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Sustainability

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Thorough

compliance

implementation of

Materiality of Sustainability Issues

Nippon Steel recognizes that sustainability initiatives are one of the important issues and form the base that supports the very existence and growth of the Company.

Strategies

Among the initiatives, the issues to be focused by taking into account our shareholders' expectations and our Corporate Philosophy, Values, and growth strategy have been identified as materiality (priority issues).

[Process to identify materiality]



communities

Nippon Steel's Materiality

Together with local

In consideration of our stakeholders' expectations, we have defined the materiality based on the following principles. We believe that tackling these materiality issues will contribute to the achievement of the United Nations' 2030 Agenda for Sustainable Development, featuring Sustainable Development Goals (SDGs).

Corporate value

enhancement and

profit distribution

Materiality with due consideration of the corporate philosophy and priorities in manufacturing

Our Corporate Philosophy (Our Values) states: "The Nippon Steel Corporation Group will pursue worldleading technologies and manufacturing capabilities, and contribute to society by providing excellent products and services."

Concerning "provision of excellent products and services," our critical mission as a responsible manufacturing company is to reliably produce and deliver quality products that satisfy customers. Needless to say, the prerequisites to enable this mission include "safety, environment, and disaster prevention" as well as thorough compliance to rules and regulations.

The "world-leading technologies and manufacturing capabilities" are realized by our human capital. Securing and fostering of outstanding personnel is an important challenge to be overcome in order to strengthen overall manufacturing capabilities. We firmly believe that development of human resources and diversity & inclusion, as well as respect for human rights, are the basics for our employees to work vigorously. With regard to the relationship with society, we must maintain good relationship with the community where our steelworks or other facilities are located. This is indispensable for us to continue operating business in the future. We are pledged to operate in an environmentally-friendly manner and maintain good communication with local communities, as a corporate citizen.

Materiality with due consideration of the Company's value creating process and potential changes in business environment

A base of our value creation process is to use a diverse range of financial/ non-financial assets and competitive advantages, and to provide products and solutions to customers. In order to reproduce such processes, stable production and continual profit generation are indispensable.

In addition, having positioned environmental matters as priority issues that underlie our corporate management, we have pledged to contribute to the creation of a society oriented toward environmental conservation and with low environmental impact. We have also been engaged in building of a circular economy through reduction of CO₂ emissions by the three "Eco" initiatives and innovative technology development, and recycling of industrial waste (such as plastics).

Concerning the climate change problems that affect the survival of humanity, we are making efforts aimed at carbon neutrality by 2050 from two aspects: Provision of high-performance steel products and solutions to reduce CO₂ emission of the society as a whole, and breakthrough technology development to decarbonize steelmaking processes.

Corporate value enhancement and profit distribution

We are committed to continuing operations as a sustainably growing company by generating profit and raising corporate value from business activities, including sustainability initiatives. We will also contribute to society by providing excellent products and services, and distributing profit to employees, government, shareholders, and other stakeholders.

Thorough compliance

As a responsible leading company, we thoroughly adhere to laws and regulations, which is fundamental to all of our activities. It should be achieved by our independent efforts, based on our corporate philosophy, value, code of conduct and alike.

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Materiality of Sustainability Issues

Materiality, KPIs and major initiatives in FY2023

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Safety, environment, and disaster prevention

Strategies

٩	Vateriality	Target and KPI	Main Initiatives and Achievements in FY2023 (including some results in 2023)		
 Accident frequency rate of 0.10 or less Zero fatal accident 		Accident frequency rate of 0.10 or less (2023) Zero fatal accident	 Deepened education on compliance with rules and promoted human resource development to build a culture of safety. Continued equipment measures based on risk assessment. Reinforced the system to smoothly carry out the basic cycle of safety activities (completed acquisition of ISO 45001 certification at all works). 	Accident frequency rate 0.08 Number of fatal accidents 1	
2 Environment		 [Promotion of the Carbon Neutral Vision 2050] P36 Target in 2030: 30% reduction in C02 emissions (compared to 2013) Vision for 2050: Carbon neutral 	 [Hydrogen injection into in blast furnaces] Confirmed the world's highest level of 33% CO₂ emissions reduction in the Super COURSE50 test furnace. [Hydrogen direct reduction of iron (DRI)] [High-grade steel production in large size EAFs] Established HyDreams[™], a base for integrated development of large size EAF and DRI production at Hasaki R&D Center, pron [High-grade steel production in large size EAFs] Started an examination of conversion from the BF steelmaking process to the EAF steelmaking process, with the Kyushu Wicandidate sites. [CCUS] Participated in a survey and study of basic design of three advanced CCS projects for Japan Organization for Metals and En NSCarbolex Neutral Inquiries and adoption expanded in various areas including the private sector (domestic/overseas construction, manufacturi 	noting the construction of test electric furnace and shaft furnace. orks Yawata Area and the Setouchi Works Hirohata Area as ergy Security (JOGMEC). ng) and the public sector (public civil engineering, etc.)	
	 Promotion of climate change measures 	[Implementation of "Eco Process"] ^[1] P.93 • Maintaining high-level effective use of energy	• Effective use of by-product gas (coke oven gas, blast furnace gas etc.) and waste heat	 Use of by-product gas 100% Use of waste heat in steam generation 75% In-house generated energy use in in-house power generation 70% 	
		 Promotion of adopting advanced energy-saving technology 	• Adoption of high-efficiency power generation equipment and oxygen plant: regeneration burner in reheating furnace	 Investment cost for energy-saving ¥9.2 bn 	
		 [Enhancement of "Eco Products"] 2 P.43, P.152 Supply of high-performance steel products to help reduce CO₂ emissions through use of their end products 	 NSCarbolex Solution: Disclosed the applicable product/technology line-ups on a dedicated website. Acquired the SuMPO EPD (former Eco-Leaf) environmental label. 	 Expanded to over 100 products and technologies Acquired over 60 labels that cover almost all the products 	
		 [Contribute with "Eco Solutions"] ^[] <u>P.87</u> Transfer and dissemination of the world-leading energy- saving technology to help CO₂ emission reduction globally 	 Growing cumulative CDQ delivery record by Nippon Steel Engineering in the Group 	• 143 CDQ cumulative units (FY2022) (contributing to 30.44 mn t-C02 reduction, FY2021)	
	(2) Contribution to creation of a circular economy	[Realization of zero emissions within the Company] P91 • Reduction in final disposal amount 263,000 tons or less (FY2025 target)	 Promotion of recycling of by-products (slag, dust, sludge, etc.) in and out of the Company 	• Final waste disposal: 282,000 tons	
		 [Realization of recycling of waste generated in society] P.92 Establishment of a waste plastics recycling system to expand its collection volume 	 Aggressive promotion of recycling treatment, according to the Chemical Recycling Act 	 Packaging/container plastic waste treatment 180,000 tons (equivalent to 30% of Japan's total plastic waste) 	
	 Conservation of biodiversity and nature positive Pos5 [Contribution to the conservation of biodiversity and nature positive] Promoted activities aimed at achieving the 30by30 biodiversity target 		 Chita Peninsula Green Belt, in which Nippon Steel participated, was certified as a site in harmony with nature. Promoted the Creation of Hometown Forests at steelworks Conducted activities of the Creation of Sea Forests 	 Certified in October 2023 Greenery space: 838 ha (decreased mainly due to the entire closure of the Kure Area) Creation of Sea Forests at 56 spots in total (+12 spots from the previous year) 	

Materiality of Sustainability Issues

Materiality, KPIs and major initiatives in FY2023

1

Safety, environment, and disaster prevention

	Materiality	Target and KPI	Main Initiatives and Achievements in FY2023 (including some	results in 2023)
		[Protection of the air environment] • Maintaining low-level emissions of NOx and SOx	 Installment of equipment that reduces SOx and NOx emissions; shifting to low-sulfur fuel; adoption of low NOx regenerating burners 	• SOx: 11 mn Nm ³ • NOx: 23 mn Nm ³
2 Environment	④ Promotion of environmental risk management ऒ ₽79	 Maintaining of lower discharge levels than voluntary targets in chemical substances Emission of VOC (Volatile Organic Compounds) 1,106 tons/year (down 30% vs. FY2000) Emission of benzene 172 tons/year (voluntary target, along with the government target) 	 Continual efforts based on the voluntary reduction plan 	• VOC: 509 tons/year • Benzene: 69 tons/year
		[Water environment preservation] • Recycling of water; high-level stable use of recycled water	Water treatment, recycling and reuse of freshwater used by the Company	 Use of recycled water: app. 90%
3 Disaster	prevention	[Elimination of disaster risks and group-wide sharing of effective measures] • Zero serious disaster-related accident (2023)	 Promoted activities to prevent recurrence and prevention of disaster-related accidents based on risk assessment Promoted initial response training aimed at minimizing damage when a risk occurs Implemented various monitoring (audits) as a survey of disaster prevention activities. Evaluation of disaster prevention activities through third-party monitoring, hearings from head office management, and self-monitoring by steelworks disaster prevention managers 	• Serious disaster-related accidents: 1 (2023)

Quality

Materiality	Target and KPI	Main Initiatives and Achievements in FY2023			
1 Quality control and guarantee 10 P.104	 Systemization and automation aimed at more credibility in testing and inspection 	• Continuing a shift from manual data input to automatic data input as a measure to prevent input errors and falsification	n of pre-shipment judgment data		
 Research and development and intellectual property investment/utilization P.47 	 Promotion of strategic research and development aimed at sustainable business growth Respect for intellectual property and enhancement of its strategic protection and utilization 	 Actively promoted research and development related to priority issues such as product sophistication, process efficiency improvement, and the development of carbon-neutral-oriented innovative processes Promoted utilizing intellectual property by strengthening patent applications related to priority issues, response to infringement of patent rights, technical tie-ups, and other means 	 R&D expenses: ¥72.7 bn (consolidated) The number of patents held: app. 33,000 (15,000 in Japan and 18,000 overseas) 		
 Solution that result in customer satisfaction P160 	 Number of awards from customers, government, and institutions 	 The 70th Okochi Memorial Production Prize The 56th Ichimura Prize in Industry against Global Warming for Distinguished Achievement The 2024 Commendation for Science and Technology by the Minister of MEXT The 2024 National Commendation for Invention 	• Number of awards from customers, government, and institutions: 10		

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Materiality of Sustainability Issues

Materiality, KPIs and major initiatives in FY2023

Production

Materiality	Target and KPI	Main Initiatives and Achievements in FY2023
1 Stable production and supply [™] P.105	 Initiatives for more stable production and supply (hardware and software) 	 Enhancement of the stable supply system by promoting measures to expand the electrical steel sheet capacity and improve quality in Setouchi Works Hirohata Area and Kyushu Works Yawata Area Standardization of veterans' operational skills and extended use of experts Use of IoT and AI for operational support, improved efficiency of facility inspection and operation monitoring, and reinforcement of predictive monitoring

Human resources, and diversity & inclusion

Materiality	Target and KPI	Main Initiatives and Achievements in FY2	023
 Human resource development P.110 	 Promotion of measures to develop human resources 	 Promoted various measures to maximize human resources to enhance their productivity and technological advancement 	 Hours of training and education: 990,000 hours/year (35 hours/person, year)
 Diversity & inclusion P107 	 The number of female employees in management positions: at least 2 times, (vs. 36 in FY2020), and 3 times as target in 2025; at least 4 times, and 7 times as target by 2030 The ratio of paid holidays taken: 75% or higher Wellness management aimed at maximizing people's ability up to the age of 65, and support to enhance mental and physical health 	 Continued to actively recruit women, implement measures to improve the retention rate, support career development and work-life balance, and provide education for supervisors Continued to expand the system and improve the environment to realize flexible work styles and holidays Continued various initiatives to promote mental and physical health 	 Number of women in managerial positions: 70 (as of April 2024) The ratio of paid holidays taken: 86.2% (FY2023)
 Respect for human rights P113 	 Identification of adverse human rights impacts and establishment of human rights due diligence mechanisms to prevent or mitigate them Appropriate response for corrective actions or remedy, if it becomes clear that our business activities have caused or contributed to a negative impact on human rights 	 Established the Nippon Steel Group Human Rights Policy, based on the recognition that respect for all human Conduct business activities ethically while fully respecting human rights 	rights is fundamental to corporate activities

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Materiality of Sustainability Issues

Materiality, KPIs and major initiatives in FY2023

Together with local communities

Materiality	Target and KPI	Main Initiatives and Achievements in	FY2023
Environmental preservation/ creation activities in communities	 Green space development to contribute to the local environment 	 Funding for green space development and maintenance 	 Expenses for green space development and maintenance: ¥1.3 bn
 Activities mainly in the support of education, sports, and arts P115 	 Ongoing promotion of hosting plant visits 	 Proactively accepting plant visits by shareholders, investors, and junior high/elementary school students 	Number of plant visitors: app. 70,000 (FY2023 results)
	Continual support of music culture via Nippon Steel Arts Foundation	 Support of music culture via presentation of Nippon Steel Music Awards and operation of the Kioi Hall 	

Corporate value enhancement and profit distribution

Materiality	Target and KPI	Main Initiatives and Achievements in	FY2023
1 Securing of profit and enhancement of corporate value	 ROS of 10% (FY2025 plan target) ROE of 10% (FY2025 plan target) 	Please see P.11,P.66	• ROS 9.8 % • ROE 12.3 %
	 Salary and wages payment to employees Bonus payment amount Revised amount of salary 	Additional facts "Wage and bonus" https://www.nipponsteel.com/en/factbook/2024/09-02.html	 Base bonus amount: ¥2.30 mn (FY2024) Revised amount of salary: + ¥35,000 (FY2024)
2 Profit distribution	 (2) Appropriate tax payment Tax payment (consol.) 	Policy on taxation https://www.nipponsteel.com/en/csr/tax/index.html	• Tax payment (consol.): ¥ 126.5 bn
	 Dividend payment to shareholders Dividend payment *Target consolidated payout ratio: around 30% (FY2025 management plan) 	Dease see P.62	• Dividend per share: ¥ 160 /year

Thorough implementation of compliance

Adhering to laws and regulations as a base of all activities

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Basic Environmental Policy and Initiatives for Priority Areas

Strategies

Nippon Steel has set the Basic Environmental Policy based on its belief that the environmental management is an integral part of corporate mission. We are dedicated to managing the Company so as to reduce and minimize impact on the environment at all stages, from technological development work to the purchase of raw materials and equipment, manufacturing processes, transportation of products, and onward to their use, recycling and disposal.

Basic Environmental Policy

Under the principle of "Environmental Management," Nippon Steel is committed to contributing to the creation of a sustainable society through its operations. To this end, we will conduct our operations to actively contribute to creating sustainable communities through integrated solutions to the issues related to climate change measures, the creation of a circular economy, and the conservation of biodiversity, including maintaining and improving a favorable living environment.

1 Reducing environmental impacts at every stage of operations (Eco Process)

At every stage of business activities including production processes and transportation of products, Nippon Steel will, besides complying with environmental laws and regulations, promote activities to reduce environmental impacts primarily through voluntary efforts, in cooperation with customers and other industries, with the aim of further improving environmental preservation and the efficiency of resources and energy, and of promoting reduction and recycling of waste inside and outside the company.

2 Offering of environment-oriented products (Eco Products)

With the aim of reducing environmental impacts at every stage of the life cycle of our products offered to domestic and overseas markets, Nippon Steel will make efforts, making good use of its innovative technologies, to develop and offer products that contribute to environmental preservation, resource conservation and energy conservation.

3 Proposing environmental preservation solutions from a global perspective (Eco Solution)

Nippon Steel will further improve its long-accumulated technologies and environmental management system that are related to environmental preservation, resource conservation, and energy conservation technologies. We offer them in Japan and abroad to contribute to, in addition to the reduction of environmental impacts, the development of infrastructure for disaster prevention with due consideration given to nature and scenery as well as to solving environmental issues outside Japan through technology transfer.

4 Development of innovative technologies

Nippon Steel will address on a medium and long-term basis the development of innovative technologies focused on the future issues of resources and the environment with the aim of providing society with technologies and products that contribute to environmental preservation, resource conservation and energy conservation.

5 Development of a rich natural environment

As a member of each community where we operate in Japan, Nippon Steel will contribute to the conservation of biodiversity and nature positive by promoting greenery environment in land areas, environmental improvement in sea areas, and many other activities. In addition, when conducting business activities overseas, we will ensure the preservation of the natural environment of partner countries.

6 Promotion of environmental relations activities

To gain social trust consistently, Nippon Steel will proactively promote relationship-building activities that contribute to environmental management, including environmental education for our employees, disclosure of environmental information on an adequate and timely basis, and close exchange with stakeholders.

Initiatives for priority areas

In order to achieve the SDGs, we identified three priority issues and two bases that help solve these issues based on the Basic Environmental Policy, implementing various initiatives defined as five priority areas.

Sustainable Development Goals (SDGs)



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Basic Environmental Policy and Initiatives for Priority Areas

Specific initiatives in five priority areas

Recognizing that efforts in the five priority areas are important for the realization of a sustainable society, Nippon Steel is steadily implementing measures in each of these areas. In particular, since we announced the Carbon Neutral Vision 2050 in March 2021, we have been actively working on climate change measures as the most important management issue.



Respond to other environmental risks (soil, chemical substances and wastes)

Groupwide environmental management

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Environmental Management System

Nippon Steel has built an environmental governance and management system that includes not only its own steelworks and factories, but also its group companies in Japan and abroad.

Activities to reduce environmental risks are promoted by combining internal and external environmental audits and following the plan-do-check-act (PDCA) cycle.



Establishment of environmental management system

Nippon Steel has three committees to respond to environmental issues, including climate change: the Environmental Planning Committee, the Environmental Technology & Management Committee, and the Green Transformation Development Committee.

