

Environmental Data

In FY2023, a total of 98 companies, including Nisshinbo Holdings Inc. and 97 consolidated subsidiaries, were counted.

* Because of the transfer of all shares of TMD FRICTION GROUP S.A. (TMD), a subsidiary in the Automobile Brakes business, on November 30, 2023, and for other factors, TMD and 21 other companies were excluded from the scope of consolidation.

Therefore, TMD and 21 other companies are included in the data until November 2023.

* On December 27, 2023, HVJ Holdings, Inc. and its subsidiary Hitachi Kokusai Electric Inc. and 7 other companies were included in the scope of consolidation, but are not included in the data for FY2023.

Climate Change Countermeasures

Greenhouse Gas Emissions

Boundary			Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023
Greenhouse gas emissions (Scope1+Scope2)	Nisshinbo Group	Total	Thousand t-CO ₂ e	679.4	592.4	564.1	567.4	438.0	368.5
CO ₂ emissions	Nisshinbo Group	Subtotal	Thousand t-CO ₂	644.8	531.7	505.1	503.1	370.2	322.7
		Direct emissions	Thousand t-CO ₂	247.0	183.1	187.7	173.7	66.7	63.4
		Energy related indirect emissions	Thousand t-CO ₂	397.7	348.6	317.4	329.4	303.4	259.2
Other greenhouse gas emissions	Nisshinbo Group	Subtotal	Thousand t-CO ₂ e	34.6	60.7	59.0	64.2	67.9	45.9
		SF ₆ (sulfur hexafluoride)	Thousand t-CO ₂ e	1.1	4.5	9.0	5.7	6.7	5.2
		PFCs (perfluorocarbons)	Thousand t-CO ₂ e	25.9	48.0	46.8	55.9	56.8	37.2
		HFCs (hydrofluorocarbons)	Thousand t-CO ₂ e	5.3	7.9	3.0	2.5	3.8	2.2
		N ₂ O (dinitrogen monoxide)	Thousand t-CO ₂ e	1.9	0.1	0.0	0.0	0.1	0.7
		NF ₃ (nitrogen trifluoride)	Thousand t-CO ₂ e	–	0.03	0.01	0.03	0.02	0.01
		CH ₄ (methane)	Thousand t-CO ₂ e	0.34	0.01	0.00	0.00	0.41	0.46
		CO ₂ from non-energy related	Thousand t-CO ₂ e	0.05	0.05	0.07	0.07	0.08	0.18

Greenhouse Gas Emissions by Business Segment

Boundary			Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023
Greenhouse gas emissions (Scope1+Scope2)	Nisshinbo Group	Total	Thousand t-CO ₂ e	679.4	592.4	564.1	567.4	438.0	368.5
Scope1 by business segment	Nisshinbo Group	Subtotal	Thousand t-CO ₂ e	281.7	243.8	246.7	237.9	134.6	109.3
	Wireless and Communications		Thousand t-CO ₂ e	5.2	5.3	5.1	5.4	5.9	5.4
	Micro Devices		Thousand t-CO ₂ e	34.4	63.3	66.1	72.0	74.4	52.1
	Automobile Brakes		Thousand t-CO ₂ e	26.7	25.8	23.8	27.1	25.9	22.3
	Precision Instruments		Thousand t-CO ₂ e	0.6	1.5	1.2	1.1	1.2	1.6
	Chemicals		Thousand t-CO ₂ e	4.8	6.1	1.6	0.8	1.7	0.3
	Textiles		Thousand t-CO ₂ e	166.1	141.6	148.7	131.3	25.4	27.3
	Paper Products*		Thousand t-CO ₂ e	43.5	-	-	-	-	-
	Others		Thousand t-CO ₂ e	0.4	0.2	0.1	0.2	0.2	0.3
Scope2 by business segment	Nisshinbo Group	Subtotal	Thousand t-CO ₂ e	397.7	348.6	317.4	329.4	303.4	259.2
	Wireless and Communications		Thousand t-CO ₂ e	19.2	16.2	17.9	19.2	19.3	18.6
	Micro Devices		Thousand t-CO ₂ e	66.1	75.6	84.3	86.4	75.8	85.4
	Automobile Brakes		Thousand t-CO ₂ e	146.9	112.4	97.5	102.5	87.0	74.8
	Precision Instruments		Thousand t-CO ₂ e	32.4	68.9	60.0	63.3	62.8	62.7
	Chemicals		Thousand t-CO ₂ e	5.0	4.3	4.7	5.9	5.7	4.7
	Textiles		Thousand t-CO ₂ e	72.8	66.1	47.8	47.8	48.7	9.2
	Paper Products*		Thousand t-CO ₂ e	47.6	-	-	-	-	-
	Others		Thousand t-CO ₂ e	7.9	5.1	5.2	4.4	4.1	3.8

* The Paper Products business was transferred in April 2017.

