NIPPON STEEL

Nippon Steel Integrated Report 2023

NET ZERO
NIPPON STEEL
Green Transformation
Initiative

NIPPON STEEL CORPORATION

Steel as a Sustainable Material

An abundant and sustainable material with excellent workability

P.91-92

Steel has become an essential material in our daily lives, thanks to its many properties including abundance, affordability, strength, and excellent workability. It is also a sustainable material that retains much of its quality even after the recycling process. In addition, it is the material that has been continuing to evolve with the addition of various properties through technology, and has limitless potential for the future.

Iron is believed to constitute **one-third** of the Earth's weight.

Steel is an **affordable material** and is cheaper than water in a plastic bottle (in comparing price per unit weight).

Steel represents **90% or more** of metal products, as steel being abundant, cheap, and having good workability, and has a wide range of applications.

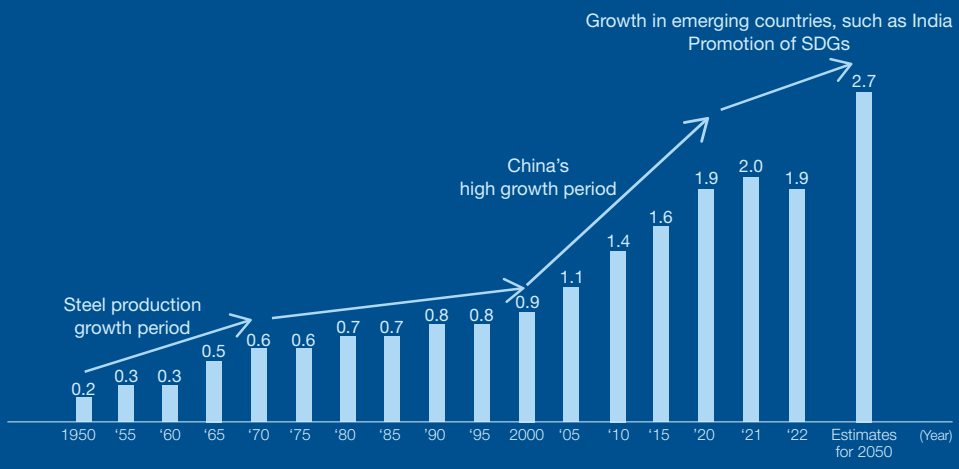
Growth Potential of Steel

Demand growth, mainly in emerging markets, will drive the future demand for steel products around the world

P.23-24

Steel is accumulated in our society in a wide variety of forms including buildings, bridges, automobiles, and household appliances. In the future, global steel accumulation is expected to expand further, driven by SDG initiatives and economic growth in emerging countries where per capita steel accumulation has not yet advanced. To meet this demand, we need to expand steel production even further in the future.

Global crude steel production (billion tons/year)

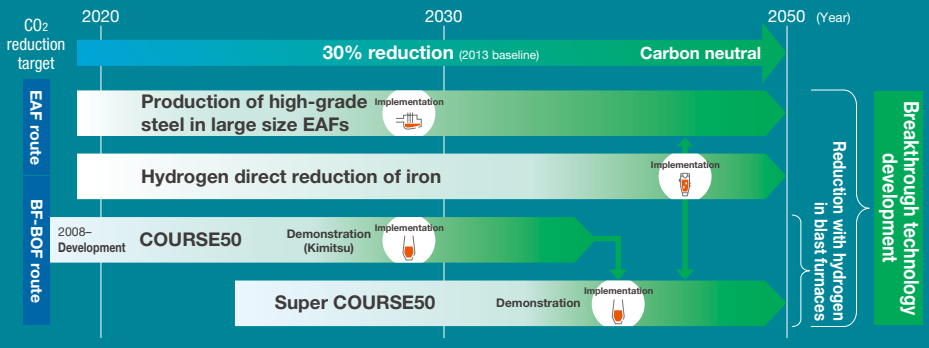


Realization of a Carbon Neutral Society

Pioneering the enhancement of steel sustainability P.31-36

Nippon Steel aims to attain carbon neutrality through a fundamental transformation of the steel production process, which has relied on coal for reduction for as long as three centuries. Our goal is to achieve net-zero CO_2 emissions from the steel production process by 2050 through a multi-aspect approach to the development of extremely challenging breakthrough technologies: "hydrogen injection into blast furnaces," "high-grade steel production in large size electric arc furnaces" and "hydrogen direct reduction of iron."Furthermore, we will lead the steel industry's efforts to achieve a carbon-neutral society.

Roadmap to achieve the Carbon Neutral



(Photo) NEDO Hydrogen utilization in iron and steelmaking processes project

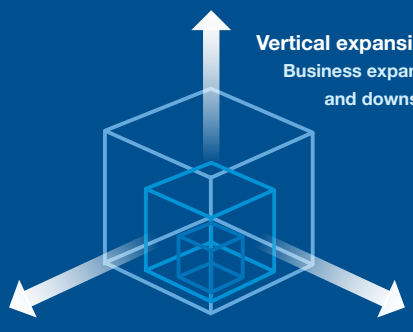
Realization of 100 Million Ton/ 1 Trillion Yen Vision

Moving toward to build a further vertically-integrated business structure, capturing the growing demand in emerging countries and for high-grade steel

P.21-30,43

The demand for steel, a foundational material for people's lives, is expected to soar in the coming years, particularly in emerging countries such as India. In addition, the development of value-added steel products is expected to address social issues. Nippon Steel will expand its integrated production capacity in overseas locations with growing demand, with the aim of achieving a global crude steel production capacity of 100 million tons. Nippon Steel is committed to expanding its range of high-grade steel products while strengthening the structure of its domestic steel mills as efficient production locations. At the same time, we will expand our business structure into both upstream and downstream sectors of the steel value chain, capturing the full spectrum of steel's added values. Nippon Steel will embark on the challenge of establishing a structure that will ensure a consistent attainment of a business profit of 1 trillion yen.

Nippon Steel's Growth Strategy



Vertical expansion of core business
Business expansion into upstream and downstream sectors

Responding to expanding demand for high value-added products
More sophisticated order mix

Capturing demand growth in emerging countries
Deepening and expansion of overseas business

CONTENTS

Editorial Policy

In this Integrated Report 2023, in addition to updating it with the changes from the 2022 version, such as the progress of our Medium- to Long-term Management Plan (released in March 2021), we have prepared this report from the following two perspectives:

1. The first half largely presents Nippon Steel's business strategy and financial strategy mainly through the progress of the Medium- to Long-term Management Plan with the introduction including our visions, values and strengths. The latter half explains topics such as business models and governance by presenting data.
2. Concerning the information on sustainability, the key points of environmental and social themes are presented in terms of materiality and in relation to factors in the value creation process as stated in this Integrated Report, while details on initiatives are presented in the Nippon Steel Sustainability Report 2023.

We sincerely hope that this Integrated Report helps stakeholders better understand Nippon Steel.
Your comments and feedback are welcome as we intend to continue to improve the Integrated Report to make it easier to read and richer in content.

Period covered

Fiscal 2022 (April 1, 2022 – March 31, 2023)

Organizations covered

Nippon Steel Corporation and Nippon Steel Group companies
457 companies as of March 31, 2023
(comprised of 360 consolidated subsidiaries and 97 equity-method affiliates)

Publication date

September 2023

Reference for guidelines

- The International Integrated Reporting Council (IIRC) International Integrated Reporting Framework
- The Guidance for Collaborative Value Creation (the Ministry of Economy, Trade and Industry)
- Environmental Reporting Guidelines 2018 (the Ministry of the Environment)

In preparing this report, we have referred to the following guidelines and materials in identifying materiality among ESG initiatives.

- Global Reporting Initiative (GRI) Standards
- ISO 26000
- Various ESG ratings and evaluations

Nippon Steel Group's Values

Corporate Philosophy

Our Values

Nippon Steel Corporation Group will pursue world-leading technologies and manufacturing capabilities, and contribute to society by providing excellent products and services.

Management Principles

1. We continue to emphasize the importance of integrity and reliability in our actions.
2. We provide products and services that benefit society, and grow in partnership with our customers.
3. We pursue world-leading technologies and manufacturing capabilities.
4. We continually anticipate and address future changes, innovate from within, and pursue unending progress.
5. We develop and bring out the best in our people to make our Group rich with energy and enthusiasm.

The Nippon Steel Group's Corporate Philosophy consists of "Our Values," which are our most precious values representing our raison d'être, and "Management Principles," which put down in writing the attitude and policy we emphasize in realizing Our Values.

Steel is one of the most familiar materials of which things are made and is indispensable for our daily life. Because of its diverse properties, such as strength and easiness to work with, steel has been chosen as the most superb material for creating social infrastructure. Steel is for here for all of us now and will be with us in the future.

We have been leading the world as a steelmaker for many decades, and have supported growth and development of society, by providing this indispensable basic material for all industries and infrastructure building.

Along with global population growth and associated economic growth, the world's crude steel production is expected to continue increasing. At the same time, significant long-term structural changes in society and industries are certain to increase demand for steel to provide more advanced performance. This includes advanced functions as material as well as considerations to the environment and society.

We are pledged to maximize the potential of steel and enhance its competitiveness as a material. On this basis we intend to deploy our accumulated technology and integrated power, by means such as in combining steel with other materials in new ways, and develop and provide total solutions, which incorporate utilization and processing technology in addition to supply of materials. By doing so, we are determined to contribute to a sustainable development of society – a commitment of us, engaged in steelmaking.

Nippon Steel Group's Brand Mark

NIPPON STEEL

As a global steelmaker with origins in Japan, Nippon Steel is incorporating a diversity of DNAs of people and companies, and growing into the future. Keeping that determination in mind, we renamed ourselves as "Nippon Steel Corporation" on April 1, 2019. On that occasion, a common brand mark for Nippon Steel and the Nippon Steel Group companies was adopted in order to unify the branding of the entire group.

The brand mark is a combination of the corporate mark and the English logo. The font used in English is a roundish typeface, representing a strong but yet flexible image of steel.

