416	3,898	1,784
	Public waters	kg	3,880	4,544	5,779
VOC		t	137	119	139
Water					
Total water discharge		thousand m³	3,574	3,523	4,016
By drainage destination	River	thousand m³	2,534	2,549	2,880
	Sewerage	thousand m³	1,039	973	1,135
Water consumption		thousand m³	–	845	1,081
BOD		t	213	135	210
Waste + Valuables [3]		**t**	**25,324**	**21,275**	★ **23,294**
Waste		t	6,283	4,880	★ 5,453
Hazardous	Effectively utilized Thermal	t	136	85	90
	Effectively utilized Material	t	1,540	989	1,115
	Non-effectively utilized	t	–	–	–
Non-hazardous	Effectively utilized Thermal	t	196	158	189
	Effectively utilized Material	t	4,394	3,630	4,041
	Non-effectively utilized	t	17	18	17
Landfill disposal (included in waste)		t	2	3	★ 5
Valuables		t	19,041	16,395	★ 17,842
Effective utilization rate		%	99.9	99.9	99.9

Supply Chain Emissions (GHG Emissions based on the GHG Protocol Standard)

★：Indicators assured by a third party

Category				Emissions (t-CO_2)		
				FY2022	FY2023	FY2024
Upstream	Scope 3	1	Purchased goods and services [1]	188,469	163,604	★ 161,294
		2	Capital goods	168,971	184,913	83,964
		3	Fuel and energy-related activities not included in Scope 1 or 2	30,730	31,969	33,902
		4	Upstream transportation and distribution	[2] 10,713	[2] 11,529	8,643
		5	Waste generated in operations	840	660	665
In-house	Scope 1		Direct emissions	44,135	45,737	★ 48,411
	Scope 2		Indirect emissions from energy sources (Location-based)	153,211	154,882	★ 157,682
			Indirect emissions from energy sources (Market-based)	105,620	94,077	★ 83,035
	Scope 3	6	Business travel	303	[2] 309	385
		7	Employee commuting	8,169	8,460	7,291
		8	Upstream leased assets	NA	NA	NA
Downstream	Scope 3	9	Downstream transportation and distribution	NA	NA	NA
		10	Processing of sold products	NA	NA	NA
		11	Use of sold products	NA	NA	NA
		12	End-of-life treatment of sold products	NA	NA	NA
		13	Downstream leased assets	NA	NA	NA
		14	Franchises	NA	NA	NA
		15	Investments	NA	NA	NA
Scope 1 + Scope 2 [3]				149,755	139,815	131,446
Scope 3				408,195	401,444	296,144

Data boundary: Shinko Group in Japan and overseas production sites
Some items have totals that do not match due to rounding
GHG emissions quantification is subject to uncertainty when measuring activity data, determining emission factors, and considering scientific uncertainty inherent in the Global Warming Potentials.

[1] To improve calculation accuracy, weight conversion factors for procured components are revised accordingly. Due to data availability restrictions, figures for previous years have not been revised.
[2] Retrospective revision of previous years' figures to improve calculation accuracy
[3] Scope 2 values were calculated based on market criteria

Environmental Data Calculation Standards

■Environmental Impact Data

INPUT

Index		Unit	Calculation Method
Energy	Energy consumption	GJ	Σ [annual use of electricity + (annual consumption of fuel oil and gas) × calorie conversion factor for each energy source] Conversion factor: Ministry of the Environment "Greenhouse Gas Emission Calculation and Reporting Manual" (Ver. 6.0) (March 2025) Σ [Annual steam consumption x Specific enthalpy of steam (total heat value)]. Specific enthalpy: 1999 JSME Steam Tables * JSME = the Japan Society of Mechanical Engineers
	Energy intensity	GJ/100 million yen	Energy consumption/Net sales
Electricity from renewable energy sources	Purchased power	MWh	Amount of electricity purchased from renewable energy sources (including purchase of renewable electricity certificates)
	In-house power generation	MWh	Amount of renewable energy generated and consumed by the company
Electricity from non-renewable energy sources		MWh	Amount of electricity purchased from depletable energy sources such as fossil fuels
Rate of renewable energy use		%	Electricity from renewable energy sources/Total electricity consumption
Chemical substances		t	Total amount of substances with annual handling volume of 100 kg or more per substance, among the substances subject to the PRTR system (Law Concerning Reporting, etc., of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management) or the 20 volatile organic compounds (VOCs) specified in the Voluntary Action Plan on the Environment adopted by the 4 electrical and electronics organizations (Data boundary: Shinko Group in Japan)
Water resources	Total water withdrawal	thousand m^3	Amount of water withdrawn from waterworks and groundwater (However, groundwater for snow removal is not included)
	Recycled water volume	thousand m^3	The amount of water used at the plant that is collected and treated and then used again at the plant
	Recycling rate	%	Recycled water volume / (total water withdrawal + recycled water volume)

OUTPUT

Index		Unit	Calculation Method
Scope 1	Intensity	t-CO_2/100 million yen	Scope 1/Net sales
	Energy sources	t-CO_2	CO_2 emissions from the use of heavy oil, gasoline, light oil, natural gas, city gas, LPG, and LNG Σ [(annual consumption of fuel oil and gas) × CO_2 conversion factor for each energy source] Conversion factor: Ministry of the Environment "Greenhouse Gas Emission Calculation and Reporting Manual" (Ver. 6.0) (March 2025)
	Non-energy sources	t-CO_2	CO_2 emissions from the use of CO_2 from non-energy sources, methane (CH_4), carbon tetrafluoride (CF_4), sulfur hexafluoride (SF_6), nitrogen trifluoride (NF_3), nitrous oxide (N_2O), fluorocarbons (HFC), Acetylene, and Lubricants and grease Σ (annual emissions of each type of gas × global warming potential of each type of gas) Global warming potential: Ministry of the Environment "Greenhouse Gas Emission Calculation and Reporting Manual" (Ver. 6.0) (March 2025)
Scope 2	Intensity	t-CO_2/100 million yen	Scope 2 (Market-based)/Net sales
	Electricity	t-CO_2	CO_2 emissions from the purchased electricity Electricity purchased × CO_2 conversion factor Location based Conversion factor: In Japan: From adjusted emission factor of "The Electric Power Council for a Low Carbon Society" FY2024: 0.422 t-CO_2/MWh (announced on April 16, 2025) FY2023: 0.437 t-CO_2/MWh FY2022: 0.436 t-CO_2/MWh Overseas: latest IEA values (by country) Market based Conversion factor: In Japan: Use emission factors (adjusted emission factors) for each electric power company. * Based on the Ministry of the Environment Greenhouse Gas Emission Calculation, Reporting and Publication System "Emission Factors by Electric Utility" Overseas: latest IEA values (by country)
	Steam	t-CO_2	CO_2 emissions for production of supplied steam Σ [Annual consumption of city gas used for production of supplied steam x CO_2 conversion factor] Conversion factor: Ministry of the Environment "Greenhouse Gas Emission Calculation and Reporting Manual" (Ver. 6.0) (March 2025)
NOx		t	Amount of nitrogen oxides emitted from boilers at plants NOx concentration (ppm) x 10^{-6} × dry gas emissions (m^3N/hr) operating time (hr/year) ×46/22.4×10^{-3}

Index					Unit	Calculation Method
SOx					t	Amount of sulfur oxides emitted from boilers at plants SOx concentration (ppm) x 10^{-6} × dry gas emissions (m^3N/hr) operating time (hr/year) ×64/22.4×10^{-3}
Chemical substances	PRTR				kg	Substances with an annual handling volume of 100 kg or more per substance, among substances subject to the PRTR system (Law Concerning Reporting, etc., of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management) (Data boundary: Shinko Group in Japan)
	VOC				t	Total emissions of substances with an annual handling volume of 100 kg or more per substance, among the 20 volatile organic compounds (VOCs) specified in the Voluntary Action Plan on the Environment adopted by the 4 electrical and electronics organizations (Data boundary: Shinko Group in Japan)
Water	Total water discharge				thousand m^3	Annual discharge to public waters and sewerage (not including groundwater for snow removal)
	BOD				t	An indicator of the degree of water pollution, this is the amount of oxygen required when microbes decompose organic matter in water BOD concentration (mg/L) × effluent (m^3/year) × 10^{-6}
	Water consumption				thousand m^3	Total water intake - Total water discharge (based on GRI Sustainability Reporting Standard (Disclosure 303-5))
Waste + Valuables					t	Total output of waste and valuables
	Waste	Hazardous	Effectively utilized	Thermal	t	The amount of specially controlled waste, as defined by Japanese laws and regulations, that is thermally recycled[1]
				Material	t	The amount of specially controlled waste, as defined by Japanese laws and regulations, that is materially recycled[2]
			Non-effectively utilized		t	The amount of specially controlled waste, as defined by Japanese laws and regulations, that is simply incinerated or directly landfilled.
		Non-hazardous	Effectively utilized	Thermal	t	Amount of thermally recycled waste[1] among non-hazardous waste
				Material	t	Amount of materially recycled waste[2] among non-hazardous waste
			Non-effectively utilized		t	Amount of non-hazardous waste that is simply incinerated or landfilled
		Landfill disposal (included in waste)			t	Total amount of residue that is directly landfilled or landfilled after intermediate treatment
	Valuables				t	Amount of unwanted substances resulting from business activities that is sold for value
	Effective utilization rate				%	(Effectively used waste + valuables) / (valuables + waste)

[1] Thermal recycling: reusing thermal energy generated during incineration

[2] Material recycling: reusing as material or raw material

■Supply Chain Emissions (GHG Emissions based on the GHG Protocol Standard)

Category			Calculation method
Upstream	1	Purchased goods and services	Amount of material procurement within fiscal year and production outsourcing cost × emissions factor per procurement amount Parts procured in Japan are calculated on a weight basis, and parts procured from domestic manufacturing consignment and overseas are calculated on a value basis. The top 90% of each category (by weight or value) is included in "purchased goods and services." Emission factors: ・Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.5 ・IDEAv2.3 (for supply chain greenhouse gas emissions calculation)
	2	Capital goods	Amount of capital investment related to capital goods in the fiscal year × emissions factor Emission factors: Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.5
	3	Fuel and energy-related activities not included in Scope 1 or 2	Annual purchases of purchased fuel and gas and electricity procured from outside sources × emissions factor Emission factors: ・Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.5 ・IDEAv2.3 (for supply chain greenhouse gas emissions calculation)
	4	Upstream transportation and distribution	(1) + (2) (1) Transportation volume during the fiscal year (for suppliers equivalent to the top 90% of procurement value) × emission factor Emission factors: Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.5 (2) CO_2 emissions from domestic transportation where the Shinko Group is the shipper Calculation method: Based on the Act on Rationalizing Energy Use (Energy Conservation Act) CO_2 emissions from domestic transportation where the Shinko Group is the shipper Fuel consumption method (some vehicles) and improved tonkilometer method (automobiles, railroads, aircraft)
	5	Waste generated in operations	Annual amount of waste discharged by business sites that is treated or recycled, according to type of waste and treatment method × emission factor per amount of waste treated and recycled per year Emission factors: ・Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.5 ・IDEAv2.3 (for supply chain greenhouse gas emissions calculation)
In-house	6	Business travel	(1)+(2) (1) (By means of transportation) Σ (transportation expenses paid x emission factors) Emission factors: Database for calculating an organization's greenhouse gas emissions through its supply chain ver. 3.5 (2) Private cars Σ (transported persons-kilometer x emissions factor) Emission factors: IDEAv2.3 (for supply chain greenhouse gas emissions calculation)
	7	Employee commuting	Σ (transported persons-kilometer x emissions factor) Emission factors: IDEAv2.3 (for supply chain greenhouse gas emissions calculation)