The Environmental Planning Committee is chaired by the Executive Vice President in charge of Environmental Policies. The Environmental Technology & Management Committee is chaired by the Executive Vice President in charge of Technology. Other Executive Vice Presidents, Directors, and Executive Officers are members of these committees. Meetings of each committee are held every six months. The Environmental Planning Committee and the Environmental Technology & Management Committee manage environmental issues such as response to climate change, biodiversity, and nature positive, and response to environmental risks and to create circular economy associated with the air, water, and waste, respectively.

As a part of the enhancement of governance, we regularly hold Environmental Managers' Meetings and Environmental Group Leaders' Meetings across all steelworks. In particular, Nippon Steel works to reduce risks related to settled dust, water discharge, and waste including activities, based on the work of expert's conferences held for each of these areas.

The Green Transformation Promotion Committee is chaired jointly by the Executive Vice President in charge of Environmental Policies and the Executive Vice President in charge of Technology. Other Executive Vice Presidents, Directors and Executive Officers are also members of the Committee. The committee meets as needed to review important matters related to the promotion of carbon neutrality (changes in the external environment, update on the initiatives, etc.).

The content of discussions on climate change and the environment at the three committees are reported and discussed as one of the risk management items of the entire company at the Management Committee and the Board of Directors meetings, both of which are attended by the Chairman and the President. The Board of Directors oversees the risk management by being regularly reported about important management risks which were initially reported and discussed at the Management Committee. Environmental issues, including climate issues, are addressed at least four times a year. In this way, climate change and other environmental management are integrated into our overall governance.





Message from the President

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(Billion)

Environmental Management System

Work at maintaining and improving the level of environmental management

In accordance with the international standard ISO 14001, Nippon Steel has built an environmental management system, with each steelworks general manager serving as the responsible person. Each year, in addition to an internal auditing of each steelworks and a management review by its general manager, each steelworks is audited by the Environmental Technology & Management Division of the Head Office. Environment officers of other steel works and facilities also participate in these audits to cross-check. In addition, periodical reviews are conducted by the ISO certification agency.

For the Group companies (71 companies subject to environmental review) including those overseas, a direct interview is conducted by a member of the Environmental Technology & Management Division of the Head Office to improve management levels. This is part of the corporate governance conducted by the Internal Control/Audit Department of the Head Office.



Internal audit (hearings)

Internal audit (on-site patrol)

Environmental risk management concerning Group companies

From the Group companies in Japan, Nippon Steel has identified 45 companies (as of April 2024) as having certain environmental impact and holds meetings for those companies twice a year. In the meetings, we share information including the latest trends of environmental laws and regulations, cases of environmental initiatives with the goal of reducing environmental risks. In addition, we have established a venue to share information within the portal site to disseminate information on environmental regulatory trends and the troubles.

Costs associated with environmental conservation (Environmental accounting)

Nippon Steel has adopted environmental accounting to be used as guidelines for corporate activities, and to accurately track the environmental costs and effects. Environmental conservation costs, which combine the costs of capital investment associated with environmental measures, energy-saving measures, and recycling measures, and expenses incurred to conserve the environment, totaled ¥213.6 billion in fiscal 2023: ¥17.6 billion for capital investment and ¥196.0 billion for environmental conservation. It is difficult to quantify environmental preservation effects taking environmental measures are kept track of as environmental preservation performance, which are reported in this report and on our website.

[Environmental conservation costs]

Item		FY2023			
		Capital expenditures	Total expenses		
Air pollution control (including measures against dust), etc.		9.4	49.9		
Pollution Prevention Costs	Water pollution prevention	6.3	10.1		
	Soil pollution prevention, and noise and vibration control	0.3	0.7		
Global Warming Prevention Costs	Energy saving measures	1.5	7.7		
	Recycling of resources and generated materials	_	56.3		
Costs of Recycling Resources	Costs of Recycling Resources Industrial waste treatment (including PCB, coal ash, etc.)		16.7		
	Business-related general waste treatment, etc.	-	0.3		
	Construction of EMS and acquisition of ISO14001 certification	-	0		
Environmental Management Activities Cost	Monitoring and measurement of environmental loads	_	0.6		
	Personnel expenditures related to environmental measures, etc.	_	3.0		
Research and Development	Development of Eco Products	_	7.2		
Costs	Development of products which have low environmental impact during manufacture, etc.	-	38.3		
Social Activity Costa	Beautification and greening of offices	_	1.3		
Supporting environmental organizations, etc.		-	0.1		
Other Environmental Costs	Environmental fines, etc.	-	3.8		
Total		17.6	196.0		

[Major effects of environmental measures]

Energy usage ⁽¹⁾ <u>P.84</u>, Water usage ⁽¹⁾ <u>P.80</u>, Various resource inputs ⁽¹⁾ <u>P.93</u>, Final waste disposal amount ⁽¹⁾ <u>P.91</u>, SOx ⁽¹⁾ <u>P.79</u>, NOx emissions ⁽¹⁾ <u>P.79</u>, Water and soil quality ⁽¹⁾ <u>P.82</u>, Hazardous chemicals ⁽¹⁾ <u>P.82</u>

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Environmental Risk Management

Nippon Steel is promoting management of environmental risk with the aim of continually enhancing preservation of the environment in various regions, with due consideration of environmental risks, which differ by each steelworks and factory, and with due consideration to compliance with Japan's Air Pollution Control Act and other regulations.

Strategies



Air pollution control

In order to reduce emissions of sulfur oxides (SOx) and nitrogen oxides (NOx), Nippon Steel is taking measures such as using low-sulfur fuel, adopting low NOx generating burners and installing effective equipment, including equipment that reduces SOx and NOx emissions.

Prevention of scattering of raw materials and dust

To curb emissions of soot and dust generated from factories and raw material yards, we try to enhance their function by installing dust collectors and prevent scattering of particles by installing windscreens, windbreak trees and sprinklers, based on air pollution risk analysis through scientific simulation. We also conduct constant monitoring and regular patrols to ensure no change in the implementation status of the environmental measures.

Prevention of scattering of materials and dust and air pollution control measures in each works

Spraying of water and chemical in coal yards



A windbreak net is installed to reduce the strength of wind and

Wet type desulfurization equipment

See details: https://www.nipponsteel.com/en/csr/env/env risk/air.html

restrain the scattering of raw materials.

restrain the scattering of raw materials.

Sprinkler trucks

These trucks spray water on the road and empty lots or clean the road within works to restrict the secondary scattering of dust.



Dust collectors with bag filters

Road cleaning trucks



Dust generated in the burning process is collected by two types of dust collectors (electric or with bag filter), depending on the characteristics of the dust (i.e., particle size distribution, emission gas concentration.)

Active coke dry type desulfurization equipment



The dry desulfurization and denitrification methods, using active coke, enables SOx and NOx in emission gas to be eliminated.

Low NOx regenerative burners



Burners featuring reduced levels of NOx generation and outstanding fuel savings have been installed

[Emission of SOx and NOx]



The wet desulfurization method enables SOx in emission gas to be eliminated

SOx (Sulfur oxides) NOx (Nitrogen oxides)

Windbreak net at vards



Environmental Risk Management

Protect the water environment

Efforts to control the water intake and reduce water discharge in works

In our business activities, we strive to reduce our environmental impact by continuously reducing water use and enhancing efficient usage. We use about 5.8 billion m³ of industrial water a year, of which approximately 90% is derived from recycled or reused water to reduce water discharge, at all of our works and factories combined. We try not to waste precious water resources, and to control water discharge. To achieve this, we make daily efforts to maintain and improve the performance of water discharge treatment equipment, and the inspection and control of discharged water quality. Our operational bases in Japan are evaluated by the World Resources Institute (WRI) Aqueduct to confirm that we are not prone to high-level water stress. Nevertheless, in preparation of the remote chance of a water intake restriction, the Kyushu Works Yawata Area and some other works possess their own water reservoir. In certain circumstances, we contribute to easing water stress of the community by providing water for agricultural use or by cooperating in other ways.

[Nippon Steel's water usage (excluding power generation facilities)]



[Water intake by source]

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Strategies

		2019	2020	2021	2022	2023
Industrial	Rivers and lakes*2	0.7	0.7	0.7	0.6	0.6
water	Groundwater*3	0	0	0	0	0
Water supply	(city drinking water)	0	0	0	0	0
Seawater		2.2	2.0	2.0	1.9	1.8
Rainwater and other sources of water intake		_	_	_	_	_
Total water intake		2.9	2.7	2.7	2.5	2.5

[Discharge volume by destination]

(Unit:	Rillion	m°)

	2019	2020	2021	2022	2023
Ocean*4, evaporation	2.9	2.7	2.7	2.5	2.5
Off-site water treatment*5	0	0	0	0	0
Surface water, underground/well, beneficial/other applications, and other discharge destinations	_	_	_	_	_
Total discharge	2.9	2.7	2.7	2.5	2.5

*1 Boundary of data collection: Nippon Steel (domestic manufacturing bases and Research & Engineering Center) *2 The amount of water taken from the company's reservoirs is included in "Rivers and lakes (industrial water)." *3 Some workplaces have taken water from groundwater, which is less than 0.3% of the total.

*4 Water discharge is treated appropriately according to water quality and discharged in compliance with water discharge standards.

*5 Other than the ocean, water treatment (sewerage) outside the site is less than 0.01% of the total.

Measures to reduce the risk of violating laws and regulations

In consideration of the importance of complying with the Water Pollution Control Law and conserving the water quality in the sea area to which it is discharged, we ensure that in the event of an operational problem the drainage outlets will not release abnormal water discharge outside the steelworks. Water drainage automatic monitoring systems, water shutoff gates, emergency reservoirs, etc. are installed to prevent water pollution. We also strive to check, repair, and maintain equipment in order to prevent water pollution, and to train our personnel in methods of checking of operations and controlling work procedures. Moreover, our steelworks have taken measures, such as to install a large storage tank so that water tainted with iron ore powder would not directly be released into the sea even if our steelworks were struck by a local torrential rain caused by weather abnormality. If there is a crack in an embankment facing the sea, there is a risk of a leakage of groundwater with unknown contaminants. In order to prevent this, the embankment is regularly inspected from the sea side enabling us to maintain and manage it in a sound condition. In areas with potential risk of leakage of water which may exceed permissible levels of contaminants, boards or a sheet water barrier may be installed so as to prevent leakage even if a crack develops on the embankment.

In fiscal 2022, the leaks of water that exceeded water discharge standards from the Kimitsu Area of the East Nippon Works occurred. We apologize for the concern and inconvenience this caused for the residents of the neighboring areas, authorities including the local government, and other related parties. Taking this incident very gravely, we are determined to make utmost efforts to investigate the cause and prevent any such problems from happening again.

Please refer to the following website for details and countermeasures related to the incident of exceeding the water discharge standards in the Kimitsu Area.

Regarding the response to the leakage incident in the Kimitsu Area https://www.nipponsteel.com/works/east_nippon/kimitsu/eco/index_02.html

Measures to prevent the reoccurrence of environmental incidents in the Kimitsu Area of the East Nippon Works https://www.nipponsteel.com/en/csr/env/env_risk/water.html Strategies **Financial Strategy**

Activated sludge treatment equipment

Organic matter is decomposed and eliminated by bacteria.

Water discharge closing gate

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Environmental Risk Management

Measures for water purification and prevention of abnormal water discharge in each works

Water discharge coagulating sedimentation treatment equipment



Fine undissolved matter is coagulated into bigger masses by chemical treatment, permitted to settle, and is removed.

Filtration equipment (secondary treatment)



Undissolved residues in the treated water discharge are filtered by a sand laver and removed.

Rainwater effluent treatment facility

Undissolved residue from rainwater is coagulated and eliminated.



Pressurized flotation system

Floating oil is removed by tiny bubbles formed by released air.

Water discharge automatic monitoring equipment



The water quality of water discharge is automatically monitored.

Checking of embankments



The embankments are regularly inspected from the sea side to find potential issues.



Damaged areas found by inspection are promptly repaired to maintain and manage the embankment in a sound condition.



At our manufacturing sites, weirs (liquid-proofing barriers) are installed around storage tanks to prevent them from leaking out to the outside in the event of a chemical solution leaking. While some storage tanks are legally obliged to install liquid barriers, depending on the size of the tank and the type of stored liquid, we have installed a liquid barrier that can accept 110% of the total capacity of a storage tank for all storage tanks that have a risk of leakage and causing environmental pollution, without being limited to legallymandated storage tanks.



Tanks and a liquid barrier

See details: https://www.nipponsteel.com/en/csr/env/env_risk/water/recycle.pdf



Repair of the damaged area of embankment

Water discharge flow is shut in case of trouble.

Management of discharged chemical substances

Comprehensive management of discharge

Nippon Steel appropriately manages and tries to improve the production, handling, and discharge or disposal of chemical substances in accordance with the Chemical Substance Management Law, Chemical Substance Evaluation and Regulation Law, and other laws concerning the management of chemical substances as well as the procedures employed. According to the targets of the Chemical Substance Management Law, we thoroughly manage the material balance, which includes the amount of chemical substances handled. the amount discharged to the environment, disposable amount, and the amount used as products. We properly submit notifications in fiscal 2024 in accordance with the revised Control Law that came into effect on April 1, 2023. Similarly, we take care in managing the Volatile Organic Compounds (VOC), which are said to cause photochemical oxidants and suspended particulate matter. In complying with the Chemical Substance Evaluation and Regulation Law, we identify and provide notification of the amounts of production and sales of the targeted chemical substances. Nippon Steel also takes the lead in promoting use of alternatives to using steelmaking materials and equipment that contain hazardous materials such as polychlorinated biphenyl (PCB) and mercury. According to safe handling standards, we systematically replace or dispose possibly hazardous parts and materials, given the time limit for disposal or the expiration date. stipulated for each area.

Management of discharge based on the Chemical Substance Management Law

In 1999, two years before the enforcement of the Chemical Substance Management Law, Nippon Steel began surveying chemical substances according to the voluntary control manual developed by the Japan Iron and Steel Federation (JISF). At present, in compliance with the Chemical Substance Management Law, we monitor 515 chemical substances and try to control their emissions and improve the way we manage it.

In fiscal 2023, there were 50 target substances for notification and the emission amount was 309 tons into the atmosphere and 25 tons to public water areas, while the disposal amount of mostly metals including manganese and chrome, and silicon carbide used for bricks and grindstone to outside of the works was 104447 tons in aggregate.

Every year, data is compiled by each works and experience in

carrying out reduction measures is shared with other works. In addition, the compiled results are disclosed on our website.

We have similarly been working on reducing volatile organic compounds (VOCs). In fiscal 2009, the 30% reduction target relative to fiscal 2000 was achieved. Since then, low discharge levels have been maintained.

Voluntary priority control of select chemical substances Dioxin

Some of our facilities, such as sintering facilities and incineration facilities, are a source of emissions of dioxins into the atmosphere. All these facilities have conformed to the emission concentration standard and have achieved levels of emissions far below the voluntary reduction target, based on the JISF guidelines, relative to fiscal 1997.

Benzene, tetrachloroethylene, dichloromethane

We developed a voluntary reduction plan of hazardous air pollutants specified in the environmental standard, which we handle. As a result of our systematic undertaking, we have already reached the targets for all three pollutants and have been maintaining the target levels.



*1 An abbreviation of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register/PRTR)

- *2 An abbreviation of the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.
- *3 Volatile organic compounds (VOC): Organic chemical compounds emitted into the atmosphere in the form of gases, which are considered to be the source of undesirable airborne particles and photochemical oxidants, which became subject to control under the Air Pollution Control Act of 2004, as amended.

Appropriate treatment of industrial waste

In order to appropriately handle industrial waste generated in our business activities, we thoroughly carry out (1) management by sorting industrial waste depending on the status of its occurrence, (2) appropriate selection and continuous management of collectors, transporters, and disposal contractors, and (3) appropriate management of Manifests (industrial waste management documentation). In order to enhance compliance in waste treatment by appropriately managing the Manifests, all Nippon Steel steelworks and offices have adopted the e-Manifest system and fully utilize it for waste management.

We also evaluate collectors, transporters, and disposal contractors based on our internal rules and conduct on-site inspections at predetermined frequency, so as to continuously and appropriately ensure proper management.

Soil risk management

We are taking appropriate soil management in compliance with the "Soil Contamination Countermeasures Act," "guidelines for investigations and measures based on the Soil Contamination Countermeasures Act" issued by the Ministry of the Environment, and the regulations set forth by local government ordinances, and so on. We report to the local government when performing landform modification work such as excavation which is required to be reported. We conduct pollution surveys when needed.

Starting in fiscal 2018, the Revised Soil Contamination Countermeasures Act is being enforced in stages will be expanded. We will continue to comply with relevant ordinances. **Responding to Climate Change**

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The Nippon Steel Group recognizes that climate change is an important issue that affects the survival of humankind, and that it may have a serious impact on the business environment and business performance. In order to conduct business in a sustained manner, we are working to reduce the impact of climate change through initiatives to reduce CO₂ emissions throughout the supply chain.

Strategies

Information disclosure according to recommendations of the TCFD

Given the international community's commitment to achieving the long-term goals of the Paris Agreement, Nippon Steel signed the statement of support for the TCFD in May 2019, in consideration of the climate change as one of priorities that the planet is facing today. Based on the recommendations of the Agreement, we are committed to information disclosure on the climate change impact to our business activities.

	TCFD's recommendations and supporting recommended disclosures	Reference page
Governance	Disclose the organization's governance related to climate-related risks and opportunities.	🚺 P.83
Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	💭 P.36,89
Risk Management	Disclose how the organization identifies, assesses, and manages climate-related risks.	P.83
Metrics and Targets	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such informa- tion is material.	<u> P.</u> 84

Governance concerning climate change

Nippon Steel recognizes climate change as one of its important managerial issues. We have established the Green Transformation Promotion Committee and the Environmental Planning Committee at the Board of Directors level because this issue may have an significant impact on the business environment and management. These two committees set strategies, risk management policies, annual budgets, business plans, and performance targets related to climate-related issues, as well as deliberate and supervise their progress.