Our Thoughts Incorporated in the Corporate Logo

Aiming to become the best steelmaker with world-leading capabilities

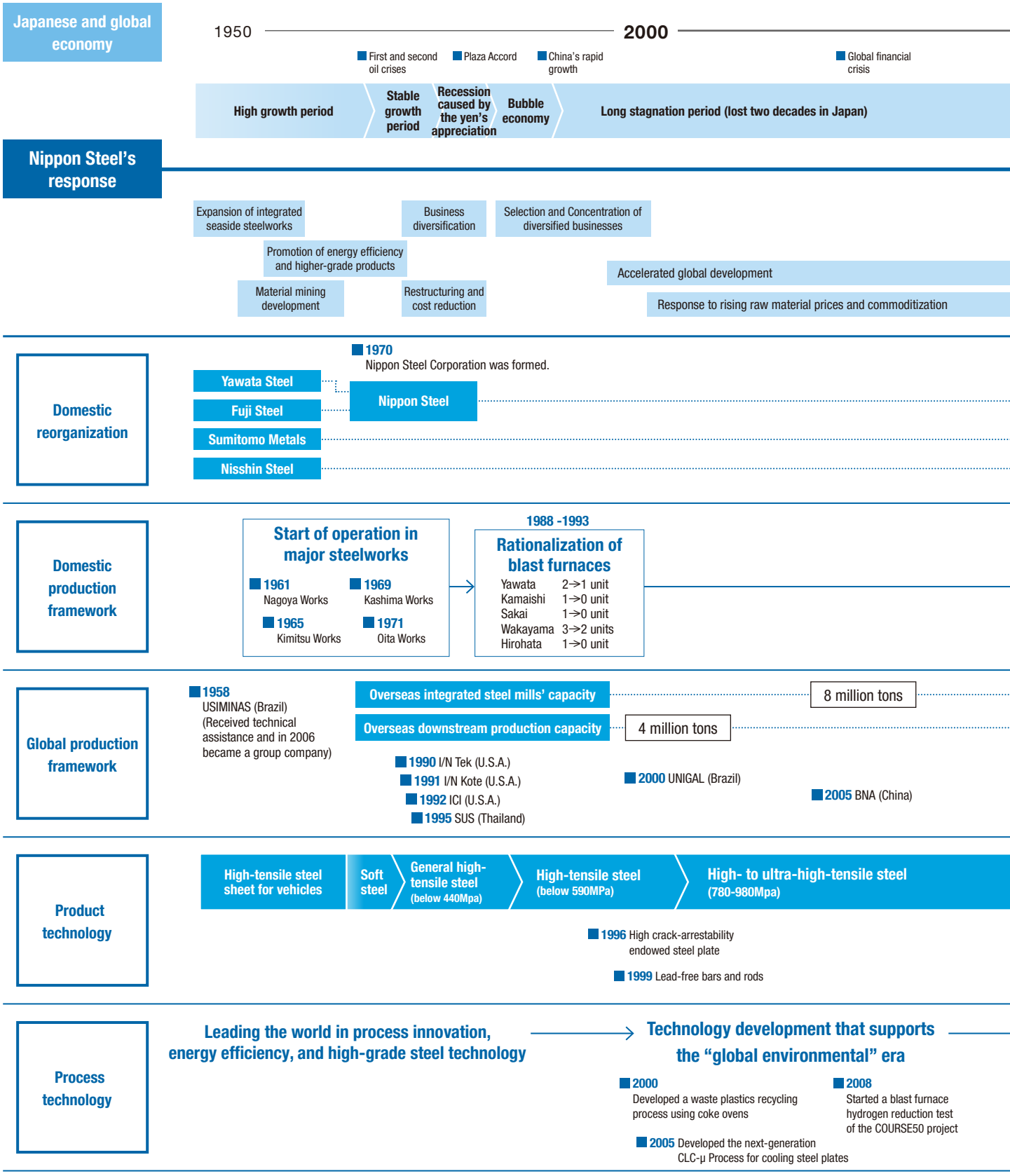
Aiming at the summit

Representing the unlimited future of steel

The triangle in the logo represents a blast furnace and the people who create steel. It reflects the fact that steel, indispensable for civilization, brightens the world. The center point can be viewed as a peak, which represents the best steelmaker. It can be also viewed as the destination of a road, which represents the unlimited future of steel as a material. The blue color represents leading technology and reliability.

History of Our Development

Nippon Steel has realized its growth by aligning with the expanding applications and demand for steel, a foundational material that is essential to people's lives .
Dedicated to overcoming crises caused by recent changes in the external environment, we proactively anticipate changes and initiate self-reform. As the world's leading steelmaker, we are committed to pioneering the future of steel while striving to maximize our corporate value.



2010 — 2020 (Year)

■ COVID-19

Abenomics

Green economy

Challenge of carbon neutrality

Pursuit of lean & optimal production framework

Response to the fluctuation in steel demand/supply, originated in China

■ 2012
Merger of Nippon Steel and Sumitomo Metals to establish Nippon Steel & Sumitomo Metal (NSSMC)

■ 2019
Corporate name change

Nippon Steel & Sumitomo Metal (NSSMC)

Nippon Steel Corporation

■ 2017
Became a subsidiary

■ 2020
Merger

Into a large-scale refurbishment period for infrastructure facilities, coke ovens, etc.

Building an optimal production framework

■ 2016 Kimitsu BFs 3→2 BFs
■ 2020 Kokura BF 1→0 BF
■ 2021 Kure BFs 2→0 BFs
■ 2021 Wakayama BFs 2→1 BFs

9 million tons

Selection and concentration of overseas businesses

21 million tons

17 million tons

■ 2010 VSB (Brazil)
■ 2013 Tenigal (Mexico)
■ 2013 NS Bluescope
■ 2014 AM/NS Calvert (U.S.A.)
■ 2018 Ovako (Europe)
■ 2019 AM/NS India (India)
■ 2020 Withdrawal from I/N Tek and I/N Kote (U.S.A.)
■ 2021 Withdrawal from VSB (Brazil)
■ 2022 G/GJ Steel (Thailand)

Ultra-high-tensile steel
(1,180Mpa and above; hot stamp)

■ 2015
Stainless steel HYDREXEL™ tubes for use in high-pressure hydrogen environments

■ 2010 Started use of biomass resources in power stations

■ 2014
Completed construction of the first commercial model of an energy-efficient CO_2 separation and recovery facility

Future risks and opportunities, and business strategy

Risks / Opportunities

P.21-24

Steel supply/demand environment

Increase in the world's steel demand, mainly in emerging countries

Growth in demand for high-grade steel, including new demand related to carbon neutrality

Decline in domestic demand and expanded capacity of new steel mills in the coastal area of East Asia, causing intensifying competition and deteriorating export profitability

Increasing market volatility in prices of raw materials and products, driven by the supply/demand trend in China, accounting for the majority of the global market

Climate change

P.21,23-24,73-74

Realization of a carbon neutral society as a major social issue

Establishment of carbon neutral steelmaking technology as an opportunity to reestablish overwhelming superiority in the global steel industry

Business strategy

1 Rebuilding of Domestic Steel Business

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2 Deepening and Expansion Overseas Steel Business

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3 Challenge of Carbon Neutrality

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4 Promoting of Digital Transformation Strategies

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5 Evolving into a Further Vertically-integrated Business Structure

P.43

The Value Creation Process and Strengths

Inputs P.13-14

Manufacturing capital
Mother mills in Japan—a source of technological prowess
Overseas production bases that capture growth

Natural capital
Efficient use of resources and energy

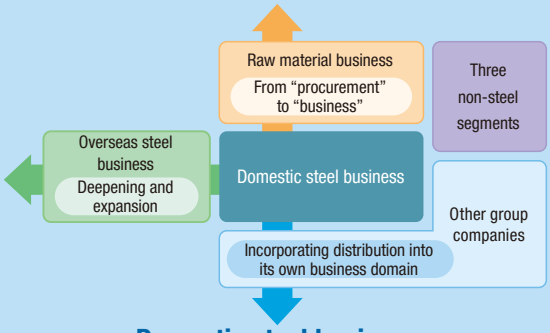
Intellectual capital
R&D resources on a world-class scale

Human capital
Diversity & Inclusion, and Human Resources Development

Financial capital
Robust financial base

Social and other related capital
Relationship of trust and cooperation with communities and customers

Business Model P.49-64



Domestic steel business
Efficient, integrated high-grade steel production under the large blast furnace and seaside integrated steelworks model

Overseas steel business
A global production system in "regions poised for demand growth" and "domains where our technological and product proficiencies can be utilized" leveraging the expertise cultivated at mother mills in Japan

Raw material business
Transitioning from raw material interests for stable procurement to "business"

Other group companies
Supporting the domestic steel business from upstream to downstream of the value chain to contribute to value enhancement
Incorporating distribution into its own business domain

Three non-steel segments
Companies derived from steelmaking business generate synergy and realize top-class profitability in the respective field

Realizing a carbon neutral steel production process
- High-grade steel production in large-sized EAFs
- Hydrogen injection into BFs (COURSE50)
- Hydrogen direct reduction of iron

Lower CO_2 emissions in existing processes

Building of an efficient production framework, etc.

Promoting digital trans

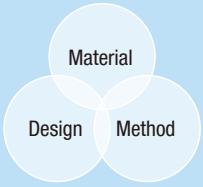
Innovative evolution of strength in manufacturi

Corporate Philosophy P.7-8
History of Our Development P.9-10
Corporate Governance P.81-90
Materiality of Sustainability Issues P.65-68

Outputs P.95-96

Wealth of steel products and solution proposals for diverse applications

- Flat products
- Construction products
- Plates
- Railway, automotive & machinery parts



- Pipes & tubes
- Bars & wire rods
- Titanium
- Stainless steel

Automobiles, Shipbuilding, Energy, Household appliances, Containers, Industrial machinery, Civil engineering, Construction

Products using by-products

- Steel slag products, coal chemical products

Minimal emissions

- 99% recycling of by-products
- Air, water, soil contamination risk management

Non-steel business products and services

- Environment and energy, urban infrastructure
- Chemicals, Functional materials, composite materials
- IT consulting, DX promotion, IT solution, modernization

Outcomes P.93-96,101-106

Contribution to SDGs in society

SUSTAINABLE DEVELOPMENT GOALS

Creation of economic value

Creation of sustainable corporate value and profit distribution

- Securing sustainable profit
- Investment for further growth
- Profit distribution
- Enhancement of corporate value

Creation of social value

- Jobs for employees and growth in community
- Safe, reliable living
- Energy preservation, climate action, recycle-oriented society
- Disaster prevention and reduction, National Resilience
- Infrastructure to build in emerging countries and to rebuild in developed countries
- Products and technological solutions in growth areas
- Education for employees and communities

Carbon Neutral Vision 2050

NSCarbolex® Neutral　NSCarbolex® Solution

2050
Realization of a carbon neutral society

formation (DX) strategies
ng and strengthening of customer responsiveness

Nippon Steel's strengths P.49-54,61-64,93-98

Technology	Products and solutions that contribute to customers' value creation
Cost	Cost competitiveness, enabled by our process technology and operational technology
Being global	Global expansion in response to Japanese customers' overseas expansion and local demand

FY2022 Operating Results P.99-100

Risks, Opportunities, and Strategies P.21-43

Inputs

As the global economy has evolved, we have built a distinctive, outstanding capital base that includes a diverse workforce filled with pride and fulfillment, research resources and intellectual property that rank among the world's best steelmakers, a production framework that facilitates global supply, and robust customer relationships built on a foundation of trust. At Nippon Steel, these components are organically integrated to create economic and social value through our business activities.

