

NSK ESG DATABOOK

2023



Environment

Environmental Management



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Websites [Sustainability Information ▶ NSK ESG Initiatives ▶ Environment ▶ Executive Summary on the Environment](#)
[Sustainability Information ▶ NSK ESG Initiatives ▶ Environment ▶ Environmental Management](#)
[Sustainability Information ▶ Information Disclosure Based on TCFD Recommendations](#)

Category		Scope of coverage	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Environmental management system	Number of ISO14001 certified sites	NSK Group	Sites	67	66	68	69*1	69*1	69
	Coverage*2		%	95% or more	95% or more	95% or more	95% or more	95% or more	95% or more
Compliance with environmental laws	Number of serious violations of environmental regulations	NSK Group	Incidents	0	0	0	0	0	0
Environmental accidents	Number of serious incidents of environmental pollution	NSK Group	Incidents	0	0	0	0	0	0
Environmental education and training	Number of environmental education and training sessions and number of participants (total)	Group in Japan	Sessions	583	463	393	388	366	471
			Persons	10,236	17,776	17,444	57,173*3	27,313	29,004
	Compliance with environmental laws and regulations, reduction of environmental risks		Sessions	175	125	108	97	82	197
			Persons	2,402	2,398	1,653	1,270	1,507	3,608
	Efforts to raise environmental awareness		Sessions	315	274	226	230	241	210
			Persons	6,242	14,326	14,807	53,913*3	23,805	24,229
	Acquisition of environmental qualifications		Sessions	51	34	36	29	21	33
			Persons	259	131	147	191	142	276
Environmentally friendly design, green procurement	Sessions	42	30	23	32	22	31		
	Persons	1,333	921	837	1,799	1,859	891		
Environmental accounting*4	Environmental conservation cost: investment	Group in Japan	Millions of yen	3,730	3,899	3,522	2,961	2,443	2,844
	Business area costs		Millions of yen	2,185	2,191	2,328	1,794	1,315	1,466
	Pollution prevention costs		Millions of yen	476	292	164	187	341	100
	Global environment conservation costs		Millions of yen	1,283	1,320	1,450	1,020	793	1,147
	Resource circulation costs		Millions of yen	426	578	714	588	181	219
	Upstream and downstream costs		Millions of yen	0	0	7	0	0	0
	Administration costs		Millions of yen	17	6	2	4	14	1
	Research and development costs		Millions of yen	1,528	1,696	1,180	1,157	1,098	1,372
	Social activity costs		Millions of yen	0	0	0	0	0	0
	Environmental remediation costs		Millions of yen	0	5	5	5	16	5
	Environmental conservation cost: cost		Millions of yen	15,092	15,087	13,515	12,214	12,459	13,975
	Business area costs		Millions of yen	2,767	2,820	2,924	3,309	3,288	3,071
	Pollution prevention costs		Millions of yen	574	573	533	594	654	476
	Global environment conservation costs		Millions of yen	1,180	1,330	1,432	1,301	1,242	1,365
	Resource circulation costs		Millions of yen	1,012	917	960	1,414	1,392	1,230
	Upstream and downstream costs		Millions of yen	524	398	255	248	285	323
	Administration costs		Millions of yen	544	564	603	553	561	690
	Research and development costs		Millions of yen	11,179	11,167	9,669	8,037	8,252	9,826
	Social activity costs		Millions of yen	49	120	45	49	47	46
	Environmental remediation costs		Millions of yen	29	18	17	17	27	20
Economic benefits associated with environmental conservation activities	Millions of yen	1,998	2,288	1,579	1,847	3,643	3,575		
Reductions in energy costs through energy conservation activities	Millions of yen	536	549	607	899	1,156	1,335		
Reductions in waste disposal costs through waste reduction activities	Millions of yen	40	25	25	21	19	31		
Sales of recyclable waste material	Millions of yen	1,421	1,714	948	927	2,468	2,209		

*1 The data has been updated retrospectively.

*2 Percentage of environmental impact for ISO 14001 certified sites compared to the total environmental impact of the entire NSK Group, including greenhouse gas and waste emissions.

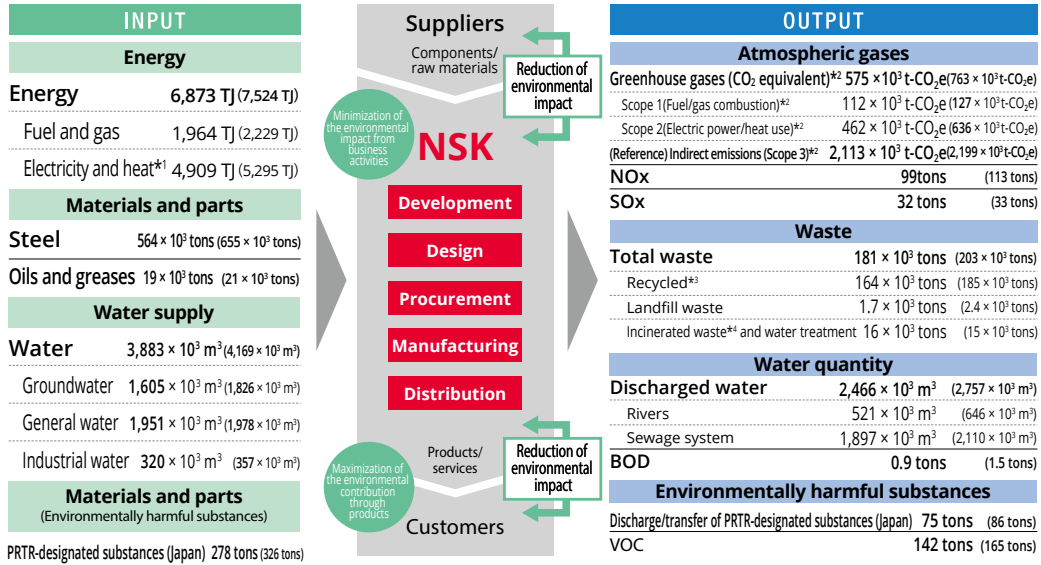
*3 The number of participants increased thanks to the provision of e-learning modules for raising employee awareness.

*4 Environmental costs and expenses are determined in accord with the Environmental Accounting Guidelines 2005 issued by the Ministry of the Environment in Japan.

Depreciation is entered as a cost using the 5-year straight-line depreciation method. Compound costs are divided in proportion to the relevant environmental objective. Costs incurred through green procurement are entered as full amounts and not as differential amounts.

Material and Energy Balance

Figures within parentheses indicate fiscal 2021 data



*1 Energy usage accounted for by purchased electricity is the total amount of the NSK Group's electricity usage.
 *2 Total greenhouse gas emissions (CO₂ equivalent) are obtained by multiplying each type of gas by its global warming coefficient. Emission factors for electricity are variable market standards. These emission factors, which change every year, are published by power companies with which we have contracts, or are given in the International Energy Agency's CO₂ Emissions from Fuel Combustion. The amount of greenhouse gas emissions for Scope 1 to 3 are calculated based on GHG Protocol calculation standards.
 *3 Including incinerated with heat recovery.
 *4 Excluding incinerated with heat recovery.

Creating Environmentally Friendly Products



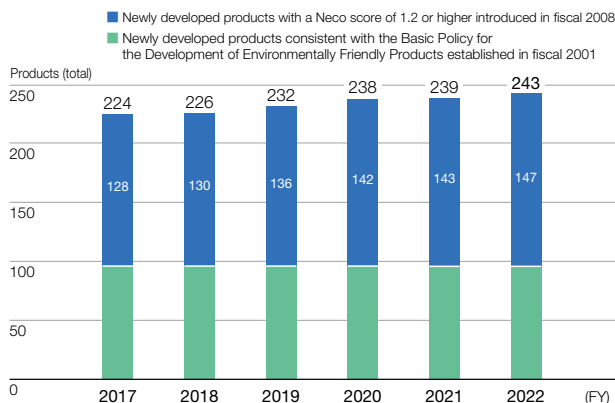
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Websites Sustainability Information ▶ [Environmentally Friendly Products](#)

Category	Scope of coverage	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	
Environmentally friendly products*1	Number of products developed (cumulative)	NSK Group	Products	224	226	232	238	239	243
Products that help reduce CO ₂ emissions*2	CO ₂ emissions avoided (total)	NSK Group	× 10 ³ t-CO ₂	1,249	1,361	1,447	2,251	2,267	2,288
	Direct contributions*3		× 10 ³ t-CO ₂	615	831	745	1,246	1,561	1,516
	Indirect contributions*4		× 10 ³ t-CO ₂	635	530	702	1,005	706	772

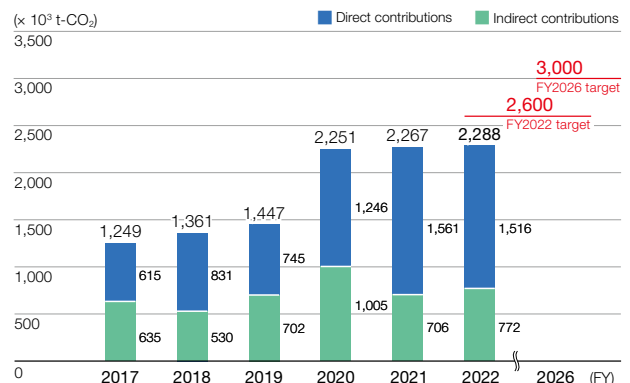
*1 Total of environmentally friendly products with a Neco score of 1.2 or higher. Includes 96 products developed in or before fiscal 2007 that were consistent with the Basic Policy for the Development of Environmentally Friendly Products.
 *2 The avoided CO₂ emissions for past fiscal years is reviewed based on the emission factor used to calculate CO₂ emissions caused by electricity consumption in fiscal 2022.
 *3 Direct contributions to CO₂ emission reduction through individual NSK product performance
 *4 Indirect contributions through CO₂ emissions avoided by installing NSK products into customer equipment and facilities

Number of Environmentally Friendly Products Developed



In fiscal 2022, we developed 4 environmentally friendly products with a Neco score of 1.2 higher, bringing the total up to 243 products.

CO₂ Emissions Avoided through Products



In fiscal 2022, the indirect contributions from bearings for wind turbines was 772 thousand t-CO₂, an increase of 66 thousand t-CO₂ from fiscal 2021, while the direct contribution from low torque bearings decreased by 45 thousand t-CO₂ from fiscal 2021, resulting in a total of 2,288 thousand t-CO₂.

Fighting Global Warming and Climate Change



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Websites [Sustainability Information](#) ▶ [Sustainability Highlights](#) ▶ [Environment](#)
[Sustainability Information](#) ▶ [NSK ESG Initiatives](#) ▶ [Environment](#) ▶ [Fighting Global Warming and Climate Change](#)
[Sustainability Information](#) ▶ [Information Disclosure Based on TCFD Recommendations](#)

Category	Scope of coverage	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Energy	Total energy usage	TJ	7,864	7,965	7,330	6,845	7,524	6,873^{*1}
	Fuel and gas	TJ	2,425	2,456	2,295	2,079	2,229	1,964 ^{*1}
	Electricity and heat ^{*2}	TJ	5,439	5,509	5,035	4,767	5,295	4,909 ^{*1}
	(Reference) Electricity and heat primary energy conversion	TJ	14,747	14,815	13,577	12,860	14,334	15,262
	Renewable energy use	TJ	19	65	163	456	626	1,462
	Rate of renewable energy use ^{*3}	%	0.2	0.8	2.2	6.7	8.3	21.3
	Rate of change in energy usage per unit of sales ^{*4}	%	0 (base year)	+4.2	+14.4	+18.8	+12.8	-4.9
Greenhouse gas	GHG emissions (Total for Scope 1 and Scope 2)	× 10 ³ t-CO ₂ e	1,019	998	839	701	763	575^{*1}
	Scope 1	× 10 ³ t-CO ₂ e	143	142	132	120	127	112 ^{*1}
	Scope 2	× 10 ³ t-CO ₂ e	876	856	708	581	636	462 ^{*1}
	Rate of change in emissions	%	0 (base year)	-2.0	-17.6	-31.2	-25.0	-43.6
	Rate of change in emissions per unit of sales ^{*5}	%	0 (base year)	+0.8	+1.2	-6.1	-11.6	-38.6
	CO ₂ emissions from distribution	× 10 ³ t-CO ₂	23.4	22.5	19.9	18.5	19.8	18.6
	Rate of change in CO ₂ emissions from distribution by transport volume ^{*6}	%	0 (base year)	+1.4	+0.6	+6.1	+5.1	+0.5
	(Reference) Scope 3	× 10 ³ t-CO ₂ e	2,039	2,705	2,194	1,928	2,199	2,113^{*1}
	1. Purchased goods and services	× 10 ³ t-CO ₂ e	1,397	1,985	1,629	1,452	1,643	1,569 ^{*1}
	2. Capital goods	× 10 ³ t-CO ₂ e	220	259	177	119	167	199 ^{*1}
	3. Fuel- and energy-related activities (Not included in Scope1 and 2)	× 10 ³ t-CO ₂ e	216	215	198	179	190	161 ^{*1}
	4. Upstream transportation and distribution	× 10 ³ t-CO ₂ e	101	143	118	113	133	129 ^{*1}
	5. Waste generated in operations	× 10 ³ t-CO ₂ e	54	44	19	15	19	18 ^{*1}
	6. Business travel	× 10 ³ t-CO ₂ e	5	5	4	4	4	4 ^{*1}
	7. Employee commuting	× 10 ³ t-CO ₂ e	17	17	16	15	16	15 ^{*1}
	8. Upstream leased assets	× 10 ³ t-CO ₂ e	0	0	0	0	0	0 ^{*1}
	9. Downstream transportation and distribution	× 10 ³ t-CO ₂ e	—	—	—	—	—	—
10. Processing of sold products	× 10 ³ t-CO ₂ e	—	—	—	—	—	—	
11. Use of sold products	× 10 ³ t-CO ₂ e	—	—	—	—	—	—	
12. End-of-life treatment of sold products	× 10 ³ t-CO ₂ e	14	12	9	9	9	9 ^{*1}	
13. Downstream leased assets	× 10 ³ t-CO ₂ e	0	1	1	1	1	1 ^{*1}	
14. Franchises	× 10 ³ t-CO ₂ e	0	0	0	0	0	0 ^{*1}	
15. Investments	× 10 ³ t-CO ₂ e	15	24	23	21	17	8 ^{*1}	
16. Upstream other	× 10 ³ t-CO ₂ e	—	—	—	—	—	—	
17. Downstream other	× 10 ³ t-CO ₂ e	—	—	—	—	—	—	

*1 Verified by a third-party. See the Independent Verification Report on pp.15-16 for details.

*2 The previously used "amount of primary energy from electric power companies" has been changed to the "amount of energy used by NSK Group sites."

*3 Rate of renewable energy use = Energy use from renewable sources / energy use

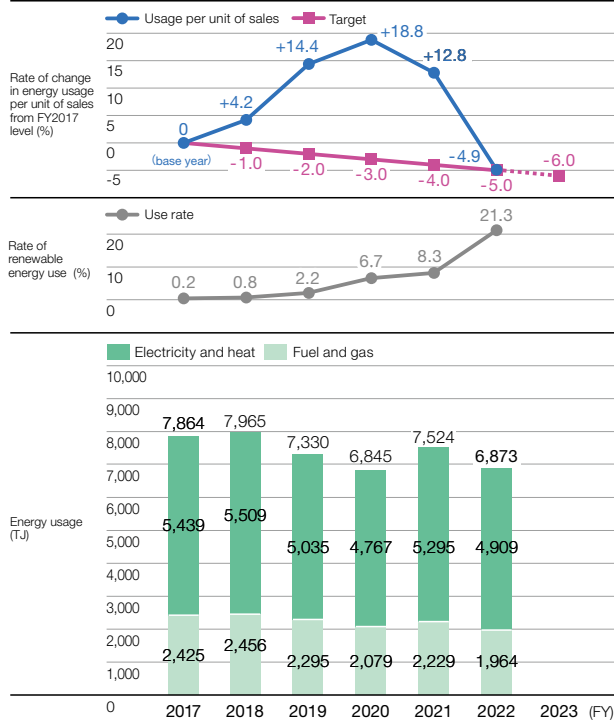
*4 Energy usage per unit of sales = Energy usage / sales

*5 Emissions per unit of sales = Greenhouse gas emissions / sales

*6 CO₂ emissions from distribution by transport volume = CO₂ emissions from distribution / transport volume (tons)

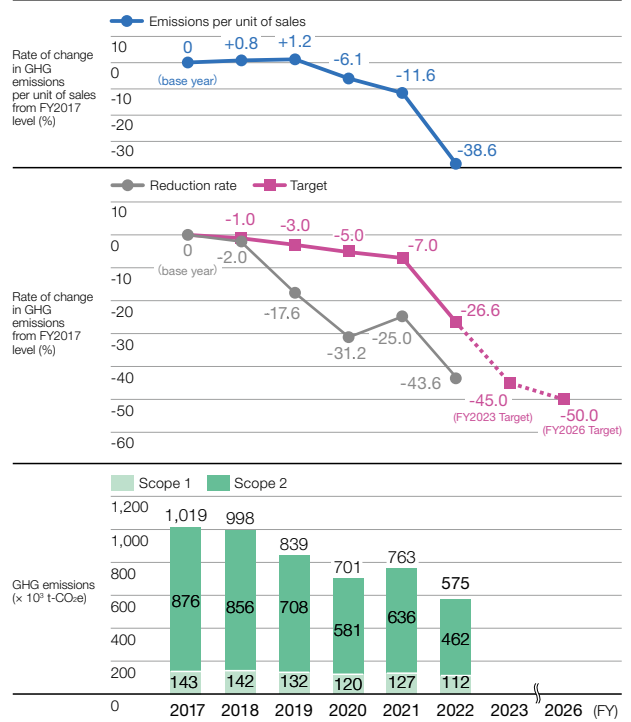
*7 Within Scope 3, Category 4, only for transport in Japan.

Energy Usage



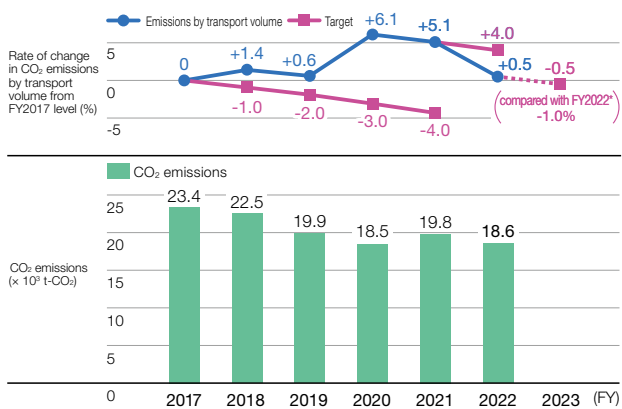
We are taking thorough steps to reduce energy usage, for instance, improving the insulation of plant buildings, improving air conditioning equipment efficiency, implementing energy conservation measures on production equipment. We are also switching the purchase of electricity to power derived from renewable energy sources.

GHG Emissions and Emissions per Unit of Sales



We reduced GHG emissions in fiscal 2022 to 43.6% of the fiscal 2017 level through energy conservation measures and a switch to renewable energy.

CO₂ Emissions and Emissions by Transport Volume from Distribution in Japan



* We updated our target for emissions by transport volume to a 1% decrease compared to the previous fiscal year.

We improved CO₂ emissions per production unit by 4.6 percentage points compared to fiscal 2021 through efforts such as improving loading efficiency.

Resource Conservation and Recycling Measures



NSK Report 2023 [Pp.40-43 Environmental Management](#)

Websites Sustainability Information ▶ NSK ESG Initiatives ▶ Environment ▶ [Resource Conservation and Recycling Measures](#)

Category		Scope of coverage	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Materials and parts	Steel consumption	NSK Group (procurement volume from main suppliers)	× 10 ³ t	756	758	618	562	655	564
	Oils and greases		× 10 ³ t	21	21	20	19	21	19
	Recycled plastic raw material use for distribution (plastic containers, i.e. returnable containers)	NSK Logistics Co., Ltd., and main distribution contractors	t	210	283	148	144	156	144
Water consumption	Total water withdrawal	NSK Group	× 10 ³ m ³	4,713	4,700	4,308	3,977	4,169	3,883 ^{*1}
	Groundwater		× 10 ³ m ³	1,869	2,011	1,789	1,659	1,826	1,605 ^{*1}
	General water		× 10 ³ m ³	2,325	2,194	2,028	1,922	1,978	1,951 ^{*1}
	Industrial water		× 10 ³ m ³	519	495	490	396	357	320 ^{*1}
	Rainwater and reused water		× 10 ³ m ³	—	—	—	—	8	7 ^{*1}
	Water withdrawal in water-stressed regions (breakdown) ^{*2}		× 10 ³ m ³	159	83	19	13	17	18
	Rate of change in water withdrawal per unit of sales ^{*3}		%	0 (base year)	+2.6	+12.2	+15.2	+4.3	-10.4
Waste and valuables	Total waste and valuables	NSK Group ^{*4}	× 10 ³ t	225.5	230.1	201.8	181.9	203.1	181.1 ^{*1}
	Valuables		× 10 ³ t	157.1	158.8	137.4	126.1	140.2	121.9
	Waste		× 10 ³ t	68.4	70.6	64.4	55.8	62.9	59.2
	Reused/recycled (excluding heat recovery)		× 10 ³ t	192.2	195.0	171.8	156.3	174.7	154.0 ^{*1}
	Total waste disposed (including heat recovery)		× 10 ³ t	33.3	35.1	30.0	25.6	28.4	27.1 ^{*1}
	Landfilled		× 10 ³ t	3.3	3.6	2.9	2.1	2.4	1.7
	Incinerated with heat recovery		× 10 ³ t	13.3	13.2	11.8	10.3	10.7	9.6
	Incinerated without heat recovery		× 10 ³ t	5.0	5.5	4.0	3.3	3.9	3.3
	Other disposal (water treatment, etc.)		× 10 ³ t	11.7	12.8	11.3	9.9	11.4	12.5
	Rate of change in industrial waste per unit of sales ^{*5}		%	0 (base year)	+6.3	+15.6	+11.3	+8.5	-5.8
Recycling rate ^{*6} for waste	%	98.6	98.4	98.6	98.9	98.8	99.1 ^{*1}		
Hazardous waste	Total hazardous waste	NSK Group	× 10 ³ t	18.6	18.9	17.0	16.3	18.0	27.1
	Reused/recycled (excluding heat recovery)		× 10 ³ t	6.2	6.8	5.5	6.4	7.2	17.1
	Total waste disposed (including heat recovery)		× 10 ³ t	12.4	12.1	11.5	9.9	10.8	10.0
	Landfilled		× 10 ³ t	1.2	1.5	1.1	0.5	0.8	0.6
	Incinerated with heat recovery		× 10 ³ t	4.6	4.3	3.7	3.1	3.1	3.1
	Incinerated without heat recovery		× 10 ³ t	2.2	1.9	1.9	2.6	3.1	2.7
	Other disposal (water treatment, etc.)		× 10 ³ t	4.4	4.4	4.8	3.7	3.8	3.6
Waste and valuables	Amount of packaging waste (distribution)	NSK Logistics Co., Ltd., and main distribution contractors	t	174	193	211	169	662 ^{*7}	657 ^{*7}
	Rate of change in packaging waste per production unit (distribution) ^{*8}		%	—	—	—	—	0 (base year)	-8.5

*1 Verified by a third-party. See the Independent Verification Report on pp.15-16 for details.

*2 Refers to water withdrawal at three plants in India that are determined to be located in high water-risk areas based on assessments by WWF Water Risk Filter and WRI Aqueduct. Based on local assessments, NSK has determined that current risk is low.

*3 Water withdrawal per unit of sales (production sites) = Water withdrawal / sales

*4 Figures for fiscal 2017 are for production sales only

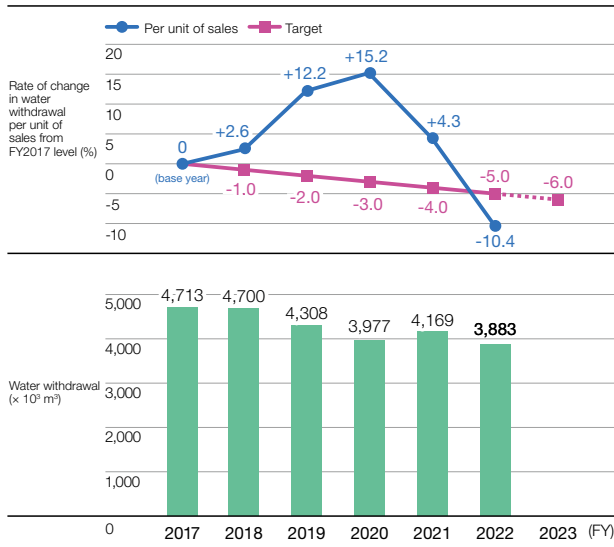
*5 Industrial waste per unit of sales = Waste and valuables amount / sales

*6 The recycling rate covers production sites that account for 99.3% of the NSK Group's waste and valuables.

*7 The coverage was expanded from bases in Japan to include global bases.

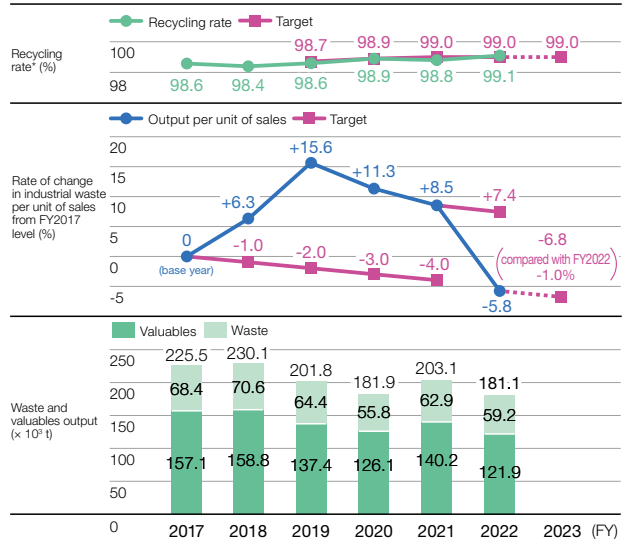
*8 Packaging waste per production unit (distribution) = Amount of packaging material waste / production volume

Water Withdrawal per Unit of Sales



We have been working hard to reduce water withdrawal, for instance, by improving water consumption management and converting water-cooled cooling equipment to air-cooled equipment. Water withdrawal in fiscal 2022 was 3,883 thousand m³, a reduction of 286 thousand m³ from the previous year, achieving our target for water withdrawal per unit of sales.

Industrial Waste and Valuables Output, Output per Unit of Sales, and Recycling Rate



* The recycling rate covers production sites that account for 99.3% of the NSK Group's waste and valuables.

We strive to make effective use of resources such as water, steel, and resin by promoting the 3Rs (Reduce, Reuse, Recycle). The recycling rate in fiscal 2022 was 99.1%, up 0.3 percentage points year on year, surpassing our target of 99.0% and significantly improving in terms of production unit.

Reducing Use of Environmentally Harmful Substances



Websites

Sustainability Information ▶ NSK ESG Initiatives ▶ Environment ▶ [Reducing Use of Environmentally Harmful Substances](#)

Category		Scope of coverage	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Green procurement	Rate of supplier consent to NSK Group Green Procurement Standards obtained	NSK Group	%	97.4	98.6	99.1	99.1	77.6*2	78.4*2
	Number of suppliers audited by NSK Group companies		Companies	183	192	124	158	200	237
Reducing use of environmentally harmful substances	Number of suppliers at which the NSK Survey of Environmentally Harmful Substance Inclusion was conducted	NSK Group	Companies	468	473	478	467	898	1,159
	Handling of PRTR-designated substances (materials and parts)	Group in Japan	t	490	464	395	316	326	278
	Discharge/transfer of PRTR-designated substances		t	105	72	78	73	86	75
	Rate of change in handling of PRTR-designated substances per unit of sales*3	NSK Group	%	0 (base year)	-4.1	-4.5	-13.0	-22.0	-32.1
	Emissions of VOCs		t	154	151	145	141	165	142*1
Rate of change in emissions of VOCs per unit of sales*4		%	0 (base year)	+0.9	+15.6	+25.0	+26.4	+0.5	
Protecting air quality	Emissions of NOx	NSK Group	t	132	128	119	106	113	99
	Emissions of SOx		t	50	42	38	39	33	32
Protecting water quality	Discharged (total)	NSK Group	× 10 ³ m ³	3,040	3,159	2,847	2,519	2,757	2,466
	Rivers		× 10 ³ m ³	453	729	591	575	646	521
	Sewage system		× 10 ³ m ³	2,587	2,430	2,256	1,944	2,110	1,897
	BOD (biochemical oxygen demand)	NSK Group (production sites)	t	1.3	1.4	1.2	1.2	1.5	0.9
	Discharged (total)		× 10 ³ m ³	2,925	2,982	2,692	2,441	2,680	2,389

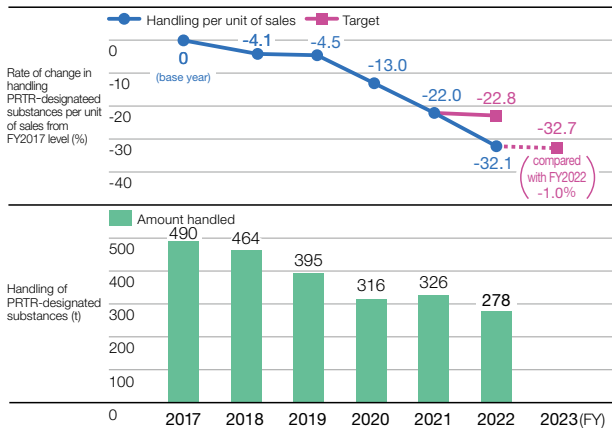
*1 Verified by a third-party. See the Independent Verification Report on pp.15-16 for details.

*2 Suppliers eligible for green procurement have been expanded.

*3 Handling of PRTR-designated substances per unit of sales = Handling of PRTR-designated substances / sales in the NSK Group in Japan

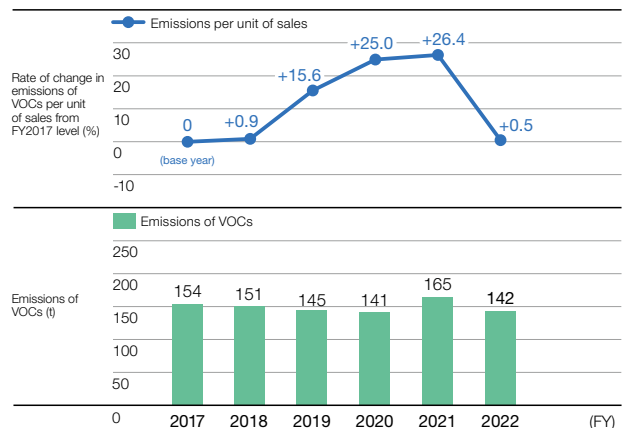
*4 Emissions of VOCs per unit of sales = Emissions of VOCs / sales in the NSK Group

Handling of PRTR-Designated Substances and Handling per Unit of Sales



The reduction of fuel consumption, including PRTR-designated substances, has been steadily progressing through the use of electric power for air-conditioning equipment. The unit of sales handled in fiscal 2022 was -32.1%, -10.1 percentage points compared to the previous fiscal year, achieving our target of -22.8% or less.

Emissions of VOCs and Emissions per Unit of Sales



NSK Group's Main Initiatives to Reduce Environmentally Harmful Substances

FY	Action
1994	Completely eliminated CFCs for cleaning
	Completely eliminated trichloroethylene
1999	Phased out in-house incinerators (a measure against dioxins)
2003	Completely eliminated chlorinated organic solvents

FY	Action
2006	Came into full compliance with the EU RoHS Directive*1 and ELV Directive*2 Reinforced chemical management system for compliance with the EU REACH regulation
2015	Phased out machining oil with chlorine-based extreme pressure additives (a measure against dioxins)
2020	Fully responded to the 10 EU RoHS2*3 substances

*1 RoHS Directive: An EU directive that restricts the use of six harmful substances in electric and electronic devices

*2 EU ELV Directive: An EU directive that prohibits the use of lead, mercury, cadmium, and hexavalent chromium in automotive parts and materials in order to promote the recycling of end of life vehicles

*3 RoHS2 Directive: The revised RoHS Directive issued in 2014, now including phthalates and other substances added in 2019, restricts the use of 10 substances.

Biodiversity Conservation



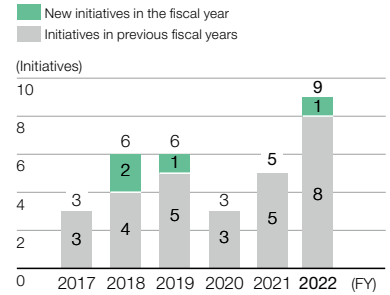
Websites

Sustainability Information ▶ NSK ESG Initiatives ▶ Environment ▶ [Biodiversity Conservation](#)
 Sustainability Information ▶ NSK ESG Initiatives ▶ Environment ▶ Biodiversity Conservation
 ▶ [Expanding Social Contribution Activities Related to Biodiversity Conservation](#)

Number of Initiatives (Japan)

Category		Scope of coverage	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Biodiversity conservation initiatives	Initiatives implemented (total)	Group in Japan	Initiatives	3	6	6	3	5	9
	Initiatives in previous fiscal years*1		Initiatives	3	4	5	3	5	8
	Target: 1 new initiative/year		Initiatives	0	2	1	0	0	1
	Donation*2		Millions of yen	1.4	1.7	1.7	1.9	2.5	1.8

Number of Biodiversity Conservation Initiatives (Japan)



*1 Indicates the number of initiatives started prior to the previous fiscal year and continued in the current fiscal year. Varies depending on the fiscal year, as some could not be implemented in the applicable fiscal year due to bad weather or other reasons.
 *2 The data has been updated retrospectively.

Biodiversity Conservation Initiatives: New Initiatives by Fiscal Year and Results in FY2022 (Japan)

First year	Site(Pref.)	Category	Overview	FY2022	
				Month(s) held	Participants*
2014	Shiga	Removal of specific invasive species	Removal of invasive fish species from Lake Biwa, which is a Ramsar Site	July	37
2015	Gunma	Preservation of <i>satoyama</i> forest areas	NSK Gunma Future Forest activities	October	26
2015	Kanagawa	Preservation of <i>satoyama</i> forest areas and nature observation workshops	Leaf removal, grass cutting, nature observation, etc., under the guidance of an NPO in green zones in Fujisawa City, Kanagawa Prefecture	May, November	83
2016	Saitama	Removal of specific invasive species and nature observation workshops	Activities to protect the native habitat of the waterwheel plant (<i>Aldrovanda vesiculosa</i>), a protected species, in Houzouji Marsh	July	2
2018	Fukushima	Preservation of <i>satoyama</i> forest areas	Forest preservation activities in Tanagura Town	November	7
2018	Shiga	Preservation of <i>satoyama</i> forest areas	Tree planting, grass cutting, etc., under the guidance of a local forestry cooperative based on a Shiga Prefecture Lake Biwa Forestation Partner Agreement	March	10
2019	Shizuoka	Marine conservation activities	Shoreline cleanup (reducing marine plastics) and preservation activities of sea turtles	September	106
2022	Shizuoka	Preservation of <i>satoyama</i> forest areas	Forest preservation activities in Fukuroi City	September	56

* Including participants from outside the company (personnel of NPOs, forest cooperatives, local governments, and local residents)

Biodiversity Impact Analysis and Initiatives

Action agenda classification	Research and development	Procurement and purchasing	Manufacturing and logistics	Plant and office grounds	Social contribution activities	Communication
Promotion of positive impacts	<ul style="list-style-type: none"> Making products lighter (manufactured with minimal materials) Developing more fuel-efficient products Developing longer-lasting products Developing products that are easy to recycle after use Revising manufacturing processes 	<ul style="list-style-type: none"> Using environmentally friendly materials and products Reducing environmental impact in parts and raw material production through supplier selection 	<ul style="list-style-type: none"> Utilizing renewable energy Promoting energy- and resource-saving activities Saving energy by using milk runs and empty trucks on outbound and return journeys 	<ul style="list-style-type: none"> Conducting environmental risk assessments Protecting important species 	<ul style="list-style-type: none"> Creating and managing habitats through employee volunteer activities Reducing marine plastic (cleanups) Donating to various organizations 	<ul style="list-style-type: none"> Promoting employee education Promoting activities in the NSK Group Promoting activities based on local characteristics Favorable reputation in the community
Control of negative impacts	<ul style="list-style-type: none"> Reducing resource waste 	<ul style="list-style-type: none"> Reducing environmental impact in parts and raw material production by suppliers through supplier selection Reducing overexploitation and habitat loss by reducing surplus purchasing 	<ul style="list-style-type: none"> Reducing use of raw materials, water, and energy Reducing GHG emissions from production and transport Reducing the creation of landfills by reducing landfill disposal of waste Reducing modification of plant premises 	<ul style="list-style-type: none"> Reducing deterioration of energy efficiency dependent on buildings Reducing habitat modification 	<ul style="list-style-type: none"> Reducing the lack of employee education Reducing biodiversity loss 	<ul style="list-style-type: none"> Reducing the lack of recognition of local characteristics
NSK's initiatives on impacts	<ul style="list-style-type: none"> Developing environmentally friendly products Revising manufacturing processes Improving yield 	<ul style="list-style-type: none"> Green purchasing and green procurement Reducing waste plastic 	<p>Reducing emissions of harmful substances</p> <ul style="list-style-type: none"> Energy- and resource-saving activities Energy conversion Reducing overproduction Proper inventory control Milk runs and modal shift Using low-emission vehicles 	<p>Reducing pollution of air, water, soil, etc.</p>	<ul style="list-style-type: none"> Preservation of <i>satoyama</i> forest areas Tree planting Reducing marine plastic (cleanups) Removing specified invasive species Donating to various organizations 	<ul style="list-style-type: none"> Cooperation with NPOs, local governments, and local residents and organizations Internal and external public relations
Employee education						



Social

Research and Development

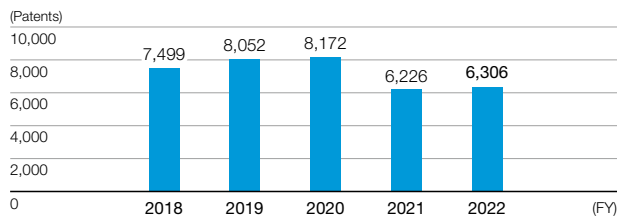


NSK Report 2023 [Pp.32-33 Strengthening Internal Capital: Intellectual Capital -Strengthening Technological Capabilities-](#)

Websites [Research & Development](#)

Category		Scope of coverage	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
R&D expenses	R&D expenses (on a statutory basis)	NSK Group	Billions of yen	19.0	18.3	16.8	19.2	19.8
	(Reference) R&D expenses (on a managerial basis)		Billions of yen	32.4	31.4	28.6	30.8	30.8
Number of patents held	Number of patents held	NSK Group	Patents	7,499	8,052	8,172	6,226	6,306

Number of Patents Held



NSK strongly emphasizes research and development, maintaining technology-related expenses at 3-4% of sales in order to achieve sustainable growth. NSK continuously applies for patents on its technological achievements to achieve differentiation from competitors and increase the competitiveness of its products and services. In fiscal 2021, the number of patents held decreased, as we did not apply for renewal of patents that are unlikely to be used in the future.

Occupational Health and Safety

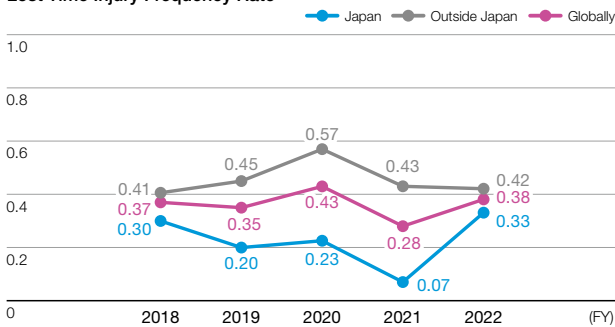


NSK Report 2023 [P.44 Safety Management](#)

Websites [Sustainability Information](#) ▶ [NSK ESG Initiatives](#) ▶ [Safety Management](#)

Category		Scope of coverage	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Lost time injury frequency rate ^{*1}	Globally	NSK Group	—	0.37	0.35	0.43	0.28	0.38^{*2}
	Japan	Group in Japan	—	0.30	0.20	0.23	0.07	0.33 ^{*2}
	Outside Japan	NSK Group (outside Japan)	—	0.41	0.45	0.57	0.43	0.42 ^{*2}
Fatal accidents	Globally	NSK Group	Number of accidents	0	0	0	0	0
	Japan	Group in Japan	Number of accidents	0	0	0	0	0
	Outside Japan	NSK Group (outside Japan)	Number of accidents	0	0	0	0	0

Lost Time Injury Frequency Rate



We are strengthening our occupational safety initiatives throughout the entire NSK Group. The lost time injury frequency rate increased to 0.38 in fiscal 2022 from 0.28 in fiscal 2021.

*1 Lost time injury frequency rate = Number of work accidents resulting in one or more days of work absence / total actual working hours × 1,000,000

*2 Verified by a third-party. See p.17 for details.

Health and Wellness



NSK Report 2023 [Pp.36-39 Strengthening Internal Capital: Human Capital](#)

Websites [Sustainability Information](#) ▶ [NSK ESG Initiatives](#) ▶ [Human Resource Management](#)
▶ [Safe and Healthy Workplaces and Work-Style Reforms: Building More Engaging Workplaces](#)

Category		Scope of coverage	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Health and wellness initiatives indicators	Percentage of employees participating in the Specific Health Guidance program	Group in Japan*	%	25.3	25.1	27.3	27.2	26.3
	Percentage of employees receiving stress checks		%	95.9	94.9	95.9	97.9	98.7
	Percentage of employees who smoke		%	37.6	36.6	33.8	31.9	31.6
Indicators on the status of health investment measures	Percentage of employees receiving regular health checkups	Group in Japan*	%	—	—	—	100.0	100.0
	Participation rate in health and wellness e-learning		%	—	—	—	—	96.2
	Completion rate of the Specific Health Guidance program		%	—	—	—	40.9	49.7
Indicators on changes in employee awareness and behavior	Percentage of employees who recalled the "Change & Go Beyond" health initiatives slogan	Group in Japan*	%	—	—	—	—	93.4
	Percentage of employees with a high level of stress		%	—	—	—	11.5	10.3
Final health-related target indicators	Presenteeism (percentage of loss, based on the WHO-HPQ method)	Group in Japan*	%	—	—	—	38.9	38.5
	Absenteeism (percentage of long absences due to illness)		%	—	—	—	0.7	0.7

* NSK Ltd. and major NSK Group companies in Japan

Human Resources



NSK Report 2023 Pp.36-39 Strengthening Internal Capital: Human Capital

Websites Sustainability Information ▶ NSK ESG Initiatives ▶ [Human Resource Management](#)

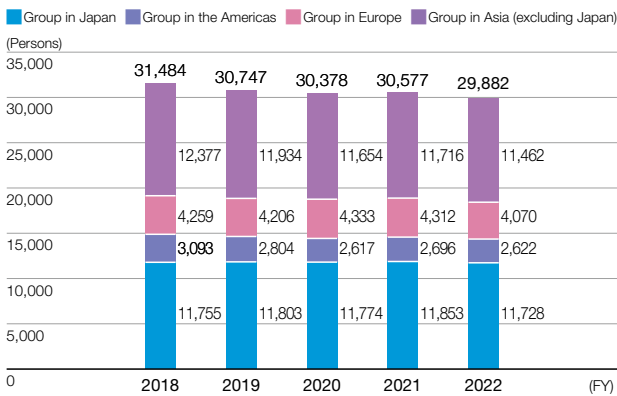
Category		Scope of coverage	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Number of employees	Total	NSK Group	Persons	31,484	30,747	30,378	30,577	29,882
	Japan	Group in Japan	Persons (%)	11,755 (37.3)	11,803 (38.4)	11,774 (38.8)	11,853 (38.8)	11,728 (39.2)
	The Americas	Group in the Americas	Persons (%)	3,093 (9.8)	2,804 (9.1)	2,617 (8.6)	2,696 (8.8)	2,622 (8.8)
	Europe	Group in Europe	Persons (%)	4,259 (13.5)	4,206 (13.7)	4,333 (14.3)	4,312 (14.1)	4,070 (13.6)
	Asia	Group in Asia (excluding Japan)	Persons (%)	12,377 (39.3)	11,934 (38.8)	11,654 (38.4)	11,716 (38.3)	11,462 (38.4)
Employee composition by gender	Men	NSK Group	(%)	80.9	81.0	81.7 ^{*1}	81.9	81.6
	Women			19.1	19.0	18.3 ^{*1}	18.1	18.4
Average years of employment (average age)	Total	Group in Japan ^{*2}	Years (Age)	16 (41)	17 (42)	17 (42)	17 (43)	17 (42)
	Men		Years (Age)	17 (42)	17 (42)	18 (43)	17 (43)	18 (42)
	Women		Years (Age)	11 (37)	12 (37)	12 (38)	12 (38)	13 (38)
Number of new graduates hired	Total	Group in Japan ^{*3}	Persons	115	93	107	93	81
	Men		Persons (%)	99 (86.1)	67 (72.0)	87 (81.3)	78 (83.9)	68 (84.0)
	Women		Persons (%)	16 (13.9)	26 (28.0)	20 (18.7)	15 (16.1)	13 (16.0)

*1 The data has been updated retrospectively.

*2 NSK Ltd. and major NSK Group companies in Japan

*3 NSK Ltd. and major NSK Group companies in Japan (career-track positions only)

Number of Employees



The global number of employees as of the end of March 2023 decreased by 695 people compared to the previous fiscal year, bringing the total to 29,882.

Category			Scope of coverage	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Managers Percentages of men and women	Total* ¹	Men	NSK Group	%	91	91	90.6	89.2* ²	88.0
		Women		%	9	9	9.4	10.8* ²	12.0
	Executive management positions	Men		%	—	—	94.5	92.8	93.7
		Women		%	—	—	5.5	7.2	6.3
	Middle management positions	Men		%	—	—	90.5	90.3	87.5
		Women		%	—	—	9.5	9.7	12.5
Turnover rate	Turnover rate (voluntary)		Group in Japan* ⁴	%	—	1.0	0.7	1.2	2.1
Number of rehired senior employees* ³	Total		Group in Japan* ⁴	Persons	660	625	627	608	668
	Senior employee rehiring system			Persons	592	555	569	560	621
	Other (fixed-term contract, etc.)			Persons	68	70	58	48	47
Employment rate of people with disabilities	Employment rate of people with disabilities		Group in Japan* ⁴	%	2.25	2.24	2.45	2.56	2.48
	(Reference) Legally mandated employment rate in Japan		—	%	2.20	2.20	2.30	2.30	2.30* ⁵
Percentage of employees taking childcare leave (NSK criteria)	Men		NSK	%	—	—	50.3	56.5	72.6
	Women			%	—	—	100.0	100.0	100.0
Number of employees taking nursing care leave	Total		Group in Japan* ⁴	Persons	3	11	15	12	8
	Men			Persons	2	6	10	10	6
	Women			Persons	1	5	5	2	2
Human resource development	Number of participants in human resource development programs	Number of participants in Global Management College	NSK Group	Persons	13	12	0* ⁶	0* ⁶	13
		Number of participants in Japan Management College	Group in Japan* ⁴	Persons	10	10	10	10	9
	Number of training hours per employee	Number of participants in NSK Institute of Technology	NSK Group	Persons	451	527	518	493	495
		Number of training hours per year	NSK Group	Hours	—	—	21	19	21
Rate of labor union participation	Non-management employees		Group in Japan* ⁴	%	100	100	100	100	100
	All employees including management			%	83	83	83	84	84
Labor-management consultations	Number of labor-management consultations* ⁷		Group in Japan* ⁴	Times	7	7	5	7	7
Employee engagement survey	Number of participants (officers and employees)		NSK Group	Persons	15,538 (Worldwide)	14,964* ² (Outside Japan)	16,985 (Worldwide)	5,976* ⁸ (Outside Japan)	20,611 (Worldwide)
	Engagement Score* ⁹			%	—	65	67	67	68
Performance agreement system (performance appraisal)	Percentage of employees covered (goal-setting and review between employee and supervisor)		Group in Japan* ⁴	%	—	—	—	55	54

*1 Includes some entry-level managers, department and section managers, and executives

*2 The data has been updated retrospectively.

*3 Number of employees aged 60 and over

*4 NSK Ltd. and major NSK Group companies in Japan

*5 As of March 2023

*6 Suspended due to the COVID-19 pandemic.

*7 Number of times Central Labor-Management Conference meetings held

*8 Some survey subjects were postponed due to the COVID-19 pandemic.

*9 The survey is conducted every two years in each geographical region, and the countries surveyed differ each year. The engagement score is a moving average calculated as a weighted average of the survey results for the relevant and previous fiscal years.

Governance

Corporate Governance



NSK Report 2023 Pp. 56-61 Corporate Governance

Websites

Company ► [Corporate Governance](#)

Composition of the Board of Directors and Nomination/Audit/Compensation Committees

As of June 30 of each fiscal year

Category		Unit	June 2019	June 2020	June 2021	June 2022	June 2023
Board of Directors	Chair of the Board of Directors	—	President and CEO	President and CEO	Chairman and Director	Chairman and Director	Non-Executive Director
	Number of directors	Persons	12	9	9	9	9
	Men (percentage)	Persons (%)	11 (91.7)	8 (88.9)	8 (88.9)	8 (88.9)	8 (88.9)
	Women (percentage)	Persons (%)	1 (8.3)	1 (11.1)	1 (11.1)	1 (11.1)	1 (11.1)
	Number of internal directors (who also serve as executive officers)	Persons	6	3	2	2	2
	Men	Persons	6	3	2	2	2
	Women	Persons	0	0	0	0	0
	Number of internal directors (who do not serve as executive officers)	Persons	1	1	2	2	2
	Number of independent outside directors (total)	Persons	5	5	5	5	5
	Men	Persons	4	4	4	4	4
	Women	Persons	1	1	1	1	1
	Percentage of internal directors (who also serve as executive officers)	%	50.0	33.3	22.2	22.2	22.2
	Percentage of independent outside directors	%	41.7	55.6	55.6	55.6	55.6
	Number of independent outside directors with four or more important concurrent posts	Persons	0	0	0	0	0
Term of directors	Years	1	1	1	1	1	
Nomination Committee	Committee chair	—	Independent outside director	Independent outside director	Independent outside director	Independent outside director	Independent outside director
	Number of members	Persons	3	3	3	3	3
	Internal directors	Persons	1	1	1	1	1
	Independent outside directors	Persons	2	2	2	2	2
Audit Committee	Committee chair	—	Independent outside director	Independent outside director	Independent outside director	Independent outside director	Independent outside director
	Number of members	Persons	3	4	4	4	3
	Internal directors	Persons	1	1	1	1	1
	Independent outside directors	Persons	2	3	3	3	2
Compensation Committee	Committee chair	—	Independent outside director	Independent outside director	Independent outside director	Independent outside director	Independent outside director
	Number of members	Persons	3	3	3	3	3
	Internal directors	Persons	1	1	1	1	1
	Independent outside directors	Persons	2	2	2	2	2

Number of Times the Board of Directors and Nomination/Audit/Compensation Committees Convened and Their Attendance Rates

Category		Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Board of Directors	Number of times convened	Meetings	10	10	10	10	10
	Attendance rate	%	99	99	98	100	98
	Attendance rate of independent outside directors	%	98	98	98	100	96
Nomination Committee	Number of times convened	Meetings	7	8	5	7	6
	Attendance rate	%	95	100	100	100	100
	Attendance rate of independent outside directors	%	86	100	100	100	100
Audit Committee	Number of times convened	Meetings	14	15	16	14	14
	Attendance rate	%	100	100	100	100	100
	Attendance rate of independent outside directors	%	100	100	100	100	100
Compensation Committee	Number of times convened	Meetings	8	5	4	5	4
	Attendance rate	%	100	100	100	100	100
	Attendance rate of independent outside directors	%	100	100	100	100	100

Executive Officers, Group Officers

As of April 1 of each fiscal year

Category		Unit	April 2019	April 2020	April 2021	April 2022	April 2023
Executive officers	Total	Persons	35	34	32	21	21
	Men (percentage)	Persons (%)	34 (97.1)	33 (97.1)	30 (93.7)	20 (95.2)	20 (95.2)
	Women (percentage)	Persons (%)	1 (2.9)	1 (2.9)	2 (6.3)	1 (4.8)	1 (4.8)
Group officers	Total	Persons	3	3	4	4	4
	Men (percentage)	Persons (%)	3 (100)	3 (100)	4 (100)	4 (100)	4 (100)
	Women (percentage)	Persons (%)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Compensation of the President and CEO

Category	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Total consolidated compensation, etc., of the President and CEO	Millions of yen	153	Less than 100	157	102	117* ¹
Average annual salary of employees (NSK Ltd.)	Millions of yen	7.76	7.47	6.85	7.12	7.19* ²
Ratio of total consolidated compensation, etc., of the President and CEO to average annual salary of employees	—	19.7	Less than 13.4	22.9	14.3	16.3

*1 Disclosed in the Status of Corporate Governance section in the Annual Securities Report (Japanese only).

*2 Disclosed in the Overview of Company section in the Annual Securities Report (Japanese only).

Political Donations

Category	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Political donations	Millions of yen	4.05	4.05	2.05	4.05	4.05

Compliance

NSK Report 2023 [P. 48 Compliance](#)Websites [Sustainability Information](#) ▶ [NSK ESG Initiatives](#) ▶ [Compliance](#)

Category	Scope of coverage	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Compliance hotline: Number of consultations and reports	NSK Group	Incidents	127	175	178	168	143
Number of serious legal violations, incidents/accidents	NSK Group	Incidents	0	0	0	0	0
Number of penalties for corruption/bribery incidents	NSK Group	Incidents	0	0	0	0	0
Number of violations of competition law	NSK Group	Incidents	0	0	0	0	0
Competition law training (including compliance-related topics)	Sessions conducted	Sessions	207	154	172	106	139
	Number of participants*	Persons	2,960	2,867	5,481	7,588	12,486
	Average training time	Hours/person	1.0	1.0	1.0	0.6	0.9

* Includes e-learning participants, since fiscal 2020.



No.1811004634

Independent Verification Report

To: NSK Ltd.

1. Objective and Scope

Japan Quality Assurance Organization (hereafter "JQA") was engaged by NSK Ltd. (hereafter "the Company") to provide an independent verification on "FY2022* NSK Group GHG emissions (Scope 1 and 2) calculation report", "FY2022 NSK Group GHG emissions (Scope 3) calculation report", "FY2022 NSK Group Water withdrawal calculation report", "FY2022 NSK Group Waste, valuable resources, and Hazardous waste calculation report" and "FY2022 NSK Group VOC emissions calculation report" (hereafter "the Reports"). The content of our verification was to express our conclusion, based on our verification procedures, on whether the statement of information regarding GHG emissions, Energy Use, Water withdrawal, Industrial waste and valuable resources, Hazardous waste, and VOC emissions in the Reports was correctly measured and calculated, in accordance with the "NSK Group GHG emissions calculation standard (Scope 1 and 2) (Ver. 02-12)", "NSK Group GHG emissions calculation standard (Scope 3) (Ver. 01-08)", "NSK Group Water withdrawal calculation standard (Ver. 01-06)", "NSK Group Total waste of industrial waste and valuables, Recycling rate and Hazardous waste, calculation standard (Ver. 02-03)", "NSK Group PRTR emissions calculation standard (Ver.01-05)" and "NSK Group VOC emissions calculation standard (Ver. 01-06)" (hereafter "the Rules"). The purpose of the verification is to evaluate the Reports objectively and to enhance the credibility of the Reports.

* The fiscal year 2022 of the Company ended on March 31, 2023.

2. Procedures Performed

JQA conducted verification in accordance with "ISO 14064-3" for GHG emissions and Energy use, and with "ISAE3000" for Water withdrawal, Industrial waste and valuable resources, Hazardous waste, and VOC emissions, respectively. The scope of this verification assignment covers Scope 1 (Energy-derived CO₂, non-energy-derived CO₂ associated with the use of acetylene, CH₄ and N₂O), Scope 2 and Scope 3 (All 15 categories) as GHG emissions, Energy Use, Water withdrawal*¹, Industrial waste and valuable resources*², Hazardous waste*³, and VOC emissions*⁴. The verification was conducted to a limited level of assurance and quantitative materiality was set at 5 percent each of the total emissions and total amount in the Reports. The organizational boundaries of this verification cover all NSK Group sites in Japan and outside Japan, including production sites, technology centers and non-production sites of NSK Ltd., NSK equity affiliates*⁵ and NSK brand producing companies.

*¹Water withdrawal is comprised of tap water, industrial water, groundwater, recycled water and rainwater, used by business activities.

*²Industrial waste and valuable resources are solid or liquid waste discharged by business activities.

*³Hazardous waste is "specially controlled industrial waste" stipulated by the "Waste Management and Public Cleaning Act" among the amount of Industrial waste and valuable resources.

*⁴VOC emissions are substances specified by the Rules, among the VOC emitted from business activities.

*⁵NSK equity affiliates which 50 percent or more of the voting stock is owned by NSK.

Our verification procedures included:

- For on-site verification except for Scope 3, visiting four sampling sites in Japan: NSK Ltd. Ohtsu Plant, Amatsuji Steel Ball Mfg. Co., Ltd. Head Office and Main Works (Osaka), NSK Micro Precision Co., LTD. Fujisawa Factory, NSK Ltd. Mid-Japan Automotive Department (Toyota), selected by the Company.
- On-site assessment to check the report boundaries; monitoring points of activity data; monitoring and calculation system; and the activity data.
- Performing validation of the Rule and verification of Scope 3. Checking calculation scenario and allocation method for Scope 3; monitoring and calculation system; and emission data.

*Please refer to the next page.



No.1811004634

3. Conclusion

Based on the procedures described above, nothing has come to our attention that has caused us to believe that the statement of the information regarding the Company's FY2022 GHG emissions, Energy Use, Water withdrawal, Industrial waste and valuable resources, Hazardous waste, and VOC emissions in the Reports is not materially correct, or has not been prepared in accordance with the Rules.

4. Consideration

The Company was responsible for preparing the Reports, and JQA's responsibility was to conduct verification of GHG emissions, Energy Use, Water withdrawal, Industrial waste and valuable resources, Hazardous waste, and VOC emissions in the Reports only. There is no conflict of interest between the Company and JQA.

A handwritten signature in black ink, appearing to read 'Sumio Asada', is written over a horizontal line.

Sumio Asada, Board Director
For and on behalf of Japan Quality Assurance Organization
1-25, Kandasudacho, Chiyoda-ku, Tokyo, Japan
July 13, 2023

*Please refer to the previous page.



Independent Assurance Statement

July 26, 2023

Mr. Akitoshi Ichii
President & CEO
NSK Ltd.

1. Purpose

We, Sustainability Accounting Co., Ltd., have been engaged by NSK Ltd. (“the Company”) to provide limited assurance on the Company's Lost-Worktime Injury Rates for the fiscal year ended March 2023 which were 0.33 in Japan, 0.42 outside Japan, and 0.38 globally (“the performance data”). The purpose of this process is to express our conclusion on whether the performance data were calculated in accordance with the Company’s standards. The Company's management is responsible for calculating the performance data. Our responsibility is to independently carry out a limited assurance engagement and to express our assurance conclusion.

2. Procedures Performed

Our assurance engagement has been planned and performed in accordance with International Standard on Assurance Engagement 3000 (ISAE3000).

The key procedures we carried out included:

- Interviewing the Company’s responsible personnel to understand the Company’s standards
- Reviewing the Company’s standards
- Performing cross-checks on a sample basis and performing a recalculation to determine whether the performance data were calculated in accordance with the Company’s standards.

3. Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the performance data have not been calculated, in all material respects, in accordance with the Company’s standards.

We have no conflict of interest relationships with the Company.

A handwritten signature in black ink, appearing to read "Takashi Fukushima", is written over a horizontal line.

Takashi Fukushima
Representative Director
Sustainability Accounting Co., Ltd.