Among the matters discussed, decided, and reported by the Committees, significant matters are resolved and reported at the Board of Directors.

[Examples of climate-related issues reported or resolved at the Board of Directors]

- •Formulation of the Nippon Steel Carbon Neutral Vision 2050
- •Expressing support for the purpose of the TCFD Final Report and disclosing information in accordance with the **TCFD** recommendations
- •Green Transformation R&D and issues concerning actual implementation
- •Procurement issues concerning green transformation
- Issues concerning green steel
- •Response to the Green Innovation Fund
- •Support for the GX League basic concept, participation in the GX League, etc.

Management of climate-related risks

Recognizing external climate-related risks and opportunities, we identify risks and opportunities that could have a significant impact on our business in terms of impact on upstream procurement, direct operations, and downstream provision of products and services for each transition factor and physical factor.

Specifically, from the perspectives of markets, policies, laws and regulations, technology, and reputation, we identify transition risks, physical risks, and opportunities that could affect upstream procurement, direct operations, and downstream provision of products and services. We then identify significant risks based on the likelihood of occurrence and magnitude of impact of those risks and opportunities.

The identified risks and opportunities are reported to the Board of Directors level committees as stated on the left, and significant risks are reported to the Board of Directors. These risks are thereby integrated into the Company's overall risk management.

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The Group's CO₂ emissions reduction target

Nippon Steel has set its CO₂ emission reduction targets under the Nippon Steel Carbon Neutral Vision 2050, aiming to reduce total CO₂ emissions by 30% from 2013 levels by 2030 and achieve carbon neutrality by 2050.

In addition, the Nippon Steel Group including consolidated crude steelmaking companies that have blast furnaces and electric furnaces with high CO₂ emissions have set a target for 30% reduction in CO₂ emissions in 2030 compared to 2013. Also, our major domestic consolidated subsidiaries aim to be carbon neutral in 2050. Our overall Group will work together to tackle climate change issues.

Furthermore, the Company will continue to timely and flexibly work on the matter of how to deal with the scope of setting CO₂ emission reduction targets (such as covered subsidiaries and affiliates) as it conducts business in Japan and overseas, in light of, among others, international trends in climate change measures and trends in laws, systems, and disclosure standards in each country.

Nippon Steel Group's energy consumption and energy-derived CO2 emissions

Nippon Steel has been working on energy conservation from diverse starting points: improving efficient use of energy generated in the steelmaking process (i.e., power generation from recovered by-product gas and waste heat); making operational improvements in each process; renovation of older coke ovens and other equipment; introduction of high-efficiency power generation facilities and oxygen plants; and conversion to regenerative burners in the reheating furnaces.

[Energy consumption]

(PJ)

Strategies



Energy consumption (Group Companies Energy consumption (Nippon Steel)

[Boundary of data collection]

Nippon Steel^{+2,-3}, associated EAF mills (Osaka Steel, Sanyo Special Steel, Nippon Steel Stainless Steel, Oji Steel, Tokai Special Steel, Nippon Steel Structural Shapes Corporation, Tokyo Kohtetsu, Ovako, Sanyo Special Steel Manufacturing India, and Standard Steel), and three Sanso Center companies^{*4}

The data collection period used is each company's accounting period. As Ovako has changed its fiscal year end, Ovako's fiscal 2021 results cover a period from January 1, 2021 to March 31, 2022 (15 months).

[Calculation method]

Calculation for the Company and its domestic subsidiaries is based on the methodology of the Carbon Neutrality Action Plan.

Overseas subsidiaries follow local regulations or guidelines for calculation.

[Conversion factor]

The Company and its domestic subsidiaries use the "Table of heat generation and carbon emission coefficient by energy source" (revised January 31, 2020) of the Agency for Natural Resources and Energy, METI.

Overseas subsidiaries use relevant emission factors according to local regulations or guidelines.

In fiscal 2023, when production slightly increased, energy-saving measures were also addressed. As a result, our energy consumption and energy-derived CO₂ emissions were 936 petajoules (PJ) and 79 million t-CO₂ (a preliminary figure). Our energy-derived CO₂ emissions accounted for 96% of our GHG emissions.

GHG emissions https://www.nipponsteel.com/en/csr/env/warming/overview.html

[Energy-derived CO2 emissions]



- *1 Preliminary figure: The amount of CO₂ per unit of purchased electricity from each of the general power companies in Japan in fiscal 2023 is assumed to be the same amount as in fiscal 2022.
- $^{\ast}2$ Excluding energy consumption and CO2 emission associated with the IPP operation by the steelworks

*3 The amounts of energy consumption required for production of coke purchased by Nippon Steel and CO₂ emissions are included in the aggregate.

*4 Concerning the three Sanso Center companies, the amount of energy consumption required for production of oxygen purchased by Nippon Steel Group and CO₂ emissions are included in the aggregate.

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CO₂ emissions in the value chain

CO₂ emissions from energy source and generated in Nippon Steel's manufacturing process (Scope 1 and Scope 2) as well as CO₂ emissions in the value chain (Scope 3), which are calculated by using the Green Value Chain Platform of the Ministry of the Environment and other methods are as follows.

marks: Items assured by the third party

Scope1·2							\bigstar marks: Items assured by the third party
(FY)	2013	2019	CO2 emissi 2020	ons (thousa 2021	nd t-CO2) 2022	2023	Calculation method
Scope1 Direct emissions from owned sources associated with use of fuel	89,578	78,693 ^{*3}	63,170 ^{*3}	71,311* ³	63,402 ^{*3}	64,007	Based on the Carbon Neutrality Action Plan.
Scope2 Indirect emissions from the generation of purchased energy	13,825	12,100 ^{*3}	11,035	12,458 ^{*3}	11,913 ^{*1}	12,466	See the boundary of dxata collection stated on the right.
Scope1+2 (Energy consumption per ton of crude steel: t–CO2/t)	103,403 1.89	90,793* ³ 1.93	74,205* ³ 1.97	83,768* ³ 1.88	75,309*1 1.92	76,472 ° 1.93	*
Crude steel production*4 (consolidated-base, 10,000 tons)	5,474	4,709	3,766	4,445	3,913	3,951	

Scope3

(54)	CO ₂ emiss	ions (thous	and t-CO2)	Calculation method
Scope3 All indirect emissions (not included in Scope 2) that occur in the value chain of the	reporting com	pany	2023	
Purchased goods and services	15,994	12,939	11,995	Calculated using method ⁺⁵ on the right for purchased iron ore, coking coal, coke, and oxygen
2 Capital goods	1,400	1,503	1,571	[Amount of capital expenditures] X [Emission factor]
3 Fuel and energy related activities not included in Scope 1 or 2	338	293	257	[Amount of electric power procured and fuel used] X [Emission factor]
Upstream Transportation and Distribution	710	638	611	[Transportation distance reported in the Energy Saving Law document] X [Emission factor]
5 Waste generated in operations	5	5	5	[Amount of waste] X [Emission factor]
6 Business travel	4	4	4	[Number of employees] X [Emission factor
Employee commuting	14	13	13	[Number of employees] X [Emission factor
Investments	1,053	1,193	1,124	[Emissions by subsidiaries and affiliates that emit GHG of over 10,000 tons] X [Equity stake of each company]

Scope1·2

[Boundary of data collection]

Nippon Steel⁺² and associated EAF mills (Osaka Steel, Sanyo Special Steel, Nippon Steel Stainless Steel, Oji Steel, Tokai Special Steel, Tokyo Kohtetsu, Nippon Steel Structural Shapes Corporation, Ovako, Sanyo Special Steel Manufacturing India, and Standard Steel). The data collection period used is each company's accounting period. As Ovako has changed its fiscal year end, Ovako's fiscal 2021 results cover a period from January 1, 2021 to March 31, 2022 (15 months).

- *1 Preliminary figure: The amount of CO₂ per unit of purchased electricity from each of the general power companies in Japan in fiscal 2023 is assumed to be the same amount as in fiscal 2022.
- *2 Excluding CO₂ emission associated with the IPP operation by the steelworks. *3 Due to a review of the summary values and changes in coefficients and other
- factors, the figure for this past year was revised retroactively.
- *4 This does not include G/GJsteel.
- [Conversion factor]

The Company*² and its domestic subsidiaries use the "Table of heat generation and carbon emission coefficient by energy source" (revised January 31, 2020) of the Agency for Natural Resources and Energy, METI.

Overseas subsidiaries use relevant emission factors according to local rules or guidelines.

Scope3

[Boundary of data collection] Nippon Steel

*5 Iron ore and coal: [Amount purchased of procured iron ore and coal] X [Emission factor]

Coke: [Amount purchased of procured coal at source] X [Emission factor] + [Amount of energy used in production of coke] X [Emission factor by energy source]

Oxygen: [Amount of energy used in production of oxygen] X [Emission factor by energy source]

[Source of emission factor]

"Emissions unit value database for accounting of greenhouse gas emissions throughout the supply chain (ver. 3.4)" (March 2024, Ministry of the Environment) "Table of heat generation and carbon emission coefficient by energy source" (Revised January 31, 2020; METI, Agency for Natural Resources and Energy)

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Efforts to reduce Scope 3 emissions

Dialogues with raw material suppliers

In order to steadily reduce emissions in Scope 3, Category 1 (products and services purchased), we are engaged in dialogue with major suppliers of iron ore and coking coal.

We interviewed major suppliers who account for more than 70% (based on our purchase volumes in fiscal 2023) of the raw materials purchased (iron ore and coking coal) about their actual Scope 1+2 emissions and their reduction plans. We confirmed through the dialogue that many suppliers are working to achieve net zero Scope 1+2 emissions by 2050.

We will continue to promote dialogues with our suppliers on climate change initiatives and other issues.

Reducing CO₂ emissions through more efficient logistics

Nippon Steel maintains a high modal shift rate of 98% and works at reducing CO₂ emission by raising efficiency in logistics, such as by use of large vessels.

As part of the efforts, we have begun to use "Utashima"—a hybrid-type cargo vessel, equipped with lithium-ion batteries. Our seven cargo vessels were rated the highest in the Coastal Ship Energy Conservation Rating of the Ministry of Land, Infrastructure, Transport and Tourism.

We have also introduced cargo vessels equipped with a hybrid propulsion system consisting of a natural gas-fueled engine and battery, for marine transportation of domestic raw materials.

We will continue to cooperate with relevant ministries, agencies, and organizations to promote use of ships utilizing alternative fuels, in order to reduce greenhouse gas emissions in marine transportation.

[Logistics sector's ton-kilometer achievements for FY2023]

					(Reference)
	Transpo quantity: tons/y	rtation 10,000 /ear	Millio ton-kilon yea	on neters/ ar	g-CO2/ ton-kilometers
Ship	1,656	(57%)	10,846	(91%)	39
Railway	6	(0%)	36	(0%)	25
Truck and trailer	1,342	(43%)	1,182	(9%)	211
Total	3,003	(100%)	12,064	(100%)	



Hybrid Cargo Ship "*Utashima*" equipped with lithium-ion batteries (Received the Small Cargo Vessel Award of the Ship of the Year 2019)

Efforts to adapt to climate change

In addition to taking mitigation actions against climate change, we consider the diverse impact of climate change and appropriately prepare for risks, as adaptive initiatives, and at the same time seek to capture business opportunities.

Preparation for risks

There is a risk that operations of steelworks and their shipments may be interrupted due to events caused by abnormal weather and other reasons as a consequence of climate change. To prevent such risks, we are implementing measures to prevent wind and flood damage at each steelworks, including measures to prevent overturn of cranes, etc., installation of levees, and reinforcement of embankments and gradients.

Moreover, our steelworks have enhanced facilities to prevent water pollution. These facilities were provided to increase waste water treatment capacity and involved installation of a large storage tank so that water tainted with iron ore powder would not be directly released into the sea even if our steelworks were subjected to localized heavy rain.

Furthermore, we have established a system to prepare for floods and high tides, by installing piloti-structured offices and evacuation facilities to avoid the destructive force of tsunami, for example.

Capturing business opportunities

We have many products that have been used for a long time as construction materials for embankments and other public infrastructure. They contribute to providing solutions for "national resilience," such as protecting towns from flooding or high tides caused by heavy rains or typhoons. Adaptation to climate change also leads to business opportunities for Nippon Steel.

For example, we have developed and provided for actual use various types of products and product utilization technologies in the civil engineering field. They include hat-type sheet piles (contributing to national resilience in a wide range of ways, including measures against liquefaction of river levees, water leakage, and tsunami reaching coastal levees), linear-type steel piles (having a high-tensile strength at the joints, being suitable to cell-type quays, erosioncontrol dams and water shut-off work, and contributing to measures for sand embankments and against landslide at the time of heavy rain or a typhoon), and a method of preventing subsidence by use of sheet piles. Responding to Climate Change – Information disclosure of the Task Force on Climate-related Financial Disclosure (TCFD)

Activities to transfer and diffuse decarbonization technologies overseas

With the understanding that the transfer of Japan's advanced energy-saving technologies overseas can be effective ways to globally reduce CO₂ emissions, Nippon Steel is participating in many energy-saving and environmental initiatives in Japan and overseas. For example, we work with the World Steel Association and directly with countries such as China and India.

Japan's steel industry's international cooperation in energy conservation

As a core member of the Japan Iron and Steel Federation (JISF), Nippon Steel is involved in multinational projects such as those for the Environment Committee of the World Steel Association.

In addition, the JISF is promoting 1) joint meetings of public and private steel-related parties, 2) preparation of customized list of technologies, and 3) assessment of steelworks as to energy-saving status. These are the three pillars of collaboration for bilateral energysaving and environmental cooperation with India, Southeast Asia, and other countries and regions.

Joint meetings of public and private steel-related parties

In public-private steel-related joint meetings, we share the technologies customized list, the results of assessment of steel mills, and introduce detailed technical information and financing schemes, in order to realize the early transfer of energy-saving technologies to emerging countries. By fiscal 2023, joint meetings have been held: 12 times in India and 16 times in six ASEAN countries. In 2023, we held the "2023 Public and Private Collaborative Meeting between Indian and Japanese Iron and Steel Industry" with India and the online "ASEAN-JAPAN Steel Initiative Webinar 2024 - Pathways to Carbon Neutrality" conference with ASEAN countries and shared policies and private sector initiatives aimed at achieving carbon neutrality.

The technologies customized list

We identify the appropriate technologies for each country and region, and in addition to detailed technical information, we conduct the assessment of steel mills, and provide the technologies customized list, which complies with information such as on suppliers, for reference. For the ASEAN countries the 4.1 version on blast furnace (BF) steelmaking and 4.0 version on electric arc furnace (EAF) steelmaking of the technologies customized



The technologies customized list list have been released while, for India, the list was updated into the 5.1 version on BF steelmaking and the 5.0 version on EAF steelmaking in fiscal 2023.

Assessment of steelworks

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Experts from the Japanese steel industry visit the steel mills overseas to propose energy-saving technologies, provide operational improvement advice based on the operational conditions of the facilities, and conduct the energy-saving assessment of steel mills using the international standard ISO14404. Up to fiscal 2023, we had carried out the assessment of 14 steel mills in India and 17 mills in six ASEAN countries.

Activities as a Climate Action member

Nippon Steel participates in the Climate Action Program of the World Steel Association, which uses universal methods to calculate and report on the CO₂ emitted by steelworks. As a Climate Action member (data provider), our 17 years of contribution have been highly recognized.



Contribution to reduction of CO₂ emission on a worldwide scale

Japan's steel industry can contribute to the reduction of CO₂ emissions on a worldwide scale by transferring its advanced energysaving technologies to emerging countries. The reduction effects of CO₂ emission by transfer of Japanese steelmakers' energy-saving technologies have amounted to 77.67 million tons of reduction in CO₂ emissions per year in total.

		(10,000 t-CO ₂ /year)
	Number of units	CO2 emission reduction
CDQ*1	143	3,044
GTCC*2	58	2,545
TRT*3	65	1,170
Oxygen Converter Gas collection	22	821
Heat recovery	7	98
Oxygen Converter Gas waste heat collection	8	90
Total	303	7,767
		(FY2022)

[Japanese steel industry's energy-saving technologies are spreading globally (units installed in numbers)]



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TOPICS

Climate change measures in the resource recycling and biodiversity fields

Strategies

Blue carbon

Nippon Steel has promoted scientific analysis on usefulness and safety of use of steel slag — a by-product from the steelmaking process. To improve this technology, we began a basic study on blue carbon (CO₂ absorption and fixation in the marine ecosystem), which is getting more attention as a measure against climate change.

In fiscal 2022, we calculated the CO2 fixation effect in a

seaweed bed creation project, on which we have been working over the past nearly 20 years, applying for J-Blue Credit[™] certification jointly with the Mashike Fishery Cooperative Association (Mashike, Hokkaido). J-Blue Credit[™] was certified and issued for 49.5 t-CO2 — the amount of CO₂ absorbed and fixed (blue carbon) over the five years (2018 – 2022).



Further, in fiscal 2023, we submitted applications with joint applicants in

Mashike-cho and Tomari-mura in Hokkaido, as well as in Kimitsucity, Chiba Prefecture, and J-Blue Credit[™] for 33.3 t-CO₂ were certified and issued.

Also in fiscal 2023, we started the new demonstration test of seaweed bed development in 21 sea areas nationwide, and we are conducting continuous surveys of changes in the concentration of iron in seawater before and after the test, as well as the growth of seaweed. In addition to the acquisition of these basic data, we are working to advance seaweed bed development technology by providing theoretical support through scientific approaches, such as off-line testing using the "Sea Laboratory" (marine environment simulator) at the Research & Engineering Center of the R&D Laboratories (Futtsu City, Chiba Prefecture) and model analysis that reproduces actual sea conditions.