Manufacturing capital P.97-98

Mother mills in Japan that cultivate high levels of technology, overseas production bases that capture growth

In Japan, six steelworks of Nippon Steel Corporation have 14 manufacturing bases, which we call areas, in aggregate. We also have group companies' factories or mills using electric arc furnaces and for secondary processing of steel products. Our manufacturing bases in Japan are the "mother mills" where we cultivate our operational, equipment, and product technologies—our strengths. Beyond Japan's borders, we have been at the forefront of establishing manufacturing bases in "regions poised for secure demand growth" and "domains where our technological and product proficiencies can be utilized." Our global capacity for crude steel production currently stands at around 66 million tons per year, with a strategic goal to achieve 100 million tons through the expansion of integrated overseas production capacity in the coming years.

Global crude steel production approx. **66** mn tons/yr (consol.)
(Domestic **47** mn tons + Overseas **19** mn tons)

Property, plant and equipment
¥**3.0** tn (consol.)

Natural capital

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 of coke to reduce 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.

Iron ore
49.93 mn tons/yr (non-consol.)

Coking coal
24.97 mn tons/yr (non-consol.)

Industrial water
Approx. **600** mn m^3/yr (non-consol.)

Rate of reuse and recycling of water: 90%

Intellectual capital P.61-64

R&D resources on a world-class scale

Our R&D capabilities are among the most extensive in the global steel industry. We are actively contributing to societal progress through the development of high-value-added products and products that contribute to carbon neutrality in society.

We also carefully evaluate domestic and international patent applications in line with our business strategy. At the same time, we continue to improve and accumulate patents in both quality and quantity, thereby increasing our valuable patent portfolio, which not only supports our business revenues but also benefits society as a whole.

R&D expenses
¥**70.5** bn/yr (consol.)

R&D staff
Approx. **800** (non-consol.)

Patents
Japan approx. **14,000** (non-consol.)
Overseas approx. **16,000** (non-consol.)

Human capital P.75-80

Human Rights, Diversity & Inclusion, and Human Resources Development

From the perspective of creating a company where diverse employees are productive, perform at their best, be empowered, and feel proud and fulfilled, we are reinforcing our diversity & inclusion efforts as one of the important management issues. Recognizing that the source of competitiveness is the power of people, Nippon Steel's Management Principles state that "we develop and bring out the best in our people to make our Group rich with energy and enthusiasm," positioning human resource (HR) development as a priority theme.

Number of employees
106,068 people (consol.),
28,331 people (non-consol.)

Number of female employees in management positions
65 (non-consol.)

Number of training/learning hours
0.8 mn hours/year (non-consol.)

Financial capital P.44-48

Robust financial base

The steel industry is a gigantic equipment-based industry, which uses a massive amount of fixed assets, including machinery equipment and other tangible fixed assets, in its business. Procurement for fixed assets is financed by shareholders' equity and long-term borrowings, ensuring financial stability. Nippon Steel considers its D/E ratio to be a key measure in the management of its financial strength. The goal is to achieve a D/E ratio of approximately 0.5, a level that enables the company to maintain its A international credit rating over the long term. We remain committed to maintaining robust financial strength and ensuring financial flexibility.

Total equity attributable to owners of parent
¥**4.1** tn

Interest-bearing debt
¥**2.6** tn

D/E ratio
0.51

Social and other related capital

Relationship of trust and cooperation with local communities and customers

Having many manufacturing bases all over Japan, Nippon Steel has a long history of being engaged in business activities rooted in local communities and supported by local residents. Our steel products play a central role in creating value for our customers in a wide range of industries, including manufacturing, natural resources and energy, and civil engineering works and construction. The bonds of trust and cooperation we cultivate with our customers are invaluable assets that serve as the source of our competitiveness.

Relationship of trust and cooperation with customers
Approx. 6,000 customers in Japan (Non-consol.)

Harmony with local communities and society
Acceptance of plant visits, etc.

Alliances with major steelmakers
ArcelorMittal, etc.

Financial and Non-Financial Highlights

In terms of financial indices, Nippon Steel focuses on the earnings generated by its core businesses (business profit, ROS) and the capital efficiency (ROE), which are critical to achieving its medium- and long-term growth objectives. Simultaneously, with regard to non-financial indices, we place significant emphasis on cutting CO_2 emissions, alongside prioritizing safety and fostering diversity indices.

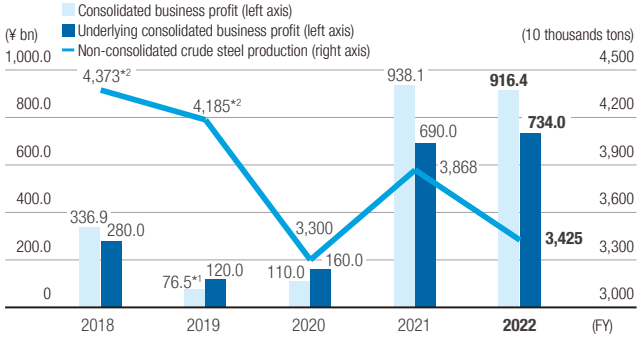
Financial Indices

Business profit (consol.)

We achieved a V-shaped recovery from the earnings decline caused by the impact of COVID-19, continuing a streak of record profits since FY2021.

We have successfully established a resilient business framework that ensures high and stable earnings. This was achieved by implementing the structural measures for production facilities, improving margins in direct contract-based sales, lowering the break-even point by refining the order mix, seizing growth opportunities in emerging markets with a focus on India, and improving margins, strengthening operations and other measures at other group companies.

In recent years, the impact of one-time gains and losses, including inventory valuation differences, has increased significantly due to recent volatility in raw material markets and exchange rates. In view of the growing importance of focusing on earnings that exclude these items, we are now disclosing underlying business profit.

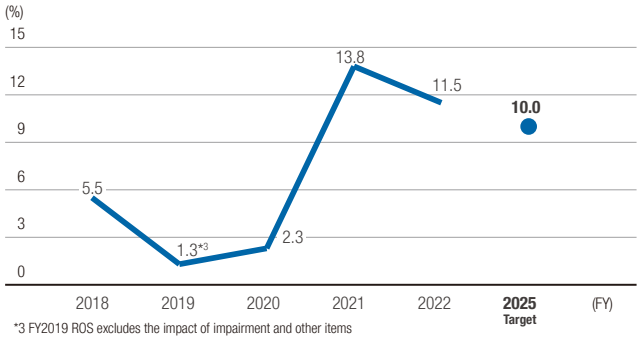


*1 FY2019 consolidated business profit excludes the impact of impairments and other items
*2 Non-consolidated crude steel production for FY2018 and FY2019 includes former Nippon Steel Nisshin (Kure, Japan)

ROS

The ROS exceeded the 10% target for FY2025 set in the medium- to long-term management plan for two consecutive years.

Sales increased sharply due to price adjustments in response to escalating raw material, energy, and other external costs. Consolidated business profit continued to grow as a result of the aforementioned initiatives, accompanied by a significant improvement in ROS.

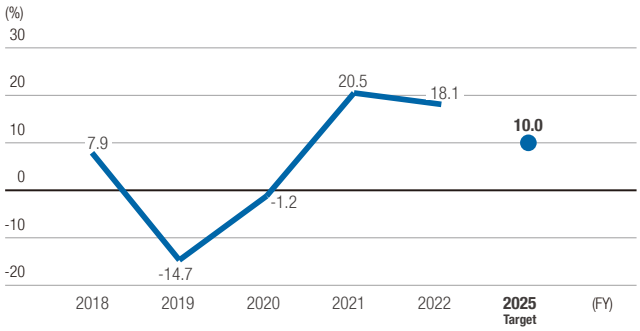


*3 FY2019 ROS excludes the impact of impairment and other items

ROE

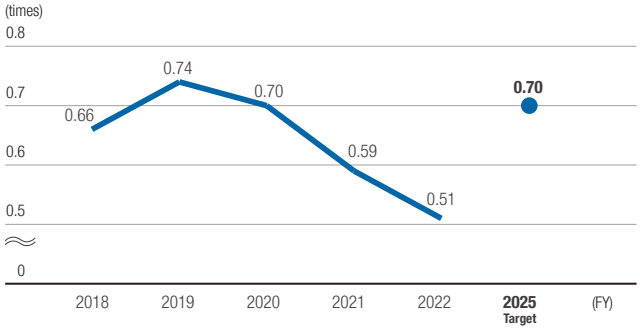
ROE has exceeded the 10% target for FY2025 set in the medium- to long-term management plan for two consecutive years.

We will strive to maintain and improve ROE, which is an important indicator for shareholders and investors, through profit growth that exceeds the accumulation of equity capital and improvement of capital efficiency through efforts to reduce assets and other measures.



D/E ratio

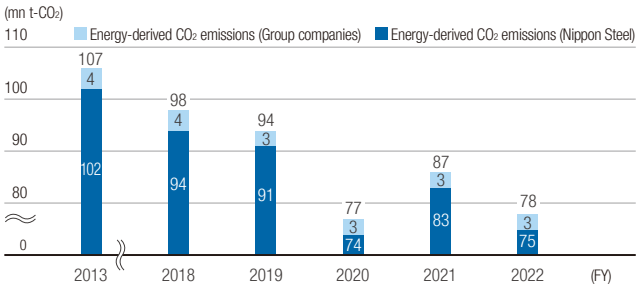
The existing Medium- to Long-Term Management Plan sets a target of not exceeding D/E = 0.7 for the FY2025 section. Thanks to the substantial profits achieved in recent years, the company's financial strength has been significantly strengthened and currently stands at 0.51. Going forward, we expect to make investment in plants and equipment and secure loans to realize the "100 Million Tons, 1 Trillion Yen Vision" and our commitment to achieving carbon neutrality. In addition, we will operate with a heightened awareness of our financial strength, enabling us to adeptly procure funds as needed. We aim to achieve the D/E ratio of 0.5, a level that allows us to maintain A international credit rating over the long term.