Greenhouse Gas Emissions in Japan and Overseas

Boundary			Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023
Greenhouse gas emissions	Nisshinbo Group	Total	Thousand t-CO ₂ e	679.4	592.4	564.1	567.4	438.0	368.5
	Nisshinbo Group (Japan)	Emissions	Thousand t-CO ₂ e	284.8	220.7	217.5	228.2	217.1	196.4
		Ratio	%	42%	37%	39%	40%	50%	53%
	Nisshinbo Group (Overseas)	Emissions	Thousand t-CO ₂ e	394.6	371.7	346.5	339.2	221.0	172.2
		Ratio	%	58%	63%	61%	60%	50%	47%

Greenhouse Gas Emissions (Scope3)

		Boundary	Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Greenhouse gas emissions (Scope3)	Nisshinbo Group	Total	Thousand t-CO ₂ e	1,870.5	1,611.0	1,692.1	1,604.5	1,914.5
		1. Purchased goods and services	Thousand t-CO ₂ e	930.9	975.0	1,110.6	1,031.3	1,368.6
		2. Capital goods	Thousand t-CO ₂ e	102.8	84.3	86.3	91.6	101.8
		3. Fuel- and energy-related activities not included in Scope1 or Scope2	Thousand t-CO ₂ e	72.2	66.4	78.2	65.3	62.1
		4. Upstream transport and delivery	Thousand t-CO ₂ e	65.7	73.7	37.6	41.4	30.9
		5. Waste generated in operations	Thousand t-CO ₂ e	9.1	6.9	6.2	6.9	7.6
		6. Business travel	Thousand t-CO ₂ e	3.6	3.6	3.3	3.4	3.2
		7. Employee commuting	Thousand t-CO ₂ e	11.3	11.3	10.4	11.0	10.4
		8. Leased assets (upstream)	Thousand t-CO ₂ e	0.1	2.4	4.8	2.9	2.7
		9. Downstream transportation and delivery	Thousand t-CO ₂ e	85.3	45.3	41.8	44.5	79.9
		10.Processing of sold products	Thousand t-CO ₂ e	92.3	31.0	27.1	25.0	24.6
		11.Use of sold products	Thousand t-CO ₂ e	298.5	229.2	216.4	205.3	179.7
		12.End-of-life treatment of sold products	Thousand t-CO ₂ e	16.6	32.6	34.7	36.7	15.5
		13.Downstream leased assets	Thousand t-CO ₂ e	147.4	16.7	15.6	15.9	14.6
		14.Franchises	Thousand t-CO ₂ e	0.0	0.0	0.0	0.0	0.0
		15.Investments	Thousand t-CO ₂ e	34.6	32.4	19.0	23.4	12.7

[Calculation method]

•Scope1 :

Energy related Greenhouse Gas Emissions = Σ [Fuel Consumption \times CO₂ Emission Factor*¹]

Non-Energy related Greenhouse Gas Emissions = Non-Energy related CO₂ Emissions + Σ [Greenhouse Gas Emissions other than CO₂ \times Global Warming Potential*²]

*1 Emission factors based on the Act on Promotion of Global Warming Countermeasures are used. Coal, however, uses a factor calculated based on actual calorific values is used, and 1.870 t-CO₂/t is used for FY2023.

*2 Global warming potential based on the Act on Promotion of Global Warming Countermeasures.

•Scope2 :

Energy-related Greenhouse Gas Emissions = Σ [Purchased Electricity and Purchased Steam Volume \times CO₂ Emission Factor*³]

*3 Purchased electricity uses, in Japan, adjusted emission factors for each electric company based on the Act on Promotion of Global Warming Countermeasures, and the in foreign countries, the emission factors for each electric company, and if unavailable, country-specific emission factors published in the relevant year of IEA Emissions Factors. Data for FY2021 and earlier use country-specific emission factors for each year from "IEA Emissions Factors 2021". For purchased steam, the emission factor calculated by the purchasing company (0.0583 t-CO₂/GJ in FY2023) is used.