We will continue these initiatives utilizing our technologies, and expanding seaweed bed development activities nationwide so as to contribute to the reduction of CO₂ emissions through blue carbon.



Large water tank Sea Laboratory

Blue carbon https://www.nipponsteel.com/en/csr/env/circulation/sea.html

Click here for other contributions in the field of resource recycling Recycling of waste plastics P92 Maximum use of steel scrap P94 Blast furnace cement P91

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Our strategy for climate-related risks and opportunities

For each transition factor and physical factor, we have identified risks and opportunities that may have a significant impact on our business in the areas of upstream procurement, direct operations, and downstream demand for products and services. We have then considered strategies for each scenario.

In conducting the scenario analysis, we have used the scenarios of the International Energy Agency (IEA) as a base, and evaluated medium- to long-term risks and opportunities up to 2050, by referring to the IEA's 1.5°C scenario (NZE2050) and the below 2°C scenario (B2DS) in transitional aspects and the 4°C scenario (NPS) in the aspects of physical impacts.

[Reference scenario]	
1.5°C/2°C scenario	IEA WEO2022 NZE2050 IPCC Special Report on the impacts of global warming of 1.5°C IEA WEO2018 SDS IEA ETP 2017 B2DS
4°C scenario	IEA WEO2018 NPS IPCC AR5 RCP

TCFD scenario analysis

Scenario	Factors (risks and opportunities)	Events (expectations and concerns of stakeholders)	Impact to Nippon Steel (opportunities in □, risks in □)	Nippon Steel's strategy (including future responses)
	Transition factor 1 Advance in electric vehicles (EVs)	World EV sales: 65 million units, 60% market share in 2030 (vs. 6.6 million units, 8.6% market share in 2021)*	 Opportunities in demand growth for our steel products Increase in the global total number of cars and resultant increase in steel demand despite a decline in the share of steel demand for cars equipped with internal combustion engines due to the growth of EVs' share of the new car market Increase in demand for high-performance steel products — our area of strengths, such as electrical steel sheets for EVs 	• Capture growing demand by strengthening the global supply of electri- cal steel sheets (TOPICS on P.44)
1.5°C/2°C scenario	Transition factor 2 Shift to other lightweight materials, prompted by tighter fuel efficiency regula- tions, etc. (multi materials)	Shift to other lightweight mate- rials, prompted by tighter fuel efficiency regulations, etc.	 Opportunities in demand growth for high-strength steel and capturing of demand for other materials Some possibility of switching to other lightweight materials but little prospect for significant progress since steel excels in environmental evaluation from the LCA perspective, including the production stage and material recycling, and automakers increasingly emphasize the evaluation from the LCA perspective Increase in demand for high-tensile steel, carbon fiber-reinforced plastic (CFRP), titanium, etc. 	 Strive to further popularize the LCA concept through activities to raise customers' understanding and lobby the government for regulatory change Further increase the high-tensile strength of steel and provide the lightweight steel structure technology by proposing a comprehensive automotive solution (NSafe[™]-AutoConcept) (TOPICS on P.44) Capture demand for CFRP and other products in cooperation with Nippon Steel Chemical & Material Co.)
	Transition factor 3 Shift to low-carbon steel (steel that generates low CO ₂ emissions in production)	Accelerating shift to low-carbon steel due to change in custom- ers' demand	 Opportunities in demand growth for low-carbon steel Some shift to EAF steel with low CO₂ emissions in production Continued increase in demand for BF steel due to insufficient increase in EAF steel to satisfy growing worldwide demand, caused by the limited supply of scrap 	 Acquire the SuMPO EPD (former EcoLeaf) environmental label for more products Accelerate the Carbon Neutral Vision (breakthrough technology development, including high-grade steel production in large-sized EAFs and hydrogen steelmaking) (P.36) Promote the use of direct reduced iron and other measures to reduce CO₂ emissions in existing processes Supply of NSCarbolex[™] Neutral
		Higher needs for decarbonization in steelmaking process	 Needs for a fundamental review of the steelmaking process aimed for decarbonization Potential to gain a great competitive advantage if our technological development and investments advance ahead of global peers Increase in investment burden and operating cost for the introduction of breakthrough technologies 	 Facilitate the development and implementation of breakthrough technologies by utilizing government support such as the Green Innovation Fund (P.46) Consider sharing of cost by society (P.37,42)

* Source for EV-related data: the NZE 2050 Scenario of the IEA Global Electric Vehicle Outlook 2022. EVs include battery electric vehicles (BEVs) and plug-in hybrid vehicles (PHVs).

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Responding to Climate Change – Information disclosure of the Task Force on Climate-related Financial Disclosure (TCFD)

Scenario	Factors (risks and opportunities)	Events (expectations and concerns of stakeholders)	Impact to Nippon Steel (opportunities in □, risks in □)	Nippon Steel's strategy (including future responses)
	Transition factor 4 Higher needs for energy- efficient products and technology	Eco-friendly technology solution to boost demand	 Opportunities in demand growth for eco-friendly technology Increased demand for products that realize energy savings in the processing by customers Increased demand for products that contribute to energy savings in use of end products Increase in profits through the provision of the Group's technology solutions that enable energy saving in steelmaking process 	 Expansion of NSCarbolex Solution, a brand that offers products that realize energy conservation in customers' manufacturing processes, products that contribute to energy conservation in using their end products, and products that contribute to energy transformation in society. (P.43) Government-private cooperation, technologies customized list, and steelworks diagnosis to provide energy-saving technologies to emerging countries (contribution to the global value chain), e.g. dissemination of CDQ, all of which are handled by Nippon Steel Engineering, into emerging countries (P.87)
1.5°C/2°C scenario	Transition factor 5 Higher needs for products and solutions associated with a society based on renewable energy and hydrogen	Ratio of renewable energy in world power generation: 88% in 2050 (vs. 28% in 2020) World production of hydrogen: 490 mn tons in 2050 (vs. 90 mn tons in 2020)*	 Opportunities in demand growth for products of our Group Profit growth by provision of the Group's products and solutions that support a renewable-energy-oriented society Profit growth by provision of the Group's products and solutions that support a hydrogen-oriented society 	 Enhance the Group's product menu for the renewable-energy society and expand sales in Japan and overseas, e.g. high corrosion-resistant steel sheets for solar power generation mount, steel plates and steel anchor chains for offshore wind power generation, and steel pipes for geothermal and biomass power generation Enhance the Group's product menu for the hydrogen society and expand sales in Japan and overseas, e.g. HYDREXEL[™] stainless steel for high-pressure hydrogen environments
	Transition factor 6 Increase in cost caused by adoption of carbon pricing (CP)	Incremental introduction of carbon pricing (CP) measures	 Increasing burdens on our cost due to CP introduction The GX Promotion Act states that the introduction of CP will help companies secure the funds and time required to work on technology development and capital investment aimed at decarbonization. While the impact of CP is not so significant for the time being, the burden on our costs will increase due to the CP system design cost and the movement of passing the burden of CP on to electricity charges, etc. we pay. 	 Reduce CO₂ emissions through the expanded use of direct reduced iron, reduction in CO₂ emissions in existing processes, and advance in breakthrough technologies such as hydrogen steelmaking and production of high-grade steel using large EAFs We will request the government to take measures to support heavy emission-producing industries, which have few options for decarbonization, and measures to support narrowing product price increases due to the rise in energy costs
	Physical factor 1 Abnormal weather to suspend raw material suppliers' operation	Difficulty in operation, caused by a natural disaster	 Limited impact by taking measures for risks Limited assumed risk in securing stable procurement of raw materials by taking the following measures: Material sourcing from multiple regions in the world Keeping raw material inventories in steelworks and ships 	 Continue multiple sourcing Appropriately manage days of inventory and risks
4°C scenario	Physical factor 2 Abnormal weather to suspend operation and shipment	Difficulty in procuring raw materials, caused by abnormal weather	 Limited impact by taking appropriate measures Adoption of BCP measures. Limited risks in production disruption caused by natural disaster. Excessively abnormal weather may result in suspension of operation, etc. 	 Continually adapt measures in consideration of long-term trends Measures against typhoons and heavy rain, measures to prevent crane overturns, measures against earthquakes and tsunami (securing emer- gency evacuation places, embankment reinforcement, etc.)
	Physical factor 3 Heightened needs for solutions for "national resilience" against natural disasters	Natural disaster caused by abnormal weather	 Demand growth of steel for national land resilience Profit growth by providing products and solutions for national resilience against earthquakes, tsunamis, heavy rain, typhoons, etc. 	 Enhance the Group's product menu and expand sales in Japan and overseas, e.g. steel-slit dams and NS ECO-PILE[™] method

* Source for data on renewable energy and hydrogen: the NZE 2050 Scenario of the IEA World Energy Outlook 2021.

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Creation of a Circular Economy

Steel is a flexible material that can be repeatedly recycled: it is a perfect example of a circular economy.

Nippon Steel strives for the greatest efficiency possible, including minimization or elimination of waste, in use of our energy and limited resources, in every process of steelmaking. By utilizing this steelmaking process, we also work to recycle internally-generated by-products so that we can realize zero emission. We are also actively engaged in recycling of waste generated in society or by other industries.

Strategies

Efficient use of resources and energy

We use industrial water and energy resources such as electricity and fuel in producing steel products, which are mainly made of iron ore mined overseas, coal used as a raw material for reducing iron ore, and iron scrap recycled by society.

Nippon Steel's steelworks use 100% of by-product gas generated in the steelmaking process, as fuel for heating of steel or as energy for an onsite power plant. Concerning water resources, 90% of water used in cooling and cleaning of products and manufacturing facilities are reprocessed and repeatedly used. These are examples of our efforts to make maximum use of limited resources and energy, without waste.

Promote internal zero emission

By-products generated and final disposal

In the iron and steel-making process, over 600 kg of by-products, such as steel slag, dust, sludge, and used refractory bricks, are generated for each ton of crude steel produced. In fiscal 2023, Nippon Steel produced 34.99 million tons of crude steel and generated 21.16 million tons of by-products. We are committed to recycling these by-products both in and outside the Company, maintaining the high recycling rate of 99%. For the final disposal amount, we will continue efforts to reduce generation of by-products toward achieving the fiscal 2025 target.

[Nippon Steel's final disposal amounts]



Recycling of dust and sludge

To recycle the dust^{*1} and sludge^{*2} generated in the iron and steelmaking processes, for them to be used as raw materials, Nippon Steel operates a dust reduction kiln (RC: Resource circulating oven) at East Nippon Works Kashima Area and a rotary hearth reduction furnace (RHF) at East Nippon Works Kimitsu Area, Setouchi Works Hirohata Area, and NIPPON STEEL Stainless Steel Corporation (Hikari). This enables us to recycle all internally-generated dust.

[By-products and recycling (FY2023)]

By-product			
Blast furnace slag	10.76	Blast furnace cement, fine aggregate, road base, etc.	100%
Steelmaking slag	4.5	Road base, civil engineering materials, fertilizer, etc.	97%
Dust	2.72	Raw materials for use in-house and also zinc refining	100%
Sludge	0.57	Raw materials for in-house use	90%
Coal ash	0.42	Cement raw materials, construction materials	100%
Waste furnace materials	0.23	Reuse, etc.	64%
Others	1.96	In-house use, others	100%
Total	21.16	Total recycling rate	99%

*1 Fine dust collected with a dust collector

*2 Semi-solid slurry recovered from industrial water discharge or sewage treatment

Effective use of steel slag

Almost all steel slag is effectively utilized. Approximately 70% of blast furnace slag is used for blast furnace cement, while steelmaking slag is used for materials for road base layers, civil engineering work, soil improvement, marine environment improvement, fertilizer, etc. "Blast furnace cement," a mixture of pulverized blast furnace slag and ordinary Portland cement, contributes to a 40% reduction of CO₂ emissions during manufacturing, since the cement clinker burning process can be omitted. The blast furnace cement also excels in long-term strength and is registered as Eco Mark-certified product. The steel slag products help reduce natural crushed stone mining and have the energy saving impact during cement manufacturing. As a result, they are designated as a "designated procurement item" under the Act on Promoting Green Procurement, and have been certified as recycled products by some local governments. Nippon Steel's pavement materials, KATAMA[™] SP, are advantageously used in keeping with the characteristics of steel slag which hardens by reacting with water. They are used for forest roads and farm roads, as well as for weed preventive pavement to be installed near mega-solar panel installations and other locations. Geo-Tizer™ made of steel slag can be mixed with soft soil (mud. such as surplus excavated soil from construction sites or farmland soil) to reform the soil to make it usable. Unlike conventional soil-improvement materials (i.e., cement and lime), this soil produces less dust, significantly reduces CO₂ emissions, and is less expensive, enabling reduction of construction cost. The remediated soil is outstanding in compacting and can also be easily excavated, as it does not excessively solidify. Calcia modified soil - a mixture of steelmaking slag calcia modifier and dredged soil - has been used to improve the marine improvement, such as by backfilling deep-dug seabed areas and creating shallow bottoms and tideland. In addition, Nippon Steel's Vivarv™ Unit, which are composed of steel slag and humus made from waste wood, provides iron needed for seaweeds to flourish, promoting regeneration of an area of the sea bed that had lost much of its living organisms. Moreover, as steel slag contains nutrition that helps plants grow, it is also widely used as fertilizer, contributing to improving farming productivity.



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Creation of a Circular Economy

Increase in recycling of waste generated in society (waste plastics)

We recycle 100% of waste plastics collected from ordinary households through chemical recycling by using a coke oven in accordance with the Containers and Packaging Recycling Law. Specifically, waste plastics are used as hydrocarbon oil (40%), coke furnace gas (40%), and part of coke (20%). Currently, Nippon Steel is processing approximately 200,000 tons annually, or about 30% of the volume of waste plastics collected nationwide, in cooperation with local governments. Our method of using coke oven has an extremely high recycling efficiency and a great treatment capacity, contributing to a circular economy in many regions. Furthermore, as the Plastic Resource Recycling Promotion Law enacted in fiscal 2022 calls for collection not only of container packaging plastics but also products made of plastics in bulk collection, we are also recycling plastics collected in bulk. In addition, we are also working hard to develop technologies for expansion of treatment to meet the increasing plastics processing needs in the future.

The cumulative amount processed in fiscal 2000–2023 was approximately 4.09 million tons, equivalent to 13.09 million tons in terms of reduction in CO₂ emissions (the amount of annual CO₂ absorption in artificial cedar forests in the area as big as 320,000 Yankee Stadiums).

This expanded use of waste plastics has been incorporated in our "Carbon Neutral Vision 2050" measures to combat climate change, and is presented as one of the examples of the efforts of Nippon Keidanren (Japan Business Federation) member companies' activity in its "Recycling Economic Partnership."

* One hectare of artificial cedar forest absorbs approximately 8.8 tons of CO₂ per year (source: the website of the Forestry Agency).

[Chemical recycling of waste plastics]

Thermal decomposition enables 100% effective re-use of plastics



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Creation of a Circular Economy

Energy Material Balance

We are not only moving toward the achievement of zero emissions with minimal environmental impact and recycling internally generated materials, with utilizing the steel manufacturing process, but also actively recycling waste materials generated by society and other industries.



*Numbers represent FY2023 performance *1 Purchased electricity (kWh) excludes electricity purchased from Cooperative Thermal Power Companies

Message from the President

Strategies Financial Strategy

Sustainability

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Creation of a Circular Economy

Water resources

Of water used in cooling and cleaning of products and manufacturing facilities, approximately 90% is reprocessed and repeatedly used, while the remaining approximately 10%, which disappears mainly due to evaporation, is replaced.

2 By-product gas

By-product gases, such as coke oven gas generated when coal is thermally cracked in an oxygen-free environment in the coke manufacturing process and blast furnace gas generated from blast furnaces, are fully utilized as fuel gas for steel heating furnaces or energy sources for power generation plants on the premises of steelworks.

3 Electricity

Nippon Steel itself generates 89% of the electricity it uses at steelworks, 70% of which is from internally generated energy sources such as exhaust heat and by-product gases. In the future, we will also consider making more efficient facilities and switching fuel in order to further lower carbon generation.

[Nippon Steel Group's* Electricity Supply and Demand Balance (FY2023)]



The Group internally generates 89% of the electricity it uses.

The Group supplies 37% of internally generated electricity to the local community.

* Including cooperative thermal power companies and affiliated electric arc furnaces

4 Use of exhaust heat

Exhaust heat, generated in the blast furnaces, sintering facilities, coke ovens, converters, and other facilities, is recovered and used in steam generation and power generation.

Coke Dry Quenching (CDQ) for large-scale waste heat recovery

The CDQ equipment quenches hot coke made in the coke oven with inert gas, and the heat is used to generate steam for power generation. Compared to the conventional wet quenching, 40% energy saving has been achieved.



CDQ

5 By-products

By-products generated in steelmaking are recycled for reuse in the same process or for commercial use. We thus promote achieving zero emission and contribute to conservation of resources and energy.

6 Waste plastics

Approximately 200,000 tons per year, or about 30% of plastic containers and packaging collected from households nationwide, are fully recycled by a chemical processing method using coke furnaces.

7 Recycling of steel scrap

We recycle steel scrap generated in steelmaking and processing processes, as well as steel scrap recovered after use in society, as raw materials for producing new steel products.

In fiscal 2023, we used 4.9 million tons of steel scrap.

Recycling steel scrap is one of the important measures to achieve carbon neutrality. By maximizing the use of steel scrap resources generated in Japan, we aim to significantly reduce CO₂ emissions in the steelmaking process.

[Energy efficiency in steelmaking by country (2019)]

Efforts for efficient use of various resources have resulted in Japan's steel industry achieving the world-leading level in energy efficiency.



Source: International Comparisons of Energy Efficiency (Sectors of Electricity Generation, Iron and steel, Cement), RITE, 2019 (The Japanese translation and numerical values were provided by the Japan Iron and Steel Federation.) Financial Strategy

Sustainability

Corporate Governance

Biodiversity Conservation and Nature Positive

Nippon Steel participates in the activities of the Keidanren (Japan Business Federation) Nature Conservation Council has affirmed the Keidanren Declaration for Biodiversity and Guidelines (revised in December 2023), and has accordingly been taking initiatives on biodiversity preservation. We also participate in the 30 by 30 Alliance for Biodiversity, contributing to the vitalization of nature-positive efforts through these activities.

Strategies





Efforts to conservation of biodiversity and nature positive

Which are closely aligned with measures to deal with climate change and the creation of a circular economy, under the following policy.

Policy for the initiatives

- As a member of Keidanren, we comply with the Keidanren Declaration for Biodiversity and Guidelines.
- Recognizing both that our business activities greatly rely
 on nature's gifts, and that biodiversity is vital for realizing a
 sustainable society, we are well aware of the relationships of our
 business activities with biodiversity and are pledged to respond
 to challenges rooted in diverse local features, in order to build a
 society in harmony with nature.
- As a member of the international community, we also recognize that initiatives aimed at building a society in harmony with nature are closely related to global issues of measures to deal with climate change and the creation of a circular economy. We aim to realize a sustainable society through integrated environmental corporate management which includes these initiatives in business activities.

Contribution to activities aimed at achieving the 30 by 30 biodiversity target

In March 2023, we participated in the 30 by 30 Alliance for Biodiversity to contribute to achieving the 30 by 30 diversity target the Japanese government strives to achieve, based on the rationale of the Kunming-Montreal Framework adopted at the 15th Conference of the Parties to the Convention on Biological Diversity (COP15) held in December 2022. The alliance is a coalition of volunteers working in the public and private sectors to conserve and protect at least 30% of their own country's land and sea areas by 2030 (30 by 30), with the goal of halting and reversing biodiversity loss by 2030 (nature positive).

We aim to have our areas under conserved biodiversity registered as Other Effective area-based Conservation Measures (OECM), including in the registration of the Creation of Hometown Forests at our steelworks and the Creation of Sea Forests.

[Other Effective Area-based Conservation Measures (OECM)]

An OECM is an area with a biodiversity value, subject to conservation of biodiversity through various efforts by companies, private organizations/ individuals, and local governments, and where the

government certified that "it is under conserved biodiversity through private-sector efforts." Certified areas are registered in the international database as an OECM, with their overlap with protected areas excluded.



Responding to nature-related information disclosure

Today, the state of nature is said to be deteriorating at the fastest pace in human history, raising concerns about the possibility that many of nature's essential services benefitting society (ecosystem services) may deteriorate. Scientists say that this natural degradation is attributable directly to the pressure on nature caused by human activities, such as changes in how nature is utilized, how resources are exploited, how climate changes and pollution affect the world's society, and the effects of invasive alien species in the land, freshwater, and oceanic areas.

In as much as we recognize that our core business activities of steel production impact nature, we are engaged in various undertakings to evaluate and analyze the impact of steel production on nature, using various assessment approaches advocated by the TNFD that we reflect in our business activities.

[Task force on Nature-related Financial Disclosures(TNFD)]

Aiming to support shifting global financial flows away from naturenegative outcomes, and towards nature-positive outcomes in accordance with the recognition of biodiversity and natural resources risks, the TNFD is a disclosure recommendation with a mission: to develop and provide a framework for risk management and information disclosure so as to encourage organizations to report and act on ever-changing nature-related risks.

While considerations are given to the consistency between the TNFD and the Task Force on Climate-related Financial Disclosures (TCFD), such as their having the same basic design, the TNFD requires broader consideration, due to, for example, a difference from the TCFD in the evaluation of activity areas in "Strategy," traceability in "Risk Management," the quality of stakeholder involvement, and the consistency between their climate change and nature targets in "Metrics and Targets" and so on.

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Biodiversity Conservation and Nature Positive

Specific initiatives

Creation of Hometown Forests

Reproducing "the grove of a village shrine" and nurturing biodiversity

We have carried out the "Creation of Hometown Forests" projects at our steelworks and factories in Japan under the guidance of the late Dr. Akira Miyawaki (professor emeritus of Yokohama National University), with the aim of facilitating harmonious coexistence between nature and humans. This project comprises research on the natural vegetation inherent to a certain area in a nearby grove associated with a historical shrine (Chinju-no-mori) and planting trees by local residents and our employees.

This was the first project by a private company in Japan to create a forest that harmonizes with the local scene and is based on an ecological approach.

At present, our forests in aggregate have grown to total around 840 ha (about the size of 180 Yankee Stadiums).

Wild birds and animals visit the forests at our steel works sites across Japan. Wild birds and animals inherent to the land return to the forests. Thus, the "Creation of Hometown Forests" helps conserve biodiversity, and sequester CO₂.



Kyushu Works (Oita Area)

Creation of Sea Forests

Implemented in 56 spots in Japan to improve sea desertification

With the aim of solving the supply deficiency of iron, which is said to be one of the causes of sea desertification, Nippon Steel has developed the Vivary™ Unit via joint research with Tokyo University and uses it to promote the regeneration of seaweed beds.

Humic acid iron is the combination of iron ions and humic acid in the soil of a land forest in the natural environment. We have developed the technology to artificially generate humic acid iron by using steel stag and humic substance originating from waste wood. The Vivary Unit has received a safety certificate from the Safety Check and Certification System of the National Federation of Fisheries Cooperative Associations for our steel slag products.

In Mashike Town, Hokkaido, starting from an experiment in 2004, we have developed a large-scale project (for a 300-meter coastal line) since 2014, confirming the expansion of seaweed beds and increase in the sea urchin population. This project is also expected to restore the once-atrophied seabed and steadily raise biodiversity.



Mashike Town Hokkaido



Basic Information

[Some animal inhabitants of the Hometown Forests]

Muroran	Ezo deer, Ezo red fox, Ezo squirrel, eagle, buzzard, magpie
Kamaishi	Moon bear, Japanese serow, deer, hare, black-tailed gull
Naoetsu	Japanese dace, carp
Kashima	Pheasant, shrike, duck
Kimitsu	Bulbul, pheasant, little tern, swallow, egret
Nagoya	Raccoon, pheasant, bulbul, shrike, swallow, great tit
Osaka	Weasel, starling, bulbul
Wakayama	Raccoon, marten, bulbul, tiger keelbuck

Sakai	Duck
Amagasaki	Heron, bulbul, lizard, killifish, white-tailed skimmer
Hirohata	Buzzard, shrike, oriental turtle dove, bulbul, starling, bunting
Yawata	Weasel, pheasant, gray heron, Japanese cormorant
Kokura	Gull, Japanese wagtail, graphium sarpedon
Oita	Whooper swan, kingfisher, killifish, mayfly, firefly
Hikari	51 species of birds including black-tailed gull and herring gull





Japanese dace



White-tailed

skimmer





Buzzard

Gray heror

Bulbul

Little terr

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Biodiversity Conservation and Nature Positive

Participation in community projects

Participation in ecological preservation activities in the community

Since 2012, the Nagoya Works of Nippon Steel has participated in the Inochi-wo-Tsunagu (Life Sustaining) Project, which has been organized by a local students' planning committee, 11 partner companies, the Eco-Asset Consortium and the Japan Ecologist Association of Support (NPO). This project seeks to develop an ecosystem network that connects green spaces of company sites. To thereby increase the potential of the connected areas, an animal pathway was established and a fixed-point observation camera recorded raccoons coming and going through the pathway. The project received the Minister of the Environment Award of the 2021 Sustainable Social Development Award as the project activities were highly evaluated for their creation of a network that transcends student and corporate boundaries, which are linked to a wide range of cooperative activities.

In October 2023, the Chita Peninsula Green Belt, which has been promoted jointly by 11 companies including the Nagoya Works of

Nippon Steel, governments, students, experts, and NPOs, has been certified as a "symbiosis with nature site" by the Ministry of the Environment.

Contribution by use of by-products

Steel slag repurposed for rice cultivation

Steel slag, a by-product of steelmaking, contains nutritional matter that helps plants grow. It is therefore used as a fertilizer for rice cultivation, dry-field farming, and pasture grass. Silica contained in steel slag promotes photosynthesis by keeping leaves upright and improving their light receiving orientation, while iron is effective in preventing root rot and leaf blight. The steel slag also contains phosphoric acid, manganese, boron, and various other components of fertilizer. Nippon Steel donated converter slag

fertilizers to cooperate with research by the Tokyo University of Agriculture for salt removal in farmland in the Soma area of Fukushima Prefecture, which was devastated by the earthquakes and tsunami of March 2011. The slag fertilizers have proved effective in rapid and efficient salt removal. The restoration of rice fields also works to restore habitats for birds, frogs, and various other living things.







Hometown Forest of Nippon Steel Kyushu Works Oita Area More than 50 years of efforts and their significance

IGES-Japanese Center for International Study in Ecology Director Shinichi Suzuki

The Chinju-no-Mori (local historical forest) in the Oita Area, the planting of which began in 1971, is an artificial forest similar to Tokyo's Meiji-Jingu Shrine forest planted in 1920. However, it is not just a man-made forest. The forest was devised by the late Dr. Akira Miyawaki based on the results of vegetation ecology research, and was created by meticulous planning and management. This has evolved into a Miyawaki-Method environmental conservation forest of evergreen broadleaf trees, and is highly praised globally.

More than 50 years after planting, trees of the local forest in the Oita Area have already reached a height of 20 meters and have flourished so as to become a forest reminiscent of one at the Meiji Shrine. Going beyond the framework of forest greening, the forest project provides excellent scenery and vegetative landscape in the community. At the same time, it comprises a forest area with an impressive overall environmental conservation effect, accompanied by disaster prevention and dust resistance qualities. Unlike single planting of adult trees with props, which was the mainstream back in the 1970s, Nippon Steel's foresight in environmental conservation incorporating ecological methods is highly praised.

In fact, the site in the Oita Area used to be bare land formed by coastal reclamation before planting to create the current forest. What made it possible to establish the trees was the determination of potential natural vegetation based on field surveys, combined with use of ecological planting of carefully chosen techniques and species, soil improvement, and the creation of mound. Even 50 years after planting, the hometown forest in the Oita Area is still in the process of developing. As a living and continuously growing environmental preservation device, the forest is expected to bring high benefits and contribute to global environmental issues including global warming and biodiversity. The Oita Area hometown forest is precious natural capital.

Dr. Shinichi Suzuki

Vegetation Scholar, Director of IGES-Japanese Center for International Study in Ecology (IGES-JISE), Ph.D. (Academic)

Born in Gunma Prefecture in 1958. After graduating from the Faculty of Agriculture, at Meiji University, he studied under Dr. Akira Miyawaki at the Vegetation Studies Laboratory of the Research Center for Environmental Sciences, Yokohama National University. He served as a biology teacher at Gunma Prefectural High School, a researcher at the IGES-JISE, and a professor at the Junior College of Tokyo University of Agriculture and the Faculty of Regional Environmental Sciences at the same university. In July 2024, he became Director of the IGES-JISE. He is also a member of the vegetation map legend review committee of the Ministry of the Environment, an advisor to the Environmental Review Board of the Ministry of Economy, Trade and Industry, a special adviser for the protection of Oze, Gunma Prefecture, and the Chairman of Chinju-no-Mori Project Engineering Department.

Co-authored "Nihon Shokuseishi Vol. 3-10" (Shibundo, 1983-1989), "Vegetation Landscape and its Management" (Tokyo University of Agriculture Press, 2014), "Study on Forests That Protect the Environment" (Kalseisha, 2018), etc.



Biodiversity Conservation and Nature Positive

Introduction

Information disclosure according to recommendations of the Task Force on Nature-related Financial Disclosures (TNFD)

Recognizing that the conservation of biodiversity and restoration of nature (nature-positive) are important environmental issues similar to carbon neutrality and a circular economy, we will strengthen our various measures and consider strategies to reduce nature-related risks and realize opportunities, incorporating them into our business activities.

Disclosure approach in line with the TNFD Final Recommendations

We conducted an evaluation and analysis of the nature-related disclosure recommendations advocated by TNFD, according to the LEAP approach.

TNFD evaluation and analysis process

- L: Location assessment and identification of vulnerable areas
- E: Evaluation of sector-level dependencies and impact relationship
- A: Assessment of material risks and opportunities
- P: Strategy development based on the analysis results and management by metrics and targets

TNFD Disclosure Recommendations

- Governance: Governance of nature-related dependencies and impacts, and risks and opportunities
- Risk and Impact Management: A process used to identify, assess, prioritize, and monitor nature-related dependencies and impacts, and risks and opportunities
- Strategy: Impacts plus risks and opportunities of nature-related dependencies on business models, strategies, and financial planning
- Interior and Targets: Metrics and targets used to assess and manage critical nature-related dependencies and impacts, and risks and opportunities

Governance

The Environmental Policy Planning Committee, chaired by the representative vice president in charge of the environment, reports and discusses environmental policy issues every six months. Issues related to nature-related dependencies and impacts, as well as risks and opportunities, are also reported and discussed by this committee together with other environmental policy issues such as climate change countermeasures and the establishment of a recycling-oriented society. The results are reported and discussed at the Management Committee and the Board of Directors, and are supervised by the Board of Directors.

Management of risks and impacts

Concerning dependencies and impacts on nature, as well as our risks and opportunities, we have assessed our direct operation (steelworks) of the core steelmaking business and the mining of iron ore and coking coal in the upstream supply chain, according to the LEAP (Locate, Evaluate, Assess, and Prepare) approach advocated by TNFD. The processes for managing these natural-related risks and impacts are integrated into the company-wide risk management process as described in 1 Governance.

See the process of identifying, assessing, and prioritizing risks and opportunities (assessment and analysis using the LEAP approach) https://www.nipponsteel.com/en/csr/env/biodiversity/tnfdassess.pdf



Strategies Financial Strategy

Biodiversity Conservation and Nature Positive

Strategy

Using the ENCORE (Exploring Natural Capital Opportunities, Risks, and Exposure) and other tools, we assessed the dependencies and impact relationships of our direct steel operations (steelworks) and upstream supply chains (major raw material suppliers), and assessed and analyzed the nature-related risks and opportunities linked to critical dependencies and impacts from the perspective of their impact on our business models, strategies and financial plans. The resulting items identified as critical risks and opportunities and our strategies to reduce risks or realize opportunities related to them are shown below.

[Risk Analysis Results]

Target	Critical depend	dencies/impact	Risk type	Factors and events	Impact on Nippon Steel	Nippon Steel's strategy
Direct operation Production activities in steelworks	Water p (Imp	pollution pact)	Physical (Acute)	Pollution of the surrounding water environment and water contamination accidents caused by wastewater or leakage of steelworks	 Increased costs for additional waste- water treatment. Suspension of the production pro- cess if the existing processing facility cannot handle it Possibility of penalties or fines due to exceeding the baseline 	 [Target] No serious violations of environmental laws and regulations and no environmental accidents Consider water pollution caused by wastewater and leaks as a risk that can occur at all steel-making sites, regardless of whether they are located in areas where there is a risk of impact on the ecosystem. Implement hardware/software measures assuming their occurrence across the company. <hardware measures=""> Automatic wastewater monitoring equipment, wastewater shut-off gates, emergency water tanks, etc.</hardware> <software measures=""> Inspection and repair, drafting of work standards, operation confirmation, and training of procedures</software> (See the Page for details of measures for the water environment) Have a system in place to promptly report environmental events at each business site to the head office. Report the status of such events twice a year to the Environmental Technology and Management Committee chaired by the executive vice president in charge. Also, report to and be supervised by the Board of Directors.
	Utilization o ecosy (Imp	of terrestrial rstems pact)	Physical (Acute)	Temporary suspension of business activities caused by the destruction of land, including the operating area, by the mining activities of a supplier	• Deterioration of corporate image and a decrease in product sales due to procurement of raw materials from the supplier in trouble	 Have a system in place that allows us to continue our business, with diversified material sourcing as a comprehensive risk countermeasure, by increasing the amount of procurement from other suppliers even in case of temporary suspension of procurement from one supplier Checking the status of suppliers' nature-related activities in future engagements with suppli-
Indirect operation (Upstream supply chain) Mining activities of iron	Utilization of	Utilization	Transition (Markets)	 When a supplier causes problems such as land destruction or excessive use of water resources, or fails to properly disclose to investors, despite investors' increased ESG investment associated with higher awareness of the use of ter- restrial ecosystems and water resource conservation: Decline in the supplier's brand value Supplier's withdrawal from the business due to their deteriorating financing 	 Decrease in product production due to limited procurement of raw materials in case of a suspension of a supplier's business activities 	 ers, recognizing that some of the activities of suppliers have an impact on nature Examples of activities of suppliers of raw material (Vale) <terrestrial ecosystems=""></terrestrial> Enhanced measures to eliminate dangerous tailing dams by 2025 <water resources=""></water> 84% use of recycled water for production (result in 2023) 20% reduction of per-unit consumption of fresh water vs. 2017, the base year
ore and coking coal	(Impact)	or water resources (Impact)	Transition (Reputation)	 When a supplier causes a water-related problem or fails to properly disclose it to local residents or environmental organizations, despite their increased interests in the use of terrestrial ecosystems or water resource conservation: Decline in the supplier's business continuity in the target regions due to criticism from local residents and environmental organizations Decline in the reputation of the supplier due to news and other information 		Compared and the second and the

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Biodiversity Conservation and Nature Positive

[Opportunity Analysis result]

Target	Critical dependencies/ impact	Risk type	Factors and events	Impact on Nippon Steel	Nippon Steel's strategy
		Transition (Products and services, reputation)	Increase in demand for eco-friendly products due to increasing social interest in and needs for the conservation of nature and biodiversity	 Increase in production by expand- ing the lineup of eco-products and strengthening the steelmaking system, and increase in earnings from environ- mentally friendly products 	Natural restoration and expansion of supply of a variety of nature-positive and eco-friendly products Improvement of marine environment and regeneration of seaweed beds using steel slag as raw material (marine fertilizer: Vivary [™] Unit) High ductility steel plates for hulls that reduce the risk of environmental damage such as oil spills by improving marine safety Improvement and provision of seaweed beds using steel slag as raw material (marine fertilizer: Vivary [™] Unit) High ductility steel plates for hulls that reduce the risk of environmental damage such as oil spills by improving marine safety Improvement and provision of seaweed beds using steel slag as raw material damage such as oil spills by improving marine safety Improvement and provision of steel materials that do not contain environmentally hazardous substances such as lead and hexavalent chromium
Direct operation The NS Group's nature-related activities	Nature in general (Impact)		Increased impact of nature and biodi- versity conservation activities on the corporate image due to increasing social interest in and needs for the conserva- tion of nature and biodiversity	 Improved corporate image and increase in product sales by effectively dissemi- nating activities related to the preserva- tion of nature and biodiversity 	Enhanced PR for the above products (sales activities, academic conferences, events, commercials, etc.) • Presentation on the creation of sea forests at COP28
		Transition (Reputation)	Increasing attention from stakeholders, including local residents, regarding the conservation of nature and biodiversity	Implementation of initiatives related to the preservation of nature and biodi- versity and effective communication to build good relationships with local com- munities and improve preparedness for business continuity	 Establishment of management standards based on ecological methods, under our Basic Environmental Policy, to promote the creation of Hometown Forests Contribute to the restoration of ecosystem services (fishery harvest) through the creation of sea forests Promotion of environmental activities such as dialog and participation in local activities by steelworks, and participation in 30 by 30 activities

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Biodiversity Conservation and Nature Positive

4 Metrics and targets

We manage critical dependencies and impact, and risks and opportunities, based on the TNFD Core Global Indicators. Concerning water resources and water pollution risks that are assessed as having a critical impact on direct operations, we are implementing initiatives with the targets of "no serious violations of environmental laws and regulations and no environmental accidents" and "high-level stability of the water circulation rate," reflecting the risk analysts results in 3) Strategy.

[Indicator: TNFD Core Global Indicators for Critical Dependencies and Impact]

No.	Driver of nature change	Indicator	Nippon Steel's disclosure (Direct operation: Steelworks)				
C2.1	Pollution/pollution removal	Wastewater discharged	Volume of water discharged by destination (m ³) <u> P80</u>				
C3.0	Resource use/replenishment	Water withdrawal and consumption from areas of water scarcity	No manufacturing base located in areas of water scarcity 💭 P.80 Volume of water withdrawal and consumption (m ³)				

[Indicator: TNFD Core Global Indicators for Risks and Opportunities]

No.	Category	Metric	Nippon Steel's disclosure (Direct operation: Steelworks)
C7.2	Risk	Description and value of significant fines/penalties received and litigation action in the year due to the negative nature-related impacts	None
C7.3	Opportunity	Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type of opportunity, with reference to a government or regulator green investment taxonomy or third-party industry or NGO taxonomy, where relevant	1.3 billion yen (costs for beautification and greening of steelworks) 💭 P.78

[Goals and Performance: Objectives and performance to manage critical dependency/impact items, and risks and opportunities]

Target	Metric	Goal	Progress management method	Results for FY2023
Water pollution	Serious violations of environmental laws and regulations and environmen- tal accidents	Zero	Development of communication and reporting systems, internal audits, and interviews	Zero
Water Resources	Water circulation rate	Stable rates at high levels	Internal audits and hearings	The water re-use rate of about 90%

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Safety

In keeping with the basic philosophy that "safety and health of employees of the Nippon Steel Group is the Group's most important, top-priority values and the basis that supports business development," the Nippon Steel Group has firmly adhered to its manufacturing values, which include observing the principles of prioritizing safety, protecting the environment, and preventing disasters. We are working on all of the related activities to improve the level of our Occupational Safety and Health Management System (OSHMS) while creating safe and secure workplaces. The Basic Policy on Safety and Health is applied to Nippon Steel as well as to related or cooperative companies.

Reducing disaster risks to zero, and group-wide sharing of effective measures

We make a risk assessment when planning a new project and regularly conduct safety and risk assessment for existing projects, to prevent accidents and reduce risks. We also seek for greater safety of equipment even when such equipment is essentially safe, and take countermeasures against human error. We also actively promote the use of IT in safety measures, such as checking worker location data via GPS, safety surveillance cameras, and helmet-mounted cameras. We conduct an analysis of actual accidents for the prevention of similar accidents and make known effective examples of accident-preventive measures. As a result of continuing efforts, our safety performance in 2023 shows that the number of accidents accompanied by lost work time was 8 for the company*1, 7 for our cooperating companies

[Accident frequency rate]



(including fatal cases of one for the company and zero for cooperative companies), the comprehensive accident frequency rate was 0.08 (vs. Japan's steel industry average of 0.81), and the intensity ratio was 0.04 (vs. the same average of 0.12). We will continue to strive for a safe work environment with the safety wellness targets for FY2024 which are zero fatalities/severe accidents and less than 0.10 as the accident frequency rate.



*1 Nippon Steel's employees include seconded employees as well as temporary and part-time workers, and those dispatched to Nippon Steel.

Target: 0.10



Acquisition of third-party certification

Nippon Steel's all steelworks acquired the ISO (JIS Q) 45001 Health and Safety certification (published in March 2018) as of April 2024.

FY2019 Kansai Works Wakayama Area

- FY2020 Amagasaki Area and Osaka Area of Kansai Works; Nagova Works: Kvushu Works Oita Area: East Nippon Works Kashima Area
- FY2021 Naoetsu Area and Kimitsu Area of East Nippon Works, North Nippon Works Muroran Area. Setouchi Works Hirohata Area
- FY2022 North Nippon Works Kamaishi Area, Kyushu Works Yawata Area
- FY2023 Setouchi Works Hanshin Area

ISO (JIS Q) 45001 Health and Safety certificate (Setouchi Works Hanshin Area)

Safety training

We make efforts to improve training for accident prevention. The safety training programs are attended by all newly appointed managers of manufacturing worksites (80 managers in fiscal 2021, 65 in fiscal 2022, and 64 in fiscal 2023). Our Taikan Program (an experience-based safety education program) allows employees to experience worksite risk through simulation, so as to better prepare them for anticipating and managing risk. In addition, we regularly hold safety and health education programs (74 participants in fiscal 2022 and, 69 participants in fiscal 2023) for the safety and health staff of our Group companies and major cooperative companies, striving to enhance information sharing about our safety and health management approaches and activities and the acquisition of knowledge about laws and regulations related safety and health.

The safety and health management organization, etc. https://www.nipponsteel.com/en/csr/sdg/safety.html

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Disaster Prevention

For our company, trust, and coexistence with our customers, local communities, and society are of the utmost importance, and it is important for the continuity of our company that we do not cause preventable accidents that occur despite efforts for disaster prevention that may damage our credibility. For this reason, our disaster prevention promotion activities aim to improve disaster prevention management while building mechanisms and systems for autonomous and continuous activities, taking measures to reduce disaster risks of, and preventing accidents that can be preventable.

Three initiatives to reduce disaster risks

As initiatives to reduce disaster risks, Nippon Steel's Plant Safety Division undertakes these three: 1) identification of disaster occurrence risks based on risk assessment for each plant and for each of their process technology divisions; and implementation of measures on this basis for software and hardware to reduce risks and control residual risks; 2) corporate-wide implementation of measures against risks exposed by disaster to prevent recurrence; and 3) self-management of monitoring concerning the appropriate implementation of points 1) and 2) by persons in charge of disaster prevention in each work; understanding of the control status based on the management hearings at the head office, and implementation

[Specific disaster prevention initiatives]

Prevention of disaster occurrence (mitigating risks exposed by disaster)

- Identify and assess risks in manufacturing sites based on the corporate-wide guidelines; manage residual risks; and develop and promote permanent measures
- Identify accident risks related to operating processes and facility design and promote the drafting
 of permanent measures by outside experts and the process technology division in the head office
- Strengthen disaster prevention management in the facility measures of the Medium to Long-Term Management Plan

2 Enhancement of initial response

- Enhance drills for initial response (drills at all plants in all steelworks; enhanced drill
 programs; use of dedicated training facilities, improvement of hazard sensitivity by use of
 CG, etc.)
- Improve the fire-fighting capacity of the in-house fire defense function, in cooperation with experts (joint fire drilling with public firefighters; training for leaders, etc.)
- Prevent forgetting of past incidents and accidents (panel presentations in training facilities; session for employees to learn about past accidents during training)

Measures to mitigate existing risks (measures for disaster prevention equipment)

• Prevent disaster recurrence; investment in measures for compliance and risk assessment

of corrections if needed. In our targeting of a zero score for serious accidents that can be preventable, we promote essential disaster prevention improvement measures in manufacturing sites.

We profoundly regret that one serious Disaster-related accident occurred in fiscal 2023. This has made us become more solemnly determined to achieve the target of zero serious disaster-related accident.

Target Serious disaster-related accidents

4 Auditing disaster prevention

 Voluntary monitoring by disaster prevention organization at each steelworks for regular check-ups and corrective action on the status of disaster prevention activities at the manufacturing work front

 Regular check-up and corrective action on the implementation status of disaster prevention management of all steelworks based on the disaster prevention auditing of the head office

5 Third-party monitoring toward enhancing safety competency in steelworks

• Assessment of steelworks by an NPO, the Japan Industrial Safety Competence Center

Preparedness measures for earthquakes and tsunami and measures for natural disaster mitigation

 Promotion of measures in preparation for earthquakes in the order of declining importance: 1) human injury prevention, 2) area damage prevention, and 3) minimizing of impacts on production

 Developing disaster mitigation procedures for natural disasters, conducting simulated exercises, and reviewing countermeasures.

Group companies' disaster prevention management

 Meetings to enhance coordination for disaster prevention management; individual visits to a workplace where a disaster or accident happened or which has risks related to disaster prevention

Efforts to prevent the occurrence and recurrence of accidents

As part of disaster prevention efforts, we conduct activities to prevent occurrence and recurrence of accidents.

In disaster risk assessment activities, in addition to identifying the causes of accidents and implementing countermeasures, we work to reduce risks by establishing and standardizing companywide disaster risk assessment guidelines and sharing information on the identified risks as a company-wide system.

As for the enhancement of initial response, we are focusing on initial response training in addition to hardware measures for early detection in order to enable the minimization of damage in the event of a disaster. We are devising ways to make it more practical in each workplace; such as the off-day or night drill and drills with no pre-fixed scenario.

We have so far promoted the enhancement of the corporatewide disaster management infrastructure (standardization). In order to raise the level of our activities, we will implement initiatives to support disaster prevention activities at manufacturing sites, including activities conducted by managers, to make our disaster prevention activities sustainable through the spread and enhancement of safety culture.

The disaster prevention management organization, etc. https://www.nipponsteel.com/en/csr/sdq/disaster.html

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Quality Management

Quality management is one of the most important aspects in obtaining the trust and satisfaction of customers in the provision of products and services. All of our group employees are responsible for thorough quality management.

Strategies

The basic policy of quality assurance of the Nippon Steel Group

As a basic policy in line with the Japan Iron and Steel Federation's guidelines, aimed at strengthening the quality assurance system, we are promoting 1) the enhancement of education on quality compliance (compliance with laws and regulations), 2) activities to reduce quality risks, and 3) the extraction of quality risks through quality audit. Quality management issues are shared by the Quality Management Committee, chaired by the Executive Vice President in charge of quality management. By having the Committee review actions to take to resolve the issues, we strive to maintain and improve our quality management system.

Activities aimed at strengthening the quality assurance system

Nippon Steel's quality management system is based on autonomous quality management activities by each steelwork, business unit, and group company including overseas ones.

The Quality Management Division, in cooperation with the steelworks and business units, promotes quality compliance education, behavioral risk reduction activities, and the extraction and correction of quality risks through quality audits. The code of conduct for quality, called the Five Basic Rules of Quality Behavior, has been made known to all employees,

with a focus on improving awareness of quality compliance and preventing quality problems from occurring.

Information on quality-related events is promptly shared across the Group and at appropriate times measures are launched to resolve issues through standardization, systemization, and automatization. These measures are then implemented to enhance the identification management of actual products and to improve reliability of testing and inspection.



The Five Basic Rules of Quality Behavior

[Specific activities]

1 Education on quality compliance

Employees of the Company and the domestic and overseas Group companies receive quality compliance education. It covers such topics as the importance of compliance with laws and regulations, the impact that our products and work have on society, quality risk management, and internal rules and standards. Compliance cases which occurred in and out of the Company in the past have also been used as examples. This education takes the form of training that effectively uses quality e-learning and digital tools.

2 Activities to reduce behavioral risks

Based on the analysis of the causes of past quality issues, we have established the basic principles that employees involved in quality management should follow and are working to disseminate them as the Five Basic Rules of Quality Behavior. To improve the reliability of testing and inspection, we also work to eliminate risks from human intervention by automating data retrieval and introducing systems for product identification and product quality judgment before shipment.

Quality audits

The Quality Management Division performs periodic quality audits of the Company and the Group to enhance customer confidence. Audits include a review of compliance with the Japan Iron and Steel Federation's Guideline, conformity with standards and specifications, and quality-related behavioral risks. We are nurturing auditors at steelworks and Group companies to strengthen the autonomous audit system. We also receive external reviews, such as those for ISO 9001 and JIS certifications, to raise the credibility of our quality management system.



Autonomous audit by certified auditors

Quality management system and standardization activities

Quality management system (ISO 9001 certification)

All steelworks of Nippon Steel are ISO 9001 certified. By implementing the quality management system, we ensure that the processes used to provide products and services to customers are appropriately managed. Following the reorganization of our manufacturing bases in Japan, we have integrated the quality management systems, which had been individually certified at the steelworks or area level. We will thereby efficiently proceed with activities to clarify each steelworks' quality policy and to improve quality promptly and continuously.

Standardization activities

With regard to Japanese and international steel standards (JIS, ISO, and ASTM), we promote the establishment and revision of standards by participating in the standardization activities led by the Japan Iron and Steel Federation and contribute to the standardization (rules development) of steel products through public-private cooperation.

Building systems for standardization also helps us nurture human resources specialized in standardization.

The quality management organization, etc. https://www.nipponsteel.com/en/csr/sdq/quality.html

Production and Supply Chain Management

To realize the production and supply of steel products required for a sustainable society, Nippon Steel is making various initiatives and DX (digital transformation) for stable procurement, stable production, and shipping in all aspects of the supply chain, from the procurement of raw materials, fuel, equipment, and materials to the shipment to customers.

Sustainable procurement efforts

Introduction

The economic development of emerging countries is a major element of change in the global purchasing environment, requiring Nippon Steel to make strategic purchasing to enhance manufacturing capabilities. At the same time, it is becoming increasingly important for not merely our Company but also our entire supply chain to fulfill social responsibilities in order to realize a sustainable society. Against this background, we steadily and continuously procure raw materials, other materials, and equipment to achieve a stable supply of steel products for a sustainable society.

In terms of procurement of raw materials and fuels, we are sourcing from suppliers worldwide, including Australia, North America, South America, and South Africa, for a stable supply of more than 100 million tons of raw materials for the steelworks. The supply of materials is mainly iron ore and coal. In the procurement of equipment and materials, we purchase around one million product items of equipment and materials - from gigantic facilities such as blast furnaces to electric and mechanical products as well as safety, emergency, and office supplies - from about 3,000 suppliers.

In engaging in these procurement activities, we are committed to compliance with laws and regulations, consideration of environmental conservation, elimination of racial discrimination and human rights abuses, confidentiality, and thorough information management as prerequisites. We then strive to maintain and improve mutual understanding and trust with suppliers from a long-term perspective. In July 2020, upon affirming agreement with efforts made by the Ministry of Economy, Trade and Industry, we made a declaration for the establishment of partnership relations with suppliers and other business partners to establish cooperative and co-existing relationships.

In addition, based on the Nippon Steel Group Human Rights Policy adopted on April 1, 2024, we continue to conduct procurement activities with high ethical standards while giving maximum consideration to respect for human rights.

With regard to equipment and materials for which we have business relationships with many suppliers, we conduct a "Partners Questionnaire" every year to deepen mutual understanding and aim for sustainable development together with our suppliers. The information received is used to formulate various measures to strengthen cooperation and collaboration with suppliers.

[Basic policy on equipment and materials procurement]

- Compliance with laws
- 2 Equal opportunities
- Building of a partnership
- 4 Fair disclosure of information and quick transaction processing
- Consideration to resource protection and environmental preservation
- 6 Preservation of confidentiality

The declaration for the establishment of partnership relations https://www.nipponsteel.com/news/20200731_100.html

Nippon Steel Group Human Rights Policy

https://www.nipponsteel.com/common/secure/en/topics/pdf/20240401.pdf

Consideration to reducing environmental impact in procurement activities

Based on the Life Cycle Assessment concept, Nippon Steel is taking initiatives in reducing environmental impact at various points along the supply chain. In keeping with rising demand for tighter management of chemical substances, we have created management standards for 16 toxic chemical substances, including cadmium, jointly with customers and suppliers. We then established a system to manage substances of concern contained in purchasing products, including packaging materials.

In addition, as stipulated in the Charter of Corporate Behavior by Keidanren, we have set up internal rules, including an appropriate purchasing policy, which puts us on record as fully considering resource protection and environmental preservation. Jointly with businesses, governments, academia, local governments, and NGOs, we have taken the initiative in developing a framework to prioritize the purchasing of products and services that represent less environmental burden. Moreover, we have participated in the Green Purchasing Network (GPN) since 1996, when the network was founded, in order to promote green purchasing activities.

Toxic material management concerning quality assurance https://www.nipponsteel.com/en/csr/customer/support.html

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Production and Supply Chain Management

Efforts to stabilize production

We are focusing on stabilizing production, including the operation of blast furnaces and coke ovens, which have a particularly significant impact. Currently, the tapping ratio of the blast furnaces remains at a low level, and we are also focusing on developing operational plans under these circumstances.

In such efforts to stabilize production, we also frequently use solutions using DX. For example, in the case of identifying abnormalities in machinery and equipment and preventing problems, regular inspections by manpower had been performed in the past, but now with the installation of a large number of wireless vibration sensors, it is possible to monitor them 24 hours a day, and thereby quickly identify and respond to abnormalities. Further, by centrally managing the collected data and analyzing it with Al and machine learning, we can now obtain even higher value-added information.

Concerning blast furnaces, because it is difficult to grasp the situation inside the blast furnace, there have been cases where the intuition and experience of skilled operators have been relied on. Nowadays, it is by using technology that measures temperature, pressure, gas distribution, and other conditions in one second with sensors installed inside the blast furnace body and reproduces conditions inside the furnace with three-dimensional images that we strive to stabilize blast furnace operations and improve production efficiency. Through this type of simulation, we are developing automatic control that predicts future operating conditions and optimizes operations.

In order to deliver products that meet customer requirements on time, our head office unit in charge of overall management of sales and operations coordinates the relevant corporate-wide product manufacturing plans every day, while keeping track of sales and production. The process control units in each steelworks receive the plan and manage the progress of each single product while keeping in mind the productivity of each manufacturing base. These units work for optimal processing from manufacturing to shipment, and delivering products as scheduled.

Improve productivity in domestic logistics

Approximately 60% of our domestic steel products are transported by about 200 coastal ships, which provide the primary means of transportation for industrial logistics. In the coastal shipping industry, as in other logistics industries, the shortage of workers has been a problem.

As one of the ways to answer the question of how to improve logistics, the Nippon Steel Group is working on improving logistics efficiency by establishing a logistics control center at its head office and utilizing the latest domestic logistics control system. Specifically, we consolidate the information needed for allocation and control of the coasters, such as their location data, progress rate of quay cargo handling at the steelworks, and the status of inventory at transfer points. We then perform real-time monitoring and operation, thereby improving transportation efficiency.

We believe that these efforts will lead to increased productivity and ease of work in domestic industrial logistics as well as in the domestic shipping industry, and will contribute to alleviating the shortage in the workforce.

[Function overview of the Logistics Control Center]

Information collection 🔶 Information collection 🔶 Web meetings



Dealing with the workforce shortage in domestic logistics

The Nippon Steel Group has therefore built a practical training ship, Reimei, and started its operation as one of the ways to secure crews. Many operators (shipowners) in the coastal shipping industry are small or medium-sized business persons and find it difficult to recruit and train new sailors even if they are willing because extra cabin space cannot be installed and the crew members find it burdensome to teach newcomers. Reimei is well designed with cabin space for an instructor and up to five trainee students, comfortable living space, a bridge, and a dining room, greatly contributing to the development of new sailors.

We will continue to make efforts for the sustainable development of domestic industrial logistics.



Practical training ship Reimei

improve productivity and ability.

steelmaker with world-leading capabilities," we are also working

to transform our business structure into a robust one that is not

the measures in the four pillars of our Medium-to Long-term

affected by the external environment, in addition to implementing

Management Plan. In order to steadily implement these measures,

we are investing in human resources, getting the most potential

out of our employees, and promoting various measures to further

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Human Resources Development

Recognizing that the source of our competitiveness is the power of our employees, we are working on human resource development as an important theme.

Strategies

Human Capital Management Policy

The Nippon Steel Group's basic philosophy is to "pursue world-leading technologies and manufacturing capabilities, and contribute to society by providing excellent products and services." In addition, our management principles state, "We develop and bring out the best in our employees to make our Group rich with energy and enthusiasm." In keeping with these principles, we have been working on human resource development as an important theme.

With the aim of continually evolving to become "the best

The Nippon Steel Group will pursue world-leading technologies and manufacturing capabilities, Our Values and contribute to society by providing excellent products and services. The Best Steelmaker with World-Leading Capabilities **Rebuilding of the** Mid-Term **Overseas steel** Digital domestic steel **Carbon neutral** Management Plan business transformation business Evolving into a robust business structure We develop our human capital and bring out the best in our employees to make our Group rich with energy and enthusiasm. Investment in employees to maximize their potential and further improve our productivity and ability Enhancement of engagement **HR** securing HR development and placement measures **Diversity & Inclusion** Human Capital · Increase recruitment of new Development of management personnel · Promotion of women's empowerment Management graduates Global personnel development · How to work and how to rest Hiring of experienced personnel Development of staff who drive DX Health management Increased career recruitment Development of staff who support technological advancement Prevention of harassment Alumni recruiting (re-employment of Provision of challenges and growth opportunities Active participation of older people and former employees) Start of an in-house recruitment and in-house persons with disabilities Continued hiring of post-docs entrepreneurship system PR measures to raise awareness Promotion of internal dialogue and communication

Basic Policy for Human Resource Development

A goal of HR development is to create employees who can understand and implement our Corporate Philosophy and our Employee Action Guidelines. With this in mind, each employee shares in taking the lead in HR development.

The Nippon Steel Group's basic approach to HR development is for supervisors to mentor their subordinates, through daily dialogue on the job, transferring understanding and knowledge of criteria for judgment and of operational skills. In order for this mindset to be shared by all employees, the following Basic Policy for Human Resource Development has been adopted.

[Basic Policy for Human Resource Development]

- HR development is the job itself, and supervisors play an important role in HR development.
- **2** OJT training is a basis of HR development and is complemented by off-the-job training.
- 3 Supervisors share objectives and outcomes of HR development clearly with their subordinates.
- 4 Each individual strives for continual personal improvement for further growth.

	Unit	FY2021*	FY2022	FY2023
Number of training/	hours/year per employee	32	28	35
learning hours	[million hours/year]	[0.90]	[0.80]	[0.99]

* Includes the training/learning during operation with reduced production in FY2021

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Human Resources Development

Development of management personnel

In order to develop management personnel who will be responsible for the future of the Group, we get to share policies and issues through dialogue with management and other means. In addition, we provide training according to the stage of their rank as candidates for management executives so that they can develop a broader perspective. Specifically, the program provides them with the opportunity to learn about corporate and organization management, business management skills (financial, business strategy), global management, etc.—contents which lead to strengthen the exchange and collaboration of personnel.

Development of management personnel Seminar for Group company executives
Seminar for senior executives
Seminar for executives
Seminar for middle management

Personnel development of office staff and engineers

Following the organizational strategy based on the Corporate Philosophy and Management Policy, the Nippon Steel Group uses an HR Development PDCA for office staff and engineers to effectively implement and establish the development of human resources. A development plan is formulated for each person, and an annual detailed plan is a base for the OJT, which is aligned with the supervisor-subordinate dialogue based on the assignment commitment sheet. At the end of a fiscal year, they look back the status of development, which leads to formulation of the plan for the following year. By reviewing performance, personnel who can deliver a strategy for each organization are systematically developed.

We are also working continuously to enhance the OFF-JT which complements the OJT. Various training programs are aimed at acquiring the knowledge and skills required for each qualification and position. An employee's period of time from

joining the Company to becoming a manager is divided into three steps: "Discipline," "Creation" and "Independence." Work reporting sessions and training by rank are carried out at the milestones of the 2nd, 3rd, or 5th anniversaries of the start of employment.

In addition, selective training to improve the skills needed for work, and technical education programs to systematically learn the knowledge needed for our engineers are available. These can be taken based on individual development needs upon the supervisor-subordinate dialogue.

Each employee acquires the knowledge and skills required for each role and position and, in addition to rank-based training aimed at improving the abilities of employees as a whole, and selective training based on individual development needs, training measures that support the realization of management strategies are incorporated for promoting human resource development by incorporating.

[Development of human resources who support realizing management strategies]



Development of heads of department/plant/mill

The training courses are provided to managers who match certain manager qualifications and position so that they can acquire a proper understanding of their responsibilities and authority as managers, acquire knowledge, skills, and mindset that contribute to enhancing management as supervisors, and acquire group management capabilities. In recent years, we have given increased attention to management education. For example, we incorporated a program on communication skills as managers and expanded a voluntary training course.

Global personnel development

For our employees to effectively work in any country where we are active, we provide pre-assignment training aimed for them to acquire basic knowledge to do business in the country and understand cultural differences. We have also set targets for English language skills to be reached at each level, and are working to raise the overall level of our group. For those whose job requires English skills, there is a program aimed at raising their proficiency level in English so that they can perform their jobs overseas without the need for translators or interpreters.

Further, to train future employees in our domestic and overseas businesses, we have incorporated, in the training courses by rank, a program for acquisition of the knowledge and skills necessary for business management.

Concerning development of overseas local staff, we make efforts to transfer to an appropriate number the Nippon Steel Group's operational skills, mainly through OJT, according to the Company's Basic Policy for HR Development. In the ASEAN countries and India, where our overseas Group companies are concentrated, training courses by rank, as well as OFF-JT courses for specific skill learning and other subjects are conducted.



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Human Resources Development

Development of staff who drive DX

We are developing human resources in both data science and digital management. As for data science education, our goal is to develop DX skills training to enable all office staff to become data science users "who can effectively use data" by 2030, and to grow at least 20% of our office staff and engineers into citizen data scientists "who can make advanced use of data."

As for digital management education, we have been conducting training for all managers to understand their role in the promotion of DX and encourage them to change their mindset, so that they can facilitate operational process reform using digital technology. Through the education in these two aspects, we intend to accelerate our production and business process reform, using data and digital technology.

Development of staff who support technological advancement

In order to train our employees to achieve world-leading technologies and manufacturing capabilities, courses to learn the essential knowledge and technologies for steelmaking engineers are prepared. In particular, the content of courses classified as steelmaking process-specific technologies is at the core of Nippon Steel's technology. We have developed an environment in which we can learn from basic technologies to advanced technologies, with excellent in-house engineers as instructors.

Training scheme for office staff and engineers https://www.nipponsteel.com/en/csr/human/development/staff.pdf

Personnel development of operators and maintenance staff

The operators and maintenance staff continuously build up their skills in steelmaking and maintenance, starting when joining the Company, on the assumption of continued long-term employment to retirement. Smooth transmission of technology and skills from veterans to younger workers is essential and a system that facilitates this is needed. Therefore, after identifying, through a supervisor-subordinate dialogue, the skill or skills to be acquired, a skill development plan is developed and carried out. Training is conducted mainly through On-the-Job Training (OJT), and the HR Development PDCA is kept up to date for use by repeatedly revising and implementing the development plan based on the progress of individuals.



Off-the-job training (OFF-JT), which complements OJT, is used throughout the Company by organizing the minimum skills and knowledge required by each rank of employees of the Nippon Steel Group into a company-wide standard system. Through this, we work at education of workplace leaders to further increase their ability to add to and improve our knowledge base from the field ("field technology") and at measures to maintain and improve motivation of older people to continue working with health and motivation.

We are also actively promoting cooperation in HR development with partner companies, which play an important role in our steelmaking, from the perspective of deepening and expanding our partnerships. Specifically, in addition to the training of each partner company, we also conduct training for the employees of our cooperative companies. Level-specific training to impart and improve knowledge and skills needed for partner companies' employees in different ranks, such as newcomers, young staff, team leaders, job leaders, and line managers, is available, with Nippon Steel's employees serving as instructors. Through these efforts, we support the HR development of our partner companies, encourage exchanges between our on-site employees and their employees, and establish a foundation for smooth business execution.

Another area we focus on is to diversify recruitment sources (especially for female employees and mid-career recruitment), and we strive to create a workplace climate in which diverse personnel can be motivated and collaborate with each other through human rights awareness and harassment prevention.



Training scheme for operators and maintenance staff https://www.nipponsteel.com/en/csr/human/development/operator.pdf

Personnel treatment system

Nippon Steel's administering of personnel policies aim at encouraging our employees to grow and develop their overall capabilities, from the time they join the company until they retire. We also find it important to ensure consistent, fair treatment of all employees regarding their capability and achievement, by methods including through dialogue between supervisors and subordinates.

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Diversity & Inclusion

Through our efforts in promotion of diversity and inclusion, we are committed to creating a company where diverse employees are empowered and feel proud and fulfilled.

Basic policy

Our basic policy for diversity and inclusion is to create a company where diverse employees are productive, perform at their best, being empowered, and feel proud and fulfilled. We are reinforcing various efforts with a focus on the following five areas, as one of the important management issues.

- 1 Promotion of women's participation and career advancement
- 2 Realizing the work life balance as a means to enable employees with diverse situations perform well in the workplace
- **3** Health management aimed for employees to work at their best up to the age of 65
- 4 Preventing harassment

5 Empowerment of older people and persons with disabilities

As a dedicated unit to promote these efforts, the Diversity & Inclusion Department has been established. Its staff reports the progress of various efforts, the work engagement score as a general index, and other matters to the Management Committee and other committees every year.

[Status of employees (non-consolidated basis)]

	Men	Women	Total
Number of employees (March 31, 2024)	25,721	2,822	28,543
Number of new hires (April 2024)	645	104	749
Average years of service (March 31, 2024)	18.0 years	13.5 years	17.6 years
Average age (March 31, 2024)	40.3 years old	35.6 years old	39.9 years old
Turnover rate* (FY2023)	1.7%	3.8%	1.9%

* The rate of voluntary retirees to all employees



Promotion of women's participation and career advancement

What we have done so far

We have endeavored to establish a comfortable working environment for female employees. Specific programs include: 1) a childcare leave benefit which is more generous than legally required; 2) a program for employees who rejoin the Company after having left it because of childcare or nursing care and other reasons; 3) a leave option to assist overseas relocation of a spouse; and 4) a temporary exemption program for employees who have difficulty in relocation because of childcare or nursing care and other reasons. We have also been opening 24-hour childcare centers in steelworks and provide maternity work clothes for use by steelwork employees who are in the childbirth/childcare phase, in order to help them continue their shift work with confidence. We are also working to improve the workplace infrastructure at manufacturing sites, and to improve the work content.

Internal childcare centers	Users of internal childcare center	
(As of April 2024)	(As of April 2024)	
7centers	139	

Based on the various programs and work environments that we have established, we have developed an action plan, which includes a numerical target for the number of women in management positions. Our aim is to support female employees to continue to demonstrate their abilities through career development, and to promote their empowerment in all workplaces and levels, including enhancement of promotion to managerial positions.

General employer action plan, based on the Act on Promotion of Women's Participation and Advancement in the Workplace in Japan https://www.nipponsteel.com/en/csr/human/diversity/target.pdf

	2022	2023	2024
Number of female employees in management positions (As of April)	55	65	70

Improved hiring and retention

We have been working to hire a greater number of women to promote their participation and career advancement. Career assessments for female employees are conducted to facilitate flexible placement and development based on the understanding of individual circumstances and to improve retention rates.

The ratio of women in overall hiring (2024)		
Office staff and engineers	Operators and maintenance personnel	Overall hiring
25 %	<mark>11</mark> %	14 %

Support for employees' career development and work-life balance

We encourage female employees to develop and show their abilities by providing them with opportunities for career growth through efforts in anticipation of their various life events, and by actively promoting their advancement to managerial positions. For staff, as a training measure for the promotion of managers, we have newly established two-way online seminars for young employees with the aim of interacting with female senior employees, and career training for mid-level employees. For operators and maintenance staff, we started exchange meetings for female team leaders from different steelworks/areas in fiscal 2021. This provides an opportunity for female team leaders to share their workplace challenges and concerns and find clues to a resolution.

We are creating a workplace culture where work and home life are comfortably balanced by supporting employees in various ways, including improving and disseminating brochures explaining the relevant programs and guides for employees facing life events as well as for their managers. We also provide to managers training concerning unconscious bias and diversity management. Financial Strategy

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Diversity & Inclusion

Realizing the work life balance as a means to enable employees with diverse situations perform well in the workplace

Restraint on long-work hours

As a precondition for an environment in which diverse employees can perform at their best, we are committed to reducing long work hours based on appropriate work time management. We are promoting improved work management and work practices that lead to more efficient, higher-value-added output. In addition, we had set a goal of less than 2,000 hours on average for the total annual actual working hours, and have achieved it.

Enabling flexible ways of working

All employees with their diverse attributes and circumstances ideally should make the most of their finite time available and perform at their best. From this viewpoint, we are expanding our work system to pursue more flexible and diverse ways of working. Specifically, we are utilizing the remorte work system and expanding workplaces that use the "coreless flexible system." which eliminated the core time - an essential time period to work. In April 2024, we expanded the system for employees who are assigned unaccompanied, and revised the system to enable flexible working for employees who use shorter working hours for childcare, nursing care, etc.

Realization of a flexible way to take time off from work

We have been establishing the environment that facilitates our employees to flexibly take time off from work, tailored to their individual circumstances and life stage.

Annual paid holidays can be taken on a half-day basis to meet employees' needs. Each of our steelworks and offices designates dates on which employees are encouraged to take holidays. The head office, for example, sets mainly Fridays in August, as "Eco-paid leave days" of approximately five days and recommends making it easier for employees to take leave by, for example, not setting up meetings and other events on those days.

Concerning childcare leave, in addition to providing a longer period than the statutory limit, the expired annual leave days accrued by each individual can be converted to paid off-days for parental leave. Moreover, we encourage male employees with a spouse after childbirth to take childcare and related leave.

In addition, programs for nursing care leave and time off for nursing care have been established to help employees continue working while attending to nursing care. The expired annual leave days accrued can be also converted to paid off-days for nursing care.

The expired annual leave days that have been accrued can be used for such purposes as prenatal checkups and recurrent (relearning) education, in addition to childcare and nursing care, sick leave, care of elementary to junior high school children, volunteer work, and infertility treatment. With regard to recurrent education, there is also a system of leave of absence to pursue a degree or other studies at a university or other educational institution.

In April 2024, we changed the name of menstrual leave for women to "F-Care leave," and revised it to make it possible to leave on a half-dav basis.

[Performance of ways of working and taking time off (FY2023)]

Average overtime hours per worker per month	23.6 hours
Utilization of paid leave days	86.2%
Average paid leaves taken	17.2 days
Childcare leave users and utilization rates	675 men (66%) 176 women (100%)
Return ratio of female employees after childcare leave	99.0%
Number of users of the short-work hour program for childcare	128
Nursing care leave and vacation program users	23
Users of the short-work hour system for nursing care	3

Benefit programs

In order to support the various life stages of employees and enable them to achieve a good work-life balance, we are also focusing on welfare measures. We support employees' personal life with various programs: provision of housing, including dormitories and company housing, and a cafeteria plan (worklife support program).

Health management aimed for employees to work at their best up to the age of 65

Basic policy

Embracing the basic philosophy of Nippon Steel's Basic Policy on Safety and Health, our basic policy of health management is to become a vibrant company in which all employees maintain both mental and physical health and work at their best from the time of joining the company to retirement, which has been extended to the age of 65.

Nippon Steel's Basic Policy on Safety and Health Basic philosophy (excerpt) **Basic Philosophy**

- 1 Ensuring and maintaining the safety and health of employees of the Nippon Steel Group is the Group's most important and top-priority value, and the basis that supports business development.
- 2 Under the Management Principles of "developing and bringing out the best in our employees," the Nippon Steel Group makes continuous efforts to abide by this philosophy and continues to contribute to society through their safety and health

April 1, 2019 Nippon Steel Corporation

[Organization for health promotion]



Message from the President

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Promoting physical wellness

Cerebral cardiovascular disease control

We have established a unique company-wide system that enables us to assess and manage the risk of diseases based on the results of health checkups. We provide health guidance according to risk factors or control the frequency of health checkups. It is important that workers with high risk of cardiovascular disease improve their lifestyle. We are improving the implementation rate of specified health guidance, aimed at improving the dietary and exercise habits of workers, by setting a target rate and promoting medical visits. We cooperate with the Health Insurance Union for achieving these goals.



Cancer disease control

Various cancer screening (including non-statutory exams) based on age and gender are incorporated in our health checkups.

In particular, regarding exams for gastric and colon cancer, which are high risk diseases, we set the evidence-based priority target age and screening frequency for the examination. We also set our target rate of exam-taking and encourage employees to take exams for early detection and treatment of cancer.



[Initiatives to standardize manufacturing]

Classification	
Health Challenge Campaign	 A company-wide measure in which employees are challenged for two months to improve their personal habits Ex. Take 8,000 steps a day/Have good breakfast
Passive smoking preventive measures and non-smoking guidance	 Since April 2020, smoking in Company buildings has been prohibited (excluding designated smoking rooms) Implementation of guidance on how to quit smoking at the on-site clinic or other clinics or via website For employees who wish to stop smoking, an occupational health care professional will provide individual guidance

Promoting mental wellness

Aiming for each employee in the Nippon Steel Group to enjoy a vigorous life on and off the job, we provide a consulting service for prevention and early detection in the area of mental health.

We have incorporated the issue of mental health in various in-house seminars and offer education on how to be aware of one's own stress and to deal with it. For managers, we additionally offer education on how to care for their subordinates and manage their teams, and how to coordinate with the corporate health care professionals (occupational physicians, health nurses, and other staff).

Moreover, we provide stress checks through a workplace stress survey every fall. Occupational health care professionals give guidance for improvement by teams and individuals based on the result of the stress check. In contributing to a vigorous work environment, managers implement necessary measures according to the issues of their team or an individual, coordinating with the personnel department and the health department.

We identify those who are at risk at the Health Consulting Contact by various measures in association with the Company's mental health e-learning and questionnaire event conducted every June. Occupational health care professionals swiftly respond to the findings of the events to foster mental wellbeing.

[Our mental health initiatives]

Classification	Details		
Proactive action (Self-care) (Care by management supervisors)	 Stress check for awareness of their stress Training for new hires and young employees Workplace analysis of stress check to help employees become aware of their stress 		
(Care by occupational health care professionals)	 Support from supervisors or colleagues Training for managers Providing mental health education program by occupational health care professionals 		
Early detection	 Screening to identify those in poor condition during a regular health checkup Screening of highly stressed employees via stress checkups e-learning to identify those who wish to be consulted Establishment of a health counseling contact 		
Support for employees' return to jobs and prevention of recurrence	 Support for employees' return to jobs based on the return-to-work program Re-designing of work assignments for a smooth return to the workplace Regular interviews after return by occupational health care professionals 		

Preventing harassment

We are strengthening efforts to prevent harassment in order to create an environment where diverse human resources can work diligently with peace of mind.

We have clarified our internal policies, created and disseminated leaflets to inform and enlighten all employees, and repeatedly provided education on harassment in training at employees' milestones, from new employees to managers. From fiscal 2020, in addition to these initiatives, we are conducting a "Harassment Prevention Campaign" every December. In the campaign, we offer e-learning and self-checks for all the employees and board members, and workplace dialogue specifying themes such as creating an open workplace.

Dedicated consultation and reporting points of contact have been established for employees who face a harassment issue.

Each of the contact points responds to each individual case while paying attention not to disadvantage anyone for reporting or cooperating. After investigating and confirming the existence of a problem, we take strict measures in accordance with employment rules and other regulations.

Empowerment of older people and persons with disabilities

Concerning promoting the empowerment of older people, we have decided to raise the retirement age from 60 to 65 in fiscal year 2021. This change reflects the decline in the working population and the raising of pension eligibility age, and was made also from the perspective of maintaining and enhancing our on-site manufacturing capacity.

As for the employment of persons with disabilities, we have implemented an action plan and work to promote their employment and provide an accommodating working environment. Since 2007, we have established special-purpose companies to expand employment opportunities.

Employment rate of persons with disabilities (June 2024)

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Respect for Human Rights

Nippon Steel respects human rights and strives to create a working environment which allows diverse human resources to be more empowered.

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Basic policy

In compliance with the Universal Declaration of Human Rights and other international norms on human rights, the Nippon Steel Group respects our employees' diverse views and fully utilizes their individuality via effective communication and collaboration so as to create and deliver enhanced value. Based on the United Nations Guiding Principles on Business and Human Rights, the Nippon Steel Group Conduct Code has been set. By adhering to its principles, Nippon Steel conducts business ethically, while paying full heed to human rights issues arising with the increasing globalization of the economy. Nippon Steel gives due attention to the rights of workers, and staunchly opposes the use of forced or child labor. These are prerequisites of our corporate activities. We have also prohibited as unjust the discriminatory treatment of workers based on nationality, race, belief, creed, gender, age, sexual orientation, and disability. In addition, we give careful consideration to the traditions and culture, business practice, and labor practice of each country or region as we accelerate overseas business development.



Informal gathering of employees dispatched from Nippon Steel and local employees of our overseas operating companies

The Nippon Steel Group has established the Nippon Steel Group Human Rights Policy to demonstrate this corporate stance within and outside the Group. This policy has been approved by the Board of Directors of Nippon Steel Corporation.

Nippon Steel Group Human Rights Policy https://www.nipponsteel.com/common/secure/en/topics/pdf/20240401.pdf

Efforts to prevent human rights abuses

<Response inside and outside the Nippon Steel Group> Conduct human rights due diligence

Based on the establishment of the Human Rights Policy effective April 1, 2024, we have established a human rights due diligence system to identify negative impacts on human rights, prevent or mitigate them, and are working on continuous implementation and improvement. In fiscal 2024, we conducted a survey for several suppliers. We are currently analyzing the findings, and we will continue to consider the number and the type of suppliers for the survey from fiscal 2025 onward.

Mechanism of corrective actions

We have clarified whom to contact for consultation on various compliance issues including human rights. This is a part of the effort to establish a groupwide claims handling mechanism that makes it easy for employees and related personnel to ask for consultation, and that enables the Company to understand and identify incidents of human rights abuses.

Specifically, a Compliance Consultation Room has been established to accept inquiries and reports and give counseling regarding human rights abuses such as harassment, from employees of the Company and Group companies and their families, as well as from employees of business partners. Reports and consultations from various stakeholders are accepted through the Inquiry Form accessible on the website. Regarding the response to these individual incidents, such as internal reports and consultations, we investigate the facts and, if necessary, seek advice from outside parties, including lawyers and outside professional organizations, to protect the privacy of the persons and to ensure that they do not receive unfavorable treatment. We then provide guidance and education to those involved, and strive to appropriately resolve the incidents.

[Inquiry form concerning human rights]

- Consultations in Japanese bhr_contact@jp.nipponsteel.com
- Consultations from overseas or in English https://jacer-bhr.org/en/application/form.html

In the event that a target for correction or remedy is identified, we strive to take appropriate measures, and periodically check and verify the effectiveness of the measures through checklists and other means. We also strive to promote dialogue and discussions with internal and external stakeholders regarding our Group's initiatives for human rights in its business activities.

Furthermore, since labor-management relations play an important role in preventing human rights abuses and resolving related incidents, in the event of disputes concerning the interpretation of collective agreements, labor-management agreements or other rules directly related to them, a grievance committee is established to resolve the dispute, based on the agreement concerning complaint-handling procedures that has been concluded with the labor union. The committee comprises members from both the management and the labor side.

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Respect for Human Rights

Efforts to prevent human rights abuses

<Actions taken by the Nippon Steel Group> Addressing human rights risks

From the viewpoint of promoting human rights awareness activities we have assigned human rights awareness advocates at each steelworks and each office, and implemented corporate-wide human rights awareness activities. We hold a "corporate-wide forum of human rights awareness advocates" in March each year to exchange views on human rights awareness education and new human rights risks, and to consider the related action policy for the next fiscal year. Based on this, we hold a "corporate-wide forum of human rights anti-discrimination promotion" at the beginning of the fiscal year, chaired by the Executive Officer in charge of Human Resources, with the human resources managers from each steelworks and each office as members. At this forum, the fiscal year's policy for promoting human rights development is determined.

In addition to implementing human rights awareness activities in accordance with the policies decided at the forum, each steelworks and each office are actively engaged in employee awarenessraising activities, including holding workshops on a specific issue of the steelworks or office. We also participate in enlightenment of organizations and activities hosted by public entities and others in each community. We make concerted efforts for human rights enlightenment within the communities.

Along with the group-wide expansion of our efforts to Group companies in Japan and overseas, we routinely carry out monitoring surveys on the status of compliance with labor-related laws and regulations, the establishment of consultation contacts, and other issues via an internal control checklist.

Through these efforts, we are continuously and systematically promoting activities to prevent human rights abuses. These include the understanding of human rights risks that change with the times and the development of a system and a strategy to reduce the risks.

Prevention of forced or child labor

Adhering to international norms concerning forced or child labor, Nippon Steel has a policy of prevention and eradication of both types of labor. We comply with applicable regulations and conduct regular monitoring surveys of our Group companies to prevent such violations in our business activities.

Compliance concerning salaries

In compliance with laws and regulation concerning salary and wages payment, Nippon Steel has set up pay at a higher level than minimum wage stipulated by the country, region, and type of work where we do business. With regard to bonuses, we regularly survey relevant matters, including the status of each country, region, and type of work, hold meetings with labor representatives, and appropriately reward employees by paying performancebased bonuses linked to company profits.

Human rights awareness education

Based on the policy decided at the "corporate-wide forum of human rights anti-discrimination promotion," information on human rights awareness is incorporated in training courses for all ranks, from new employees to experienced ones. We also provide education on a variety of subjects, including the issues of harassment and discrimination, understanding of LGBTQ, and human rights issues in the conduct of our business.

Two-way communication with employees based on good labormanagement relations is important in order to prevent human- rights abuses. We therefore incorporate education toward building sound labor-management relationships in the training of executives of the Company and the Group companies.

In addition to general education that contributes to the prevention of human rights abuses in workplaces, we also address specific human rights abuse risks in formulating and the oversight of specific work assignments. Examples include education on fair recruitment selection by employees assigned to the tasks of hiring in order to prevent job discrimination, and education on cross-cultural understanding and communication for those assigned to overseas business in the context of preventing human rights abuses (i.e., consideration for each country's unique traditions, culture, business practices, and labor-management practices).

The number of recipients of training courses by rank on human rights (FY2023 results) 5.211



Training on human rights

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Coexistence with Communities

Nippon Steel has many manufacturing bases all over Japan and are engaged in business activities rooted in local communities. In accordance with our attitude of maintaining harmony with local communities and society, we are promoting a wide range of activities, including promotion of environmental preservation, support in education, sports, and music culture, holding dialogues with shareholders and investors.

Participation in activities of the "Mori wa Umi no Koibito" NPO

We are also a regular corporate member of the NPO, Mori wa Umi no Koibito, represented by Mr. Shigeatsu Hatakeyama, a fisherman raising oysters and scallops in Kesennuma City, Miyagi Prefecture, who received the Forest Heroes award from the United Nations in 2012.

The NPO's activities are based on a scientific mechanism according to which the ecological linkage of forests, villages, and sea nurtures the blessings of the sea forest. In other words, the forestation leads to an increase in iron-humic acid that flows down rivers, and which enriches growth of oysters and scallops near the river mouth. Since 2012 we participated in the NPO's tree planting activity at Murone Mountain in Iwate Prefecture, which began in 1989. In 2024, 30 people, consisting of employees of Nippon steel and Group companies, as well as their families, participated in the 36th round of tree planting activity.



Tree planting activity

On-site classes

Our staff at each steelworks go to nearby elementary schools to provide on-site classes. The Kyushu works Oita area has been holding classes every year since 2007, but after an interruption due to the COVID-19 pandemic, classes resumed in fiscal 2023 for the first time in four years. This year, a total of 103 children from two elementary schools were given science experiments.





On-site class at a nearby school

Children who participated in the class

Acceptance of teachers

We participate in the "Private Sector Training Program for Teachers" organized by the Economic Public Relations Center, and every year we invite teachers from elementary and junior high schools in various regions involved in school education to visit our production line, introduce our efforts in human resource development and environmental activities, and we provide safety education using VR and explain the superiority of steel recycling. In fiscal 2023, we welcomed 47 teachers at 6 manufacturing sites.

Social interaction at festivals

Each steelworks holds a steelworks festival jointly with the local community. Factory tours and many other events are held, and many people, including steelworks employees and their families, and local residents have a great time every year. We also actively participate in communities' festivals.



Safety education using VR (East Japan Works Kimitsu Area)



Exchange of opinions with teachers (East Japan Works Kimitsu Area)





Joto Spring Festival (Kyushu Works Oita Area)

Kamaishi Festival (North Nippon Works Kamaishi Area)

Message from the President

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Sustainability

NIPPON STEEL CORPORATION

Community cleanup activities

Various cleaning activities are carried out in the vicinity of each steelworks. At Isonoura Beach adjacent to the Kansai Works Wakayama Area, we conducted a clean-up activity on June 24, 2023. This was the first time in four years due to the COVID-19 pandemic, and a total of about 180 people—those involved in the steelworks and their families, as well as surfers who were present cleaned the beach before the start of the beach season.

Sports tournaments

In the Setouchi Works Hirohata Area, on November 5, 2023, the "Nippon Steel Midori-no-machi Sports Tournament 2023" was held in the vicinity of the Hirohata Baseball Stadium. about 1,200 people from the local community participated. (The event was sponsored by the Setouchi Works Hirohata Area, co-sponsored by the Association for Creating Green Town and the Nippon Steel Hirohata Labor Union.) Sports such as soft baseball, soft tennis, table tennis, kendo and volleyball were held and the participants competed, demonstrating the result of their training. Other steelworks also hold various sports tournaments.



Beach cleanup activity

Volleyball tournament

Visit to steelworks

As one of ways to enhance dialogue with shareholders, institutional investors, and residents in local communities, we regularly hold business strategies briefing sessions and visits to steelworks in various areas. We accept tours at each manufacturing site, open the premises of the steelworks to the general public for local festivals and sports events, and open the welfare facilities to the general public so that many people become familiar with our company. In fiscal 2023, approximately 70,000 people visited our steelworks.



Visit to steelworks

Support of music culture

Nippon Steel is actively supports music culture, particularly through the work of the Nippon Steel Arts Foundation. The Foundation manages the Kioi Hall in Tokyo, organize performances of its resident chamber orchestra, and promote Japanese traditional music. We also give the annual Nippon Steel Music Awards, established in 1990, to young classical music performers and to those who have contributed to the development of classical music.



Kioi Hall

Activities in the support of sports as a social contribution

Nippon Steel manages or supports sports teams in the local communities of its steelworks. These include a judo club, which has produced Olympic medalists; baseball teams, which have sent many of its players to the professional leagues; a football team, a rugby team, and a volleyball team. All of these teams also contribute to their local community through such various activities as sports classes for children, coaching of junior teams, and making our athletic facilities available to local residents for games and training. Together with local residents who support our teams, we strive to provide renewed vigor to our local communities, and at the same time to support their healthy lifestyle.



Nippon Steel Kashima Baseball Club

Kioi Hall 30th Anniversary

We built the Kioi Hall as a base for supporting music culture and opened it in 1995.

The hall name will be changed to Nippon Steel Kioi Hall as it celebrates its 30th anniversary on April 1, 2025. The hall is located in a prime location in Tokyo with high convenience, and has a hall dedicated to Western music, which is ideal for classical music, and a hall dedicated to and most desirable for traditional Japanese music. As a high-quality concert hall with careful consideration, it has received high praise from musicians and fans both in Japan and abroad, and as of the end of January 2024, it has welcomed a total of more than 4 million visitors.

A large-scale renovation of the hall is planned in 2025, creating a new history of supporting music culture.



Kioi Hall (exterior)