Non-financial Indices

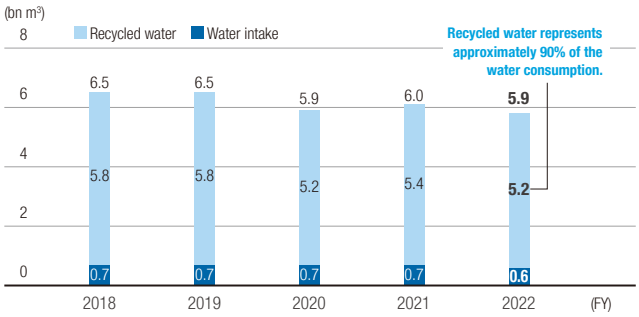
Energy-derived CO_2 emissions

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. In FY2022, energy consumption and energy-derived CO_2 emissions declined to 926 PJ and 78 million tons (provisional values), respectively. These reductions are attributed to both these initiatives and a drop in production volume due to the global decline in demand for steel products.



Industrial water consumption

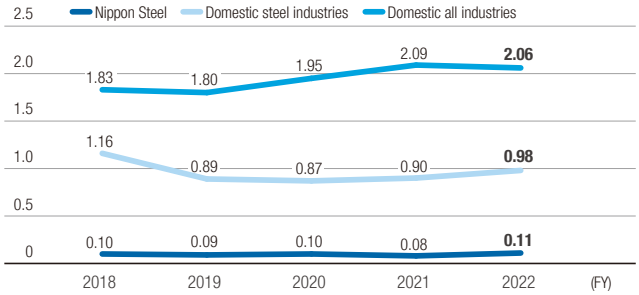
We use about 6.0 billion m^3 of industrial water a year, of which approximately 90% is derived from recycled or reused water to reduce wastewater discharge, at all of our steelworks and factories combined. Our operational bases in Japan are evaluated by the World Resources Institute (WRI) Aqueduct to confirm that we are not prone to high-level water stress. Nevertheless, in preparation of the remote chance of a water intake restriction, some of our steelworks possess their own water reservoir.



Accident frequency rate (Lost time incident rate)

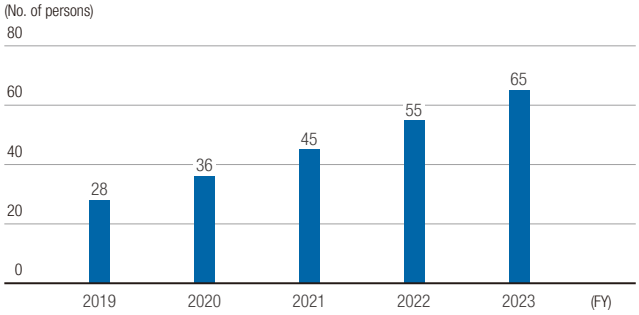
We have set a target of 0.10 or lower for the lost time incident rate. In 2022, this rate was 0.11 (compared to an industry average of 0.98 in the domestic steel sector). We promote risk assessment activities to prevent accidents and mitigate risks, improve the intrinsic safety of our facilities, introduce technology such as surveillance cameras, and enhance various health and safety education programs.

We have obtained ISO (JIS Q) 45001 certification for 12 of our business locations and are working to acquire this certification at all our locations to strengthen management of health and safety. We will continue to strengthen our efforts to build and maintain a safe work environment.



Number of female employees in management positions

We have developed and announced a goal and an action plan to support female employees to continue to demonstrate their abilities through career development, including more promotion of them to leadership positions, and to promote their empowerment in all workplaces and levels. We target at least doubling and possibly tripling the number of female employees in management positions by 2025 from 36 in 2020, and an increase by at least four times and possibly seven times by 2030. Specifically, we are implementing initiatives to improve recruitment and retention rates, as well as measures to promote career development and career compatibility support.



Evolving into a further horizontally and vertically integrated business structure

Challenge of carbon neutrality

To realize the 100 Million Tons, 1 Trillion Yen Vision

My name is Eiji Hashimoto, and I'm the President of Nippon Steel.

Aiming to become the best steelmaker with world-leading capabilities, Nippon Steel has been making steady efforts to realize the four pillars laid out in its Medium- to Long-Term Management Plan: 1) rebuild domestic steel business and strengthen group management, 2) promote a global strategy to deepen and expand overseas business, 3) take on the challenge of carbon neutral steel, and 4) promote digital transformation strategies.
We also aim to achieve consolidated business profit of 1 trillion yen. This involves establishing an integrated business structure from raw materials to manufacturing and distribution, enhancing our competitiveness throughout the supply chain, and developing a more resilient business model in line with our goal of achieving carbon neutrality.

Our Group's mission is to respond precisely to the diverse needs of society and our customers, and to address pressing issues such as climate change through the use of our technologies and products.
This is a golden opportunity for us to meet the challenges of intense competition and take a leading role in the global decarbonization effort, thereby regaining our position as a global leader in overall performance. We will continue to strive to reach even greater heights.

Representative Director and President
Eiji Hashimoto

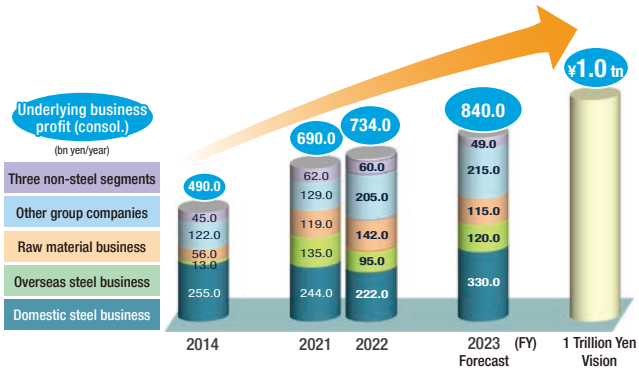
Lookback on FY2022 results

In FY2022, we made significant progress in building a solid earnings foundation to support all of our efforts. However, it also brought into focus the stark reality that the global steel industry is entering an exceptionally challenging period. In the midst of a global downturn in steel production, iron ore and coking coal prices remained high, resulting in a decoupling between raw materials and finished products. We have now entered a new era of fierce competition that is forcing us to navigate the uncharted waters of an exceptionally challenging landscape to survive.

Reflecting on FY2022, as the COVID-19 pandemic continued, the outbreak of the conflict in Ukraine pushed up energy and resource costs, marking the transition to an inflationary era. In Japan, inflation accelerated due in part to the rapid depreciation of the yen. In addition, the impact of production disruptions due to semiconductor shortages has intensified, particularly in the automotive sector. In addition, the slowdown of the Chinese economy, which accounts for the majority of world steel demand, led to a sharp decline in steel demand both domestically and internationally. This required us to significantly reduce our non-consolidated crude steel production from just over 38.5 million tons in FY2021 to just under 34.5 million tons.

In this challenging environment, we made a concerted effort to fundamentally improve our break-even point and optimize earnings by consistently implementing profit-oriented strategies such as streamlining production, refining the order mix, upgrading facilities and improving direct contract-based sales. As a result, despite operating with reduced crude steel production, both underlying consolidated business profit and consolidated profit attributable to owners of parent surpassed the previous record highs of FY2021, setting new highs for the second consecutive year.

We view this achievement as the fulfillment of our commitment to build a solid business foundation by consistently securing more than 600 billion yen in consolidated underlying business profits regardless of external circumstances.



Acknowledgment of the External Environment

Global steel demand in FY2023 is not expected to improve from current levels. In China, the real estate sector continues to experience a slowdown, with no clear signs of a revival in domestic demand. Likewise, in Europe and the United States, the economic outlook remains uncertain. In addition, raw material prices are expected to remain at high levels, while product prices are expected to remain flat. Spreads (the difference between the market prices of raw materials and steel products) in the global market are not expected to improve. The domestic steel demand is expected to gradually decrease in line with population decline. At the same time, the export of steel products from Japan is likely to face increasing challenges due to the growing trend toward local production in various regions of the world. In addition, there are risks associated with increased volatility in raw material and product markets due to supply and demand trend in China.

On the other hand, we see potential for growth in global steel demand, particularly in Asia, including countries such as India. We are determined to capitalize on the opportunities presented by the projected growth, supported by increased demand for high-grade steel and a competitive advantage through the establishment of carbon-neutral technologies.

Progress of the Medium- to Long-Term Management Plan

In this challenging environment, we are committed to achieving underlying consolidated business profits of 800 billion yen or more by delivering the effects of structural reforms and launching new initiatives. We aim to make FY2023 a pivotal year as we move toward achieving 100 million tons of global crude steel production and consolidated business profit of 1 trillion yen.

1 Rebuild domestic steel business and strengthen group management

As part of the ongoing restructuring of our domestic steelmaking business, we have worked diligently to streamline and refine our production system through product and equipment selection and the consolidation of production into more competitive facilities. Our consolidation efforts continued in FY2022, focusing on transferring production to more competitive facilities. This included the shutdown of certain facilities, including the No. 3 casting machine in Kansai Works Wakayama Area, No. 1 hot-dip galvanizing and aluminum plating line in Setouchi Works Hanshin Area (Sakai), and pickling line No. 1 in the East Nippon Works Kashima Area.

By strategically positioning high-grade steel in recognition of the projected surge in demand in the future, we have proactively invested in plants and equipment to enhance the capacity and quality of our production. This includes the introduction of a state-of-the-art hot rolling line at the Nagoya Works, dedicated to producing ultra-high-tensile steel sheets and other steel plates, and new lines at Setouchi Works Hirohata Area, Hanshin Area (Sakai) and Kyushu Works Yawata Area for the manufacturing of electrical steel sheets used in electric vehicle motors and transformer iron cores.

In addition to these facility initiatives, we have successfully achieved “margin improvement in direct contract-based sales” by carefully reviewing and optimizing our approach to the direct contract-based sales system. By maximizing earnings through the continuation of these fundamental profit structure measures, we have established a foundation that will enable us to achieve stable high earnings even at low production levels.

We are also working to improve the allocation of management resources throughout the Group. As part of this effort, we are transferring a segment of steelmaking plant business of Nippon

Steel Engineering Co., Ltd. to our company. This move is aimed at strengthening the plant engineering system, which plays a key role in supporting our high-level investment in plants and equipment.