•Scope3 :

Based on the Basic Guidelines Related to Calculating Greenhouse Gas Emissions throughout the Supply Chain (ver. 2.6), Ministry of the Environment. Some information is taken from LCA results.

Energy Conservation

Energy Inputs

Boundary			Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023
Total energy consumption	Nisshinbo Group	Total	Million GJ	11.22	10.55	9.72	9.96	8.94	8.62
Renewable energy	Nisshinbo Group	Subtotal	Million GJ	0.01	0.18	0.01	0.07	0.74	1.66
		Electricity							
		Self-generated amount	Million GJ	0.01	0.01	0.01	0.01	0.02	0.03
		Purchased amount	Million GJ	–	–	–	–	0.61	1.54
		Biofuel	Million GJ	–	0.17	0.00	0.06	0.1	0.08
		Coconut shells, etc.	Million GJ	–	0.17	0.00	0.06	0.1	0.08
Non-renewable energy	Nisshinbo Group	Subtotal	Million GJ	11.21	10.37	9.71	9.89	8.2	6.96
		Electricity							
		Purchased amount	Million GJ	7.81	7.93	7.25	7.58	7.07	5.92
		Gas							
		Town gas	Million GJ	1.03	0.73	0.67	0.73	0.74	0.59
		LPG, LNG, etc.	Million GJ	0.24	0.09	0.07	0.07	0.07	0.10
		Fuel oil							
		Heavy oil, Kerosene, etc.	Million GJ	0.42	0.11	0.10	0.10	0.11	0.09
		Solid fuel							
		Coal	Million GJ	1.71	1.50	1.60	1.41	0.21	0.24
		Others							
		Steam	Million GJ	0.00	0.02	0.02	0.02	0.02	0.01

Energy Inputs by Business Segment

Boundary		Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023
Total energy consumption	Nisshinbo Group	Million GJ	11.22	10.55	9.72	9.96	8.94	8.62
By business segment								
	Wireless and Communications	Million GJ	0.46	0.48	0.52	0.53	0.54	0.52
	Micro Devices	Million GJ	1.33	2.09	2.07	2.13	2.13	2.09
	Automobile Brakes	Million GJ	3.63	3.30	3.06	3.24	2.99	2.88
	Precision Instruments	Million GJ	0.59	1.31	1.15	1.19	1.18	1.15
	Chemicals	Million GJ	0.10	0.10	0.11	0.13	0.13	0.13
	Textiles	Million GJ	3.29	3.16	2.70	2.64	1.87	1.75
	Paper Products*	Million GJ	1.67	–	–	–	–	–
	Others	Million GJ	0.15	0.12	0.12	0.10	0.10	0.09

Resource Conservation

Raw Material Inputs

Boundary			Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Raw material inputs	Nisshinbo Group	Total	Thousand t	284.1	229.5	264.2	204.5	251.7
Raw materials	Nisshinbo Group	Steel	Thousand t	92.9	76.8	89.9	43.0	107.5
		Chemical substances	Thousand t	54.0	43.6	45.7	57.2	42.9
		Brake friction materials	Thousand t	77.0	62.2	75.9	57.8	58.1
		Raw cotton, cotton yarn	Thousand t	34.0	23.2	25.4	22.0	19.3
		Other materials (packing materials, etc.)	Thousand t	26.2	23.7	27.3	24.5	23.9

Office Paper Purchased*

Boundary			Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Office paper purchased	Nisshinbo Group		Thousand sheets	65,737	57,100	46,648	47,103	58,270

Volume of Waste Generated

Boundary			Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Volume of waste generated	Nisshinbo Group		Thousand t	59.4	53.0	55.7	51.8	52.4
By business segment	Wireless and Communications		Thousand t	3.2	4.0	3.3	2.9	3.0
	Micro Devices		Thousand t	1.6	1.4	1.6	1.5	1.7
	Automobile Brakes		Thousand t	26.6	24.0	27.1	25.6	25.4
	Precision Instruments		Thousand t	11.5	10.1	10.9	11.5	11.9
	Chemicals		Thousand t	0.3	0.3	0.4	0.3	0.3
	Textiles		Thousand t	16.0	13.0	12.3	9.7	10.0
	Others		Thousand t	0.2	0.2	0.2	0.2	0.2
Breakdown of waste generated	Nisshinbo Group	Recycle	Thousand t	48.6	44.9	48.9	43.4	46.1
		Landfill	Thousand t	10.7	8.1	6.8	8.4	6.3