2 Overseas business

With regard to our overseas business, we are nearing completion of our exit from unprofitable operations. Our focus is now on improving and expanding profitability through enhancement of "selection and concentration," for instance, by focusing our efforts on higher value-added, integrated steelmaking businesses.

We have developed our business mainly in Asia (especially India and the ASEAN countries), whose market size and growth rate are relatively large globally, and we are well positioned to profit from the scale and growth of this market.

We will move toward 100 million tons of global crude steel capacity through expanding integrated production framework in areas with demand and firmly capturing local demands in "districts and areas where demand is promisingly expected to grow" and in "sectors in which our technologies and products are appreciated."

Specifically, we have taken aggressive action at ArcelorMittal Nippon Steel India Limited in India. This includes investing in the expansion of its integrated steelmaking capacity, including the construction of two new blast furnaces, the decision to acquire key assets and key infrastructure companies such as ports and power, the acquisition of downstream production capacity and the start of studies for the construction of a new integrated steel mill. While FY2022 saw a decline in profit from the previous year due to one-time effects such as inventory valuation differences, etc., we remain committed to improving profitability by further expanding integrated production capabilities in key overseas markets.

3 Carbon neutral

Nippon Steel is also taking concrete steps to decarbonize its operations. We have announced our "Nippon Steel Carbon Neutral Vision 2050," which outlines our goal to reduce total CO_2 emissions by 30% from 2013 levels by 2030 and ultimately achieve carbon neutrality by 2050. This is a high-level goal that meets the Japanese government's target and exceeds that of our overseas competitors.

We are making efforts from two aspects: provision of high-performance steel products and solutions to reduce CO_2 emissions throughout society, and that of carbon neutral steel through decarbonization of the steelmaking process.

With regard to the former, we have decided to expand our production capacity for electrical steel sheet, an essential component of high-efficiency motors and transformers, and for ultra-high-tensile steel sheet, which plays a key role in reducing the weight of automobiles. Construction has already begun on these initiatives. As part of these efforts, we decided to raise funds by issuing green bonds to increase both the capacity and quality of non-oriented electrical steel sheets, which are specifically designed for eco-car drive motors. The issuance of these bonds was completed in March 2023.

With regard to the latter, we are actively involved in the further development of three highly innovative technologies: high-grade steel production in large size electric arc furnaces, hydrogen injection into blast furnaces, and hydrogen direct reduction of iron. In a recent development, we have announced our plans to initiate a full-scale study of the transition from the BF steelmaking process to the EAF steelmaking process, with Kyushu Works Yawata Area and Setouchi Works Hirohata Area identified as potential sites for this transition. In addition, we intend to demonstrate the breakthrough technology of reduction with hydrogen in blast furnaces using actual blast furnaces to accelerate both our R&D efforts and the implementation of related facilities.

As part of this effort, we have also launched NSCarbolex™ as a brand to collectively refer to our "products and solution technologies that help reduce CO_2 emissions across society." By establishing a stable supply system at an early date, we are committed to supporting our customers' decarbonization efforts and the reduction of CO_2 emissions across multiple sectors of society.

As previously discussed, efforts to reduce CO_2 emissions in the steel industry require a fundamental transformation of the production process itself. This transformation requires the development of innovative process technologies and subsequent implementation. However, substantial capital investment and a significant increase in operating costs are expected to realize the implementation. In addition, the function and quality of the goods will remain unchanged, as the production process will be changed primarily to reduce CO_2 emissions.

Under these circumstances, achieving the government's emission reduction targets and making investments in implementation for CO_2 reduction, which in turn contributes to Japan's economic growth, will rely on improving the predictability of investment decisions. This requires robust and comprehensive government support measures comparable to those in Europe, the U.S. and China. Based on this premise, we are committed to meeting the challenge of realizing measures that can deliver economic rationality.

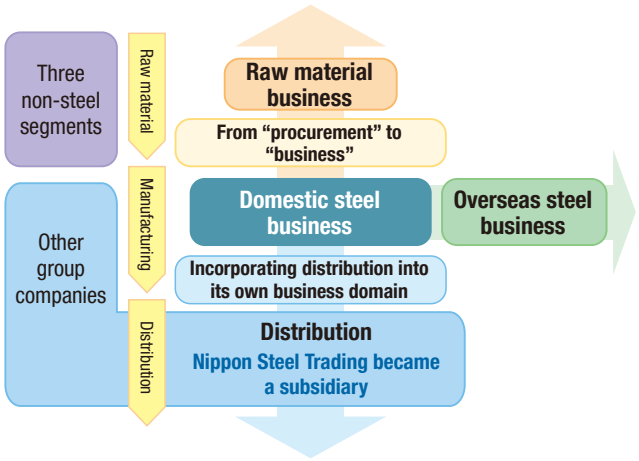
4 Digital transformation

As part of our digital transformation strategy, we are driving improvements in operational and production processes using data and digital technology. This approach encompasses every aspect of our steel business processes, from production planning, sales, manufacturing and maintenance to quality control, engineering, research, procurement, and finance. Over the next five years, we will invest ¥100 billion or more into our digital transformation strategy, with the aim of becoming a digitally advanced company in the steel industry. Specific measures include the wider use of "NS-IoT," a wireless IoT sensor application platform, to centralize data collected from multiple sites, enabling more advanced analysis and monitoring. In April 2022, the actual operation for early detection of facility abnormalities began at East Nippon Works Kimitsu Area and Kashima Area. To further expand the application of this system, we decided on investments to accelerate the plan toward the start of operation in FY2023 at North Nippon Works Muroran district, Nagoya Works, Kansai Works Wakayama Area, Kyushu Works Yawata Area and Oita Area.

We will realize "smarter manufacturing," "strengthening of flexible and optimal supply systems," and "building of business intelligence" through the integration of our technologies and expertise (competitiveness in the real world) with digital technologies.

Evolving into a vertically-integrated business structure

Our efforts are currently focused on building and strengthening an integrated business structure from raw materials to manufacturing and distribution, enhancing our competitiveness throughout the supply chain, and developing a more resilient business model in line with our goal of achieving carbon neutrality.



In FY2022, the raw material business maintained its high profitability, supported by a favorable sales environment characterized by high raw material market prices and the depreciation of the Australian dollar against the US dollar. In the future, we will remain committed to becoming a further vertically-integrated business by ensuring the consistent procurement of high-quality raw materials that are essential for carbon-neutral steelmaking, mitigating business profit volatility due to raw material cost fluctuations, and securing new resources essential for future decarbonization efforts.

By converting Nippon Steel Trading, an affiliate accounted for under the equity method, into both a subsidiary and a privately held company, Nippon Steel has successfully expanded its business scope into the distribution sector downstream of the steel manufacturing supply chain. We are determined to strengthen our capacity to assume responsibility for all steel trading activities. Our commitment extends to strengthening our competitiveness throughout the supply chain by optimizing and improving efficiency in production, distribution and processing. In addition, we are seeking to create new value through innovative approaches.

Sustainability initiatives

Our Corporate Philosophy articulates the company's commitment to "pursue world-leading technologies and manufacturing capabilities, and contribute to society by providing excellent products and services." In this context, we recognize that solving sustainability challenges is a fundamental pillar of our Group's existence and growth.

Based on this understanding, we have defined materiality (key issues) in focus areas such as health and safety, environment (including climate change measures), disaster prevention, quality, diversity and inclusion, human resource development, and other dimensions of sustainability and have been promoting initiatives in these areas.

As we face new challenges, such as carbon neutrality, and pursue sustainable growth, the importance of attracting and retaining a diverse workforce will only increase. We will gradually implement concrete measures, including the formulation of public relations strategies to enhance the company's appeal and recognition across generations. In addition, we will implement aggressive recruitment tactics, improve employee compensation levels, and increase employee engagement.

Key measures implemented in the past

Employment and hiring accompanying

- Raising the retirement age to 65
- Hiring of post-doctoral researchers

Support for work and family balance

- 24-hour childcare center

Working style

- Leave system for accompanying spouse on overseas assignment
- All male employees are encouraged to take childcare leave
- System for recurrent education leave

Human resources development

- DX human resources development
- Renovation of measures to strengthen English language skills

New measures to be implemented from ground up

- **Development of public relations measures to increase recognition among a broad range of generations**
- **Active recruitment of career professionals (including alumni)**
- **Raising the starting salaries**
- **Improvement of engagement (promotion of in-house dialogue, providing opportunities to mid-career and young employees by dispatching them overseas, etc.)**

Looking ahead

Our Group will continue to pursue cutting-edge technological advances and product capabilities, positioning itself at the forefront of the global steel industry. This commitment will be underpinned by our dedication to advancing sustainable social growth (SDGs).

I am determined to lead the way, and will do my utmost to overcome new and formidable competition, move forward toward carbon neutrality, and ultimately claim the top position in the world in terms of overall corporate value-driven strength. We will formulate a concrete plan to realize the ambitious goals of achieving 100 million tons of global crude steel production and consolidated business profit of 1 trillion yen. At the same time, we will build a new business structure and take on the challenge of raising our aspirations to even greater heights. I invite you to continue to look forward to the future endeavors of our Group.

Risks, Opportunities, and Strategies

In light of long-term and structural changes in the steel supply and demand environment and the role that the steel industry should play in solving social issues such as the realization of carbon neutrality, Nippon Steel is pursuing its management strategies to cope with potential risks and opportunities with the aim of continually growing to become “the best steelmaker with world-leading capabilities” and contribute to Japan’s industrial competitiveness from the present and into the future.

Risks/Opportunities

Risks	Opportunities
Gradual decrease in domestic steel demand in line with the declining population	Increase in the world’s steel demand, mainly in emerging countries
Increasing challenges of steel product exports from Japan due to the growing trend toward local production in various regions of the world	Growth in demand for high-grade steel, including new demand related to carbon neutrality
Increasing market volatility in prices of raw materials and products, driven by the supply/demand trend in China, accounting for the majority of the global market	Establishment of carbon neutral steelmaking technology as an opportunity to reestablish overwhelming superiority in the global steel industry

Four pillars of the Medium- to Long-Term Management Plan and evolution into a new further vertically-integrated business structure

Measures for all four pillars have been implemented according to the roadmap and based on our long-term outlook. With regard to rebuilding of our domestic steel business, we plan to complete measures by the end of fiscal 2025 in order to establish an efficient and strong production framework at the earliest possible time, and to rebuild the earnings base of our domestic mother mills.

Rebuilding of Domestic Steel Business P.25-27

Establishing an optimal production system by strategically selecting products and equipment

Deepening and Expansion Overseas Steel Business P.28-30

Toward global crude steel production capacity of 100 million tons

Challenge of Carbon Neutrality P.31-36

Provision of high-performance steel products and solutions that contribute to reducing CO_2 emissions in society
Provision of carbon neutral steel through decarbonization in steelmaking process

Promoting of Digital Transformation Strategies P.37-42

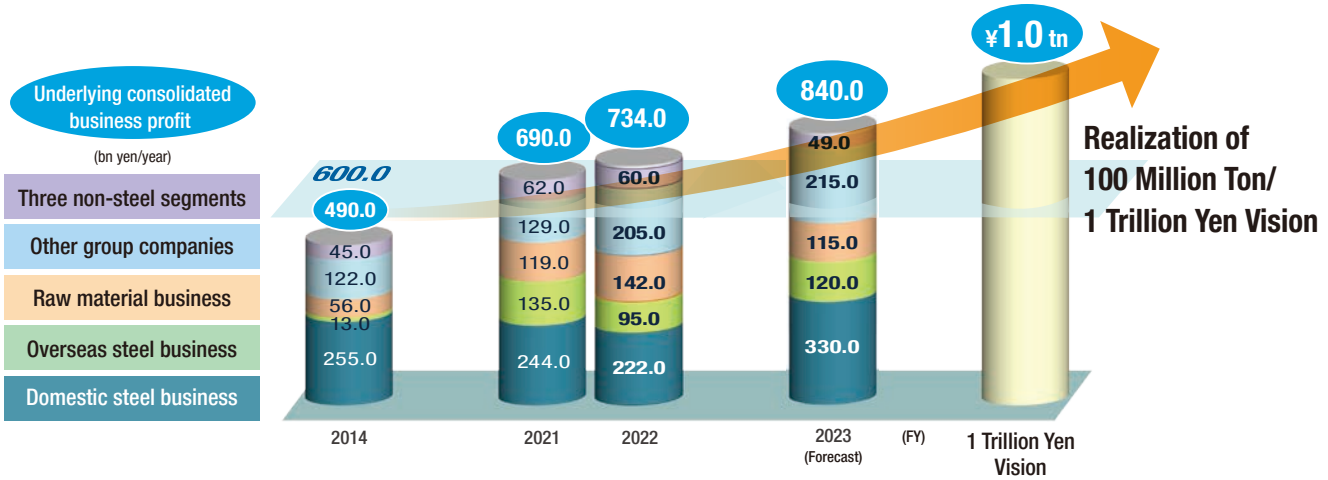
Innovative evolution of strength in manufacturing and strengthening of customer responsiveness

+

Evolving into a Further Vertically-integrated Business Structure P.43

Building an integrated business structure spanning procurement- manufacturing - distribution

By promoting structural reforms to develop a robust business framework, we have successfully built a profit base that can consistently secure 600 billion yen or more in consolidated, underlying consolidated business profits excluding one-off factors, regardless of external conditions. In addition, we will work toward a new stage of our vision which is achieving 100 million tons of global crude steel production and consolidated underlying business profit excluding one-off factors of 1 trillion yen.



Status of execution and measures to take

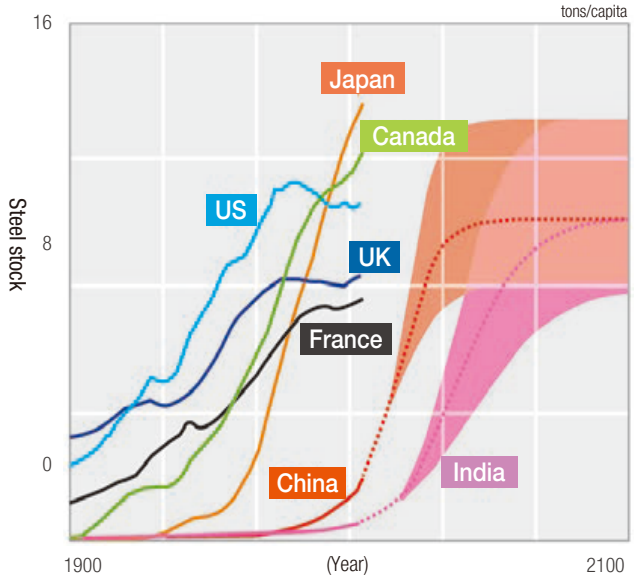
Status of execution	Measures to take
(1) Rebuilding of domestic steel business ⇒ P.25-27	
• Improvement of breakeven point by 40% (2019→2022)	
Concentrated production • Implemented more than half of the planned facility shut-downs for the production facility structural measures, including 4 blast furnaces • Reduced annual costs by ¥90 billion cumulative by FY2022 of ¥150 billion planned in the structural measures • Reduced the scale of fixed cost by 20% due to cost reduction efforts, including the structural measures	• Shut down facilities including one BF (Kashima No. 3) in accordance with the roadmap for the structural measures, and consolidate production into competitive facilities • Steadily reduce the remaining ¥60 billion cost of the structural measures • Absorb the increase in amortization costs, and maintain a low level of fixed costs by cost reduction efforts, including the structural measures
Shift to a more sophisticated order mix, and renewal and improvement of facilities • Relined the No. 3 BF at the Nagoya Works (Jan.–Jun. 2021) • Decided to invest in improving capacity and quality of electrical steel sheets • Decided to invest in strengthening the supply system of ultra-high-tensile steel sheets (the construction of a next-generation hot strip mill in Nagoya)	• Steadily execute construction and start of capital investment plans to improve strategic product capability and quality, increase the ratio of high-value-added products, and increase marginal profit unit price • Develop and provide high-value-added products and solutions that meet customer needs
Margin improvement in direct contract-based sales • Improved direct contract pricing • Revised the business practice of direct contract-based sales (starting with goods shipped in Apr. 2022)	• Promptly reflect the short-term rapid fluctuation of raw material market prices in the sales prices • Reflect the value of our products and solutions to the sales price
(2) Deepening and expansion overseas steel business ⇒ P.28-30	
• Acquired G/GJ Steel (Feb. 2022) • Decided to invest in expanding capacities for upstream steelmaking and steel sheet capabilities at AM/NS India's Hazira steel mill in the west (Sep. 2022, Apr. 2022), and secured renewable energy power and acquired infrastructure assets (Sep. 2022).	• Further expanded capacities at AM/NS India (further capacity expansion at Hazira steel in west India and new steel mill construction) • Explore further opportunities for establishing a 100 million-ton global steel capacity
(3) Challenge of carbon neutrality ⇒ P.31-36	
• Established the Green Transformation Promotion Division (Apr. 2021) • Adopted the assistance by the Green Innovation Fund for the steel industry (Dec. 2021) • Decided to install a small electric arc furnace and a direct reduction facility at the Hasaki Research and Development (R&D) Center (May 2022) • Started the installation of actual demonstration equipment for hydrogen injection in blast furnaces at East Nippon Works Kimitsu Area (Feb. 2023)	• Started a full-scale study of the transition from the BF steelmaking process to the EAF steelmaking process (May 2023~) • Reduce total CO_2 emissions by 30% by 2030.Develop breakthrough technologies in steelmaking process ahead of steel companies in other countries for achieving carbon neutrality in 2050.
(4) Promoting of digital transformation strategies ⇒ P.37-42	
• Started prototype application of the integrated production planning simulator • Advanced utilization of operational and facility data with wireless IoT sensors (NS-IoT) • Started operation of the unified data platform (NS-Lib) • Started DX training on two axes: Data science and digital management	• Develop smarter manufacturing Advanced use of ICT such as AI and IoT; production support by automation and predictive detection • Create new data-based business operations using digital technology • Sharing of short cycle management, management information, and KPIs
(5) Evolving into a further vertically-integrated business structure ⇒ P.43	
• Nippon Steel Trading became a subsidiary and a privately held company (Apr. 2023, Jun. 2023)	• Strengthened the capacity to assume responsibility for all steel trading activities • Further strengthened competitiveness throughout the supply chain by optimizing and improving efficiency in steel production, distribution and processing, and through creation of new values • Expanded the raw material business further

Potential Risks and Opportunities in the Steel Market

Domestic steel demand will gradually decrease in line with the declining population, but global demand is expected to increase, mainly in emerging countries, especially for high-grade steel, which can contribute to solving social issues.

The world's steel demand keeps increasing, mainly in emerging countries

Steel stock per capita



Source: "Sustainable steel: at the core of a green economy," World Steel Association, 2012

Steel products are accumulated around the world in the form of end products such as buildings, bridges, factories, ships, automobiles, and household appliances. At present, the world's steel stock amounts to approximately 30 billion tons, with steel stock per capita of about 4 tons. The amount is between 8 to 12 tons per capita in developed countries. Projections indicate that China is on track to attain a steel stock per capita of 10 tons by the mid-21st century, while India is forecasted to achieve a similar figure by the end of the century.

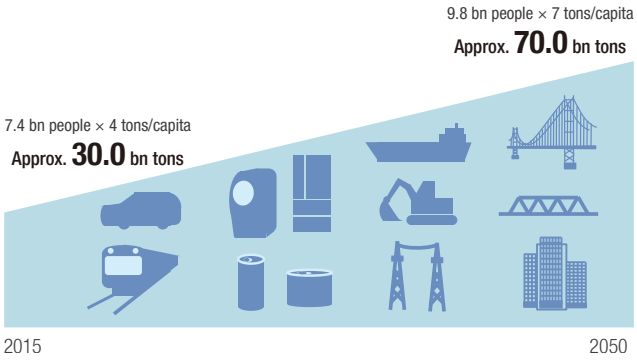
If economic growth in emerging countries, SDGs initiatives, and other factors result in a steel stock per capita of 7 tons globally in 2050, the total amount of global steel accumulation is projected to reach 70 billion tons, taking population growth into account.

To accumulate 70 billion tons of steel by 2050, the world needs to increase its crude steel production to approximately 2.7 billion tons per year by that time.

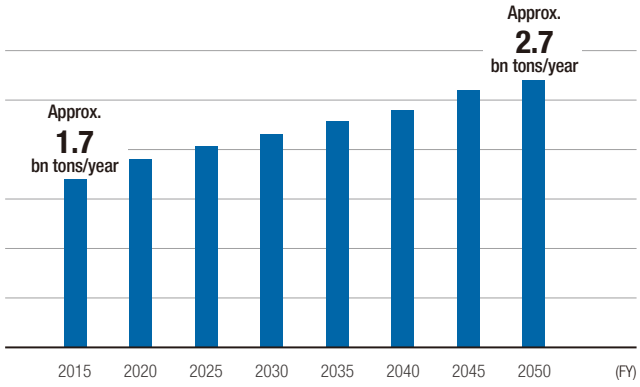
However, steelmaking only with recycled steel is insufficient to meet the steel production requirements due to the limited amount of scrap available.

Therefore, even in 2050, there will still be considerable need for pig iron production through iron ore reduction at a similar scale to the present.

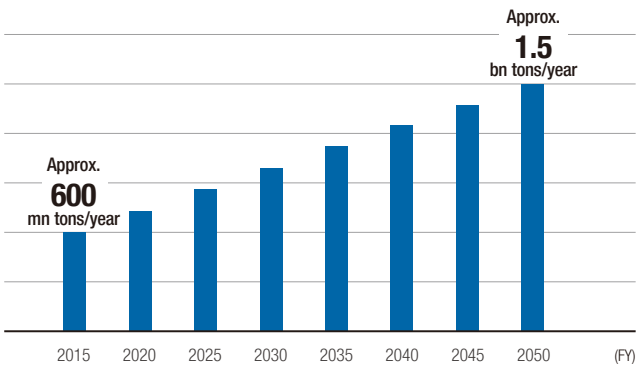
Assumption of world steel accumulation trends



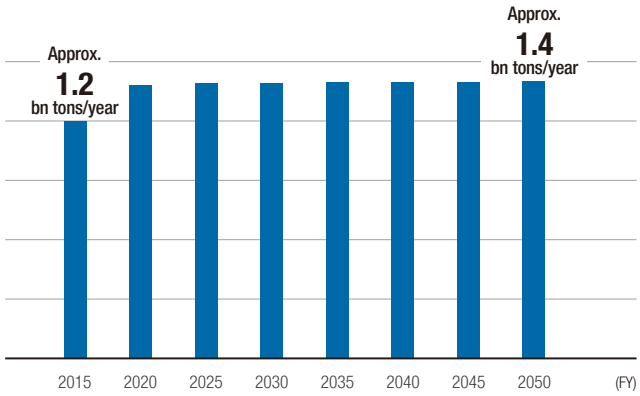
World crude steel production volume Forecasts



Amount of scrap generated



New production from iron ore (pig iron production)



Japan's steel market anticipates a gradual decline

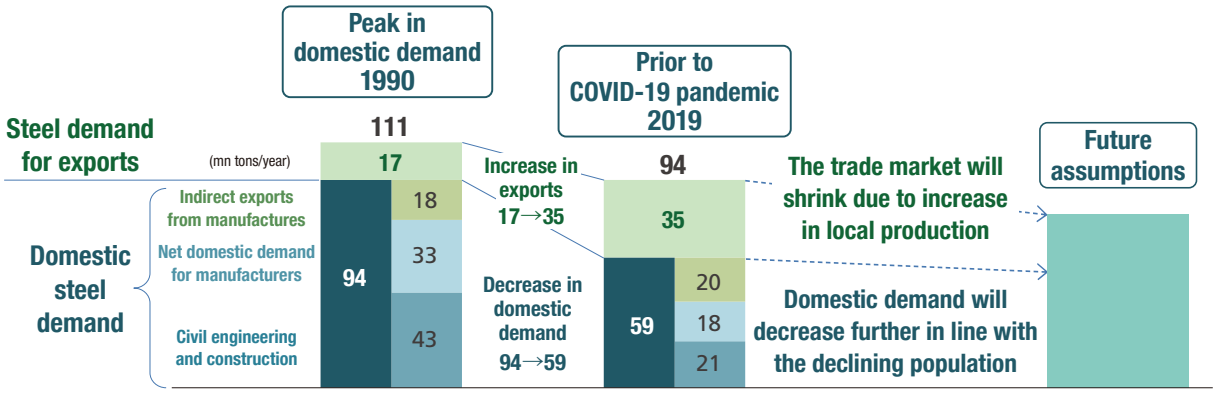
Gradual decline in domestic demand

Domestic steel demand peaked at 94 million tons per year in 1990, during the bubble period, and has since been on a downtrend due to a fall in demand for civil engineering and construction, manufacturers' overseas shift in production, and other factors. The Japanese steel industry has maintained its level of domestic production by balancing the decline in local demand with an increase in exports. There is a concern that Japan's declining and aging population is likely to reduce domestic steel demand for domestic consumption of the manufacturing industry and for civil engineering and construction sector.

Increasing difficulty to export

Steel demand is projected to grow overseas, especially in emerging economies. Nevertheless, the export outlook for steel products from Japan is likely to become more challenging. The main reasons behind this are the growing trend toward local production in various regions of the world and intensified competition resulting from the expanded capacity of new mills along the East Asian coastline.

Shifts in Japanese Steel Industry's product destinations

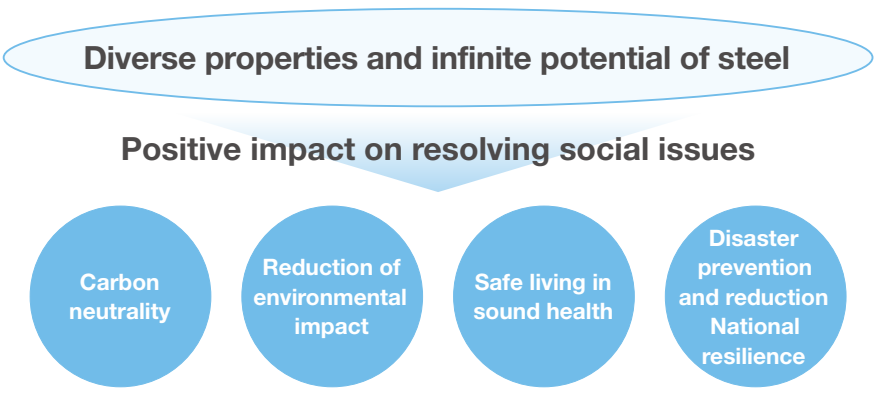


Anticipating growth in the high-grade steel market in quality and quantity

High-grade steel products are products which make use of various properties and limitless potential of steel, are designed to meet various specifications for steel quality, depending on the needs of customers, demonstrate superb functionality in use, and contribute to value creation of end products. Our wide range of high-grade steel includes the ultra-high-tensile steel sheet, which plays a key role in reducing the weight of automobiles, electrical steel sheet that contributes to energy efficiency improvement in motors and transformers, and Prostruct™, a construction solution brand that supports the development of safe, secure and disaster-resistant infrastructure. These high-grade steel products deliver an impact in addressing a range of societal challenges.

As global efforts towards carbon-neutrality and Sustainable Development Goals (SDGs) progress, the demand for high-grade steel is expected to increase, requiring improvements in both quality and quantity.

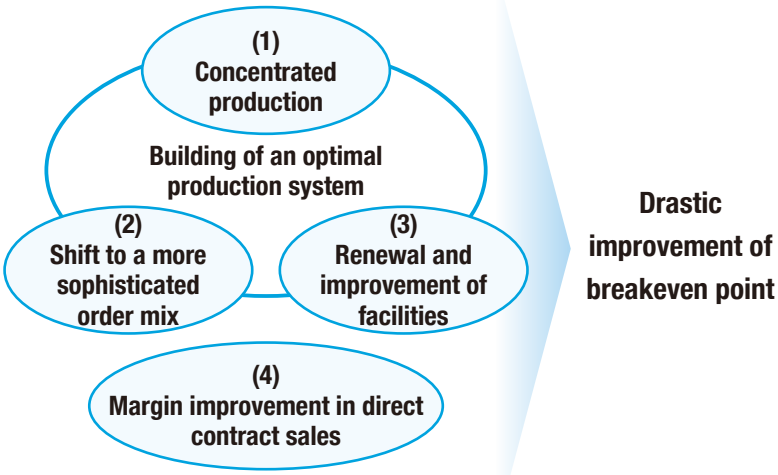
Ways in which high-grade steel can contribute to resolving social issues



Rebuilding of Domestic Steel Business

Our mother mills play a crucial role in strengthening the domestic steelmaking business structure and perform a central part in our global strategy by establishing an optimum production system capable of producing high-grade products. We are building a revenue base that is not solely reliant on volume by drastically improving the breakeven point. This will be done by improving marginal profit per t through margin optimization and order mix improvement, and by reducing fixed costs through measures involving structural adjustments within our production facilities. We will continue to work at well-timed and accurate assessment and analysis of demand trends and other factors in order to establish an optimal production system and will develop further measures, if needed.

Rebuilding of domestic steel business



Concentrated production "(1)"

Nippon Steel's production facility structural measures aim at concentrating production in competitive facilities while shutting down less-competitive ones, in order to make the production framework to be streamlined and more efficient, and to optimize the scale of production capacity and fixed cost.

We have already implemented more than half of our planned measures by March 2022, significantly reducing fixed cost.

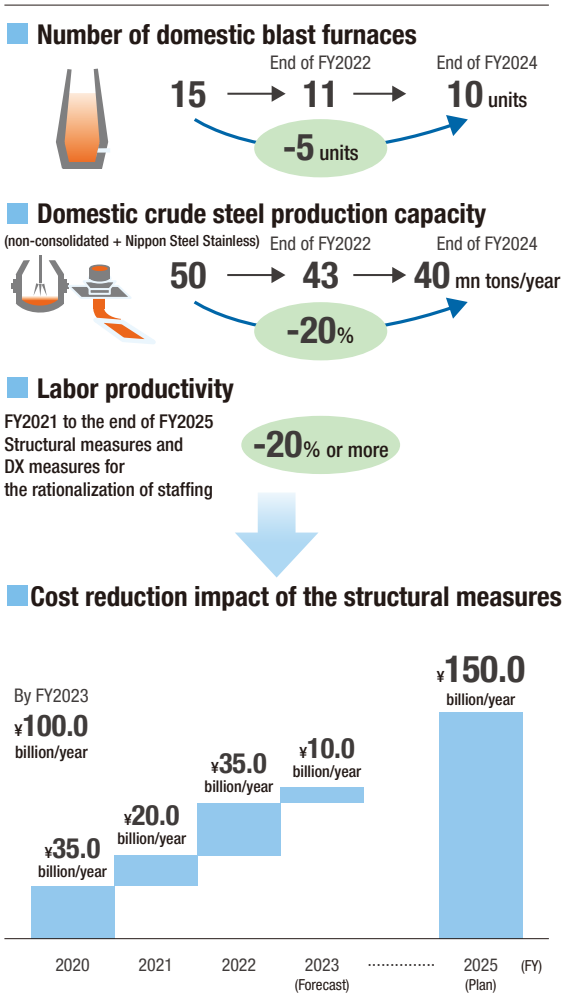
Product manufacturing process

- With the aim of strengthening the business and making an optimal, more efficient production system, some production lines are being shut down, and production is being concentrated in lines that are more competitive or closer to centers of demand.
- We are withdrawing from certain products in light of their medium- to long-term demand trends.

Upstream steelmaking process

- With the aim of increasing competitiveness in the integrated steelmaking process, all facilities at the Setouchi Works Kure Area and the No. 1 blast furnace and related facilities at the Kansai Works Wakayama Area were shut down by taking into account each steelworks' competitiveness in terms of integrated production/shipment capacity, cost, product strength, and other factors.
- By taking into account the overall situation including company-wide upstream steelmaking balance and the integrated production/shipment capacity, and cost of the areas where the product manufacturing lines were shut down, the No. 1 continuous casting machine at the Kimitsu Area of the East Nippon Works was shut down and the No. 3 blast furnace and related facilities at the East Nippon Works Kashima Area will also be shut down.

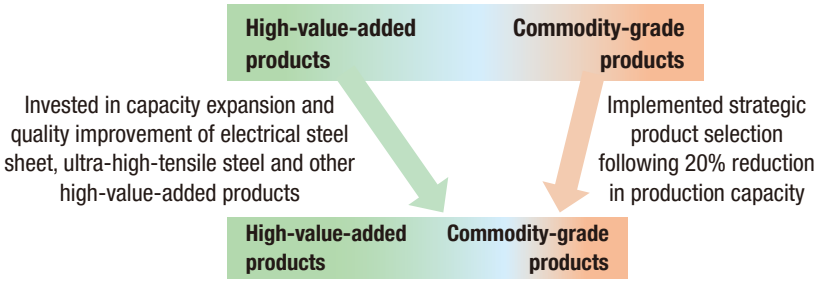
Facility structural measures



Shift to a more sophisticated order mix “(2)”

Our strategic focus is on high-grade steel, which is expected to increase in demand both in terms of quality and quantity. Accordingly, we are investing actively in plants and equipment to expand production capacity and improve quality. We intend to advance an order mix by raising the ratio of higher-value-added products and reducing the ratio of commodity-grade products along with the streamlining of production capacity. This leads us to improve average marginal profit.

More sophisticated order mix



Renewal and improvement of facilities “(3)”

We will selectively invest in competitive facilities, including using funds to improve the capacity and quality of strategic products. Acquiring new facilities will enable us to turn our technological expertise into actual profits.

Strategic investment in a next-generation hot strip mill at the Nagoya Works

In the automotive industry, where global environmental regulations are showing a trend of tightening and where collision safety standards are becoming more stringent, demand for high-performance materials is expected to further grow in response to the need for lighter, stronger vehicle bodies. For the foreseeable future, demand for electric and hybrid vehicles will have high growth potential, creating need to reduce vehicle weight and increase body strength, particularly because of problems concerning mileage and battery weight.

In order to drastically strengthen the production system of high-performance steel sheets such as ultra-high-tensile steel sheets at the Nagoya Works, a core base for automobile steel sheet manufacturing, we are combining the knowledge and experience of many years’ R&D in pursuit of the potential of steel materials and are constructing a next-generation hot strip rolling mill with the world’s largest load-bearing rolling machine, which will give us dramatically improved rolling control and temperature control.

Investing in a next-generation hot strip mill

Time to decide	Investing steelworks	Investment	Start of operation	Production capacity
2023.5	Nagoya Works	Approx. ¥270 billion	1Q FY2026 (plan)	Approx. 6mn tons/year

Construction site of a next-generation hot strip mill at Nagoya Works

Strengthening the manufacturing system of high-end electrical steel sheets

As the world is rapidly moving toward decarbonization, demand for high-efficiency high-grade non-oriented (NO) electrical steel sheets used in the iron core of motors used in electric vehicles (EVs) is also expected to dramatically increase, driven by accelerated growth in demand for EVs, along with the stricter regulations for CO_2. In the meantime, regulations concerning energy efficiency of transformers have been tightened in a number of countries. With regard to grain-oriented (GO) electrical steel sheets used in the iron core of transformers, the need for higher-grade materials with less energy loss is anticipated to further increase.

We have started construction as we had decided sequentially from August 2019 to May 2023 to invest ¥213 billion in cumulative total for the improvement in capacity and quality of electrical steel sheets at the Setouchi Works Hirohata Area / Hanshin Area (Sakai) and the Kyushu Works Yawata Area.

Investing for improvement of the capacity and quality of electrical steel sheets

Time to decide	Investing steelworks	Investment	Start of operation	Capacity expansion
(1) 2019.8-2020.5	Setouchi Works Hirohata Area Kyushu Works Yawata Area	¥105 bn	1H FY2023	Up approx. 1.5 times in NO + GO electrical steel sheet capacity; up approx. 3.5 times in high-grade electrical products
(2) 2021.11	Setouchi Works Hirohata Area	¥19 bn	1H FY2024	
(3) 2023.5, 10	Setouchi Works Hanshin Area (Sakai) Kyushu Works Yawata Area	¥90 bn	1H FY2027	Numerical production capacity targets for eco-friendly cars: Approx. 5 times the current level Approx. 1.6 times after implementation of (1) and (2)

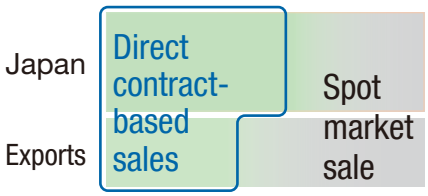
(¥213 billion in cumulative total)

NO
Grain-oriented electrical steel sheets
⇒ For motors

GO
Grain-oriented electrical steel sheets
⇒ For transformers

Margin improvement in direct contract sales "(4)"

Our shipment breakdown



Order-made steel products based on the direct contracts with the features and quality that meet customers' needs account for a majority of our steel products sales. Sales prices for these products are determined through negotiations with customers. We have asked customers with these contracts for their understanding of our need to adjust direct contract-based prices from the viewpoint of proportionate sharing of the impacts of rising costs of raw materials and fuels in the supply chain, and of the value of the products and solutions provided by us. In FY2021, we gained many customers' understanding and achieved significant improvement of the prices.

We also reviewed our business practices for price negotiations. There had been many contracts for which the prices were negotiated and finalized after the order intake and production before. We then made a proposal for the pre-fixed pricing system to customers to advance the timing of negotiations and raise the efficiency in this process, so that the price would be fixed before our order intake, which could facilitate our forecast making and coping with longer-term, difficult management issues such as carbon neutrality. Upon discussions, many customers agreed with our proposal. We changed our price negotiation system to the "pre-fixed pricing system" for products shipped after April 2022 under direct contracts.

We have also proposed and discussed shorter contract terms, etc., taking into account different circumstances of each customer, as one of the measures to respond to fluctuating costs of raw materials and fuels. For customers who have already agreed, we have implemented a shorter cycle since April 2022. We will continue negotiating with other customers.

Our concept of appropriate price

Assuming a fair portion of the external cost fluctuations across the entire supply chain

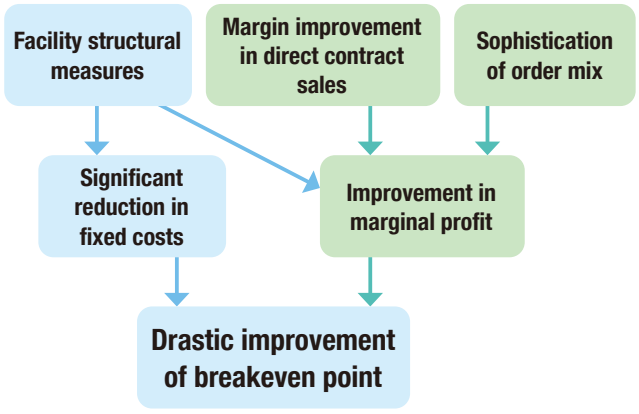
Reasonable price based on the value of the product, solution, and supply chain

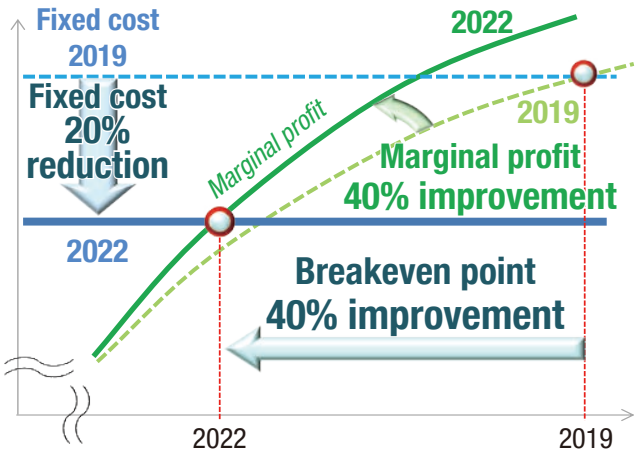
Carefully explain to customers about:

FY2021	Corrected the globally depressed price levels
FY2022	Review of direct contract-based price negotiation system (the pre-fixed pricing system and shorter cycle management)
FY2023	Secured the appropriate margin amid falling raw material prices

Drastic improvement of breakeven point

Drastic improvement of breakeven point





By promoting our strategy based on the "facility structural measures," "margin improvement in direct contract-based sales," and "sophistication of order mix," we achieved a 20% reduction in fixed costs, a 40% enhancement in marginal profit per unit, and a 40% improvement in the break-even point between FY 2019 and FY 2022. Japan's annual crude steel production, which stood at approximately 100 million tons before the COVID-19 outbreak, dropped to about 90 million tons after the pandemic. Our domestic steelmaking business can remain profitable even if the production falls further to 70 million tons.

We expect an increase in depreciation expenses because of capital investments in strategic products. However, we will mitigate this impact by implementing production facility structural measures and considering other factors to maintain a low level of fixed costs.

Deepening and Expansion Overseas Steel Business

Nippon Steel's strategy in the overseas steel business is to expand our integrated production framework and downstream bases in the centers of demand, in "markets where demand growth potential is assured" and "areas where its technology and product capacity can be utilized" to ensure that local demand is captured. Our plan is to achieve a