Recycling Rate

Boundary			Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Recycling rate	Nisshinbo Group		%	81.9	84.7	87.8	83.9	87.9
By business segment	Wireless and Communications		%	94.9	95.3	94.8	95.8	91.3
	Micro Devices		%	93.1	93.5	93.3	94.4	95.8
	Automobile Brakes		%	74.2	78.0	80.2	72.9	79.5
	Precision Instruments		%	90.1	89.7	91.9	93.4	95.8
	Chemicals		%	98.8	97.2	94.4	91.5	91.3
	Textiles		%	84.7	88.7	98.1	96.3	97.4
	Others		%	94.5	93.5	94.3	88.0	95.8

Water Resources

Water Input

Boundary		Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023	
Water usage	Nisshinbo Group	Thousand m ³	27,981	9,384	8,346	7,042	6,176	6,240	
Water usage by business segment	Wireless and Communications	Thousand m ³	843	435	479	463	462	370	
	Micro Devices	Thousand m ³	1,136	1,289	1,265	1,252	1,253	1,209	
	Automobile Brakes	Thousand m ³	575	393	311	335	332	331	
	Precision Instruments	Thousand m ³	643	1,047	831	791	721	686	
	Chemicals	Thousand m ³	188	126	109	107	107	93	
	Textiles	Thousand m ³	11,215	6,068	5,327	4,079	3,284	3,535	
	Paper Products*	Thousand m ³	13,366	-	-	-	-	-	
	Others	Thousand m ³	17	27	23	16	17	17	
Breakdown of water usage	Nisshinbo Group	Surface water							
		Tap water	Thousand m ³	665	811	800	829	810	841
		Industrial water, river water	Thousand m ³	12,804	1,151	1,036	898	652	580
		Groundwater	Thousand m ³	14,513	7,419	6,508	5,314	4,713	4,818
	Rain water	Thousand m ³	0	4	2	1	1	0	
Water usage per unit of sales	Nisshinbo Group	m ³ /Million yen	53.4	18.4	18.3	13.8	12.0	11.8	
Volume of water recycled	Nisshinbo Group	Thousand m ³	3,547	743	741	796	967	840	

* The Paper Products business was transferred in April 2017.

Water Effluents Discharged

Boundary		Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023	
Water effluents discharged	Nisshinbo Group	Thousand m ³	27,166	8,893	7,942	6,707	5,554	5,511	
Water effluents discharged by business segment	Wireless and Communications	Thousand m ³	714	422	453	453	462	362	
	Micro Devices	Thousand m ³	893	1,041	997	990	903	920	
	Automobile Brakes	Thousand m ³	460	375	310	357	259	197	
	Precision Instruments	Thousand m ³	587	946	794	763	692	656	
	Chemicals	Thousand m ³	169	113	105	104	105	89	
	Textiles	Thousand m ³	10,931	5,971	5,262	4,023	3,117	3,270	
	Paper Products*	Thousand m ³	12,890	-	-	-	-	-	
	Others	Thousand m ³	523	25	22	15	16	17	
Breakdown of water effluents discharged	Nisshinbo Group	Public water	Thousand m ³	19,956	6,893	6,018	4,804	4,064	4,062
		Sewerage	Thousand m ³	7,210	2,000	1,924	1,903	1,489	1,449

* The Paper Products business was transferred in April 2017.

Chemical Substance Management

Volume of PRTR Substances Handled

Boundary		Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023
Volume of PRTR substances handled	Nisshinbo Group	t	3,228	2,817	2,555	2,799	2,625	2,390
By business segment	Wireless and Communications	t	35.0	41.0	122.2	138.4	164.1	107.0
	Micro Devices	t	48.2	46.0	48.4	54.6	51.6	51.1
	Automobile Brakes	t	1,874.4	1,529.0	1,267.3	1,446.7	1,232.2	1,249.2
	Precision Instruments	t	18.7	21.0	11.9	7.5	11.1	10.8
	Chemicals	t	641.7	770.0	722.3	756.3	726.5	665.3
	Textiles	t	539.4	407.0	382.8	395.5	439.4	305.6
	Paper Products*	t	69.5	–	–	–	–	–
	Others	t	1.1	3.0	0.0	0.0	0.0	1.1

* The Paper Products business was transferred in April 2017.

Volume of PRTR Substance Emissions*¹

Boundary		Unit	FY2014 (Base year)	FY2019	FY2020	FY2021	FY2022	FY2023
Volume of PRTR substance emissions	Nisshinbo Group	t	37.5	32.7	23.9	17.5	21.2	23.6
By business segment	Wireless and Communications	t	10.5	10.3	10.7	6.3	5.8	5.9
	Micro Devices	t	0.1	0.1	0.1	0.1	0.1	0.1
	Automobile Brakes	t	5.7	5.7	4.7	4.4	4.4	3.7
	Precision Instruments	t	18.7	15.5	7.9	6.1	10.1	9.6
	Chemicals	t	0.8	0.2	0.1	0.1	0.1	1.0
	Textiles	t	1.2	0.9	0.5	0.5	0.7	3.4
	Paper Products* ²	t	0.6	–	–	–	–	–
	Others	t	0.0	0.0	0.0	0.0	0.0	0.0
Volume of PRTR substance emissions per unit of sales	Nisshinbo Group	kg/Million yen	0.072	0.064	0.052	0.034	0.041	0.044

*¹ PRTR Substance Emissions are the total amount of PRTR substances released into the environment (air, public waters, and soil).

*² The Paper Products business was transferred in April 2017.

Breakdown of PRTR Substances Emissions*

Boundary		Unit	FY2019	FY2020	FY2021	FY2022	FY2023	
By chemical substance	Nisshinbo Group	Toluene	t	10.4	7.5	6.3	7.9	7.8
		Xylene	t	7.7	6.0	4.9	3.9	3.2
		Antimony	t	1.4	1.2	1.3	1.2	2.4
		Ethylbenzene	t	7.8	5.0	1.2	2.3	1.5
		Phenol	t	1.8	1.5	1.2	1.3	1.4
		1-bromopropane	t	0.0	0.0	0.0	1.7	1.1
		Others	t	3.6	2.7	2.6	3.0	4.0

* PRTR Substance Emissions are the total amount of PRTR substances released into the environment (air, public waters, and soil).

Purification of Wastewater

		Boundary	Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Water quality	Nisshinbo Group	Amount of CODs emissions	t	127.7	104.0	94.7	107.1	116.8
		Amount of CODs emissions per unit of sales	kg/Million yen	0.30	0.27	0.23	0.26	0.28
	Nisshinbo Group	Amount of SSs emissions	t	58.5	68.1	73.3	73.1	84.8
		Amount of SSs emissions per unit of sales	kg/Million yen	0.14	0.18	0.18	0.18	0.20

Atmospheric Releases

		Boundary	Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Atmospheric releases	Nisshinbo Group	SOx (sulfur oxides)	t	217.1	222.8	199.6	27.2	29.5
		Amount of SOx emitted per unit of sales	kg/Million yen	0.51	0.58	0.48	0.07	0.07
		NOx (nitrogen oxides)	t	244.7	258.2	235.0	38.9	37.6
		Amount of NOx emitted per unit of sales	kg/Million yen	0.58	0.68	0.56	0.09	0.09
		Soot and dust	t	55.0	53.2	46.5	10.0	12.9
		Amount of soot and dust emitted per unit of sales	kg/Million yen	0.1	0.1	0.1	0.0	0.0
		VOCs	t	49.6	113.0	132.4	64.7	62.0
		Amount of VOCs emitted per unit of sales	kg/Million yen	0.1	0.3	0.3	0.1	0.1

Transport Volume

Transport Volume

Boundary		Unit	FY2019	FY2020	FY2021	FY2022	FY2023
Transport volume	Nisshinbo Group	Million ton-km	128.5	108.5	149.1	157.7	937.9
By business segment	Wireless and Communications	Million ton-km	2.0	2.2	2.6	2.4	4.5
	Micro Devices	Million ton-km	0.7	0.7	0.8	0.7	3.0
	Automobile Brakes	Million ton-km	95.5	85.8	124.3	132.3	761.4
	Precision Instruments	Million ton-km	10.3	4.8	4.9	5.2	22.8
	Chemicals	Million ton-km	4.9	4.2	4.6	5.1	4.8
	Textiles	Million ton-km	14.9	10.6	11.4	11.5	141.0
	Others	Million ton-km	0.2	0.2	0.5	0.5	0.5
Transport volume per unit of sales	Nisshinbo Group	ton-km/Million yen	252.1	237.3	292.1	305.5	1,766.2

* Data for FY2023 is based on land, sea, and air transportation volumes. Data until FY2022 are for land transportation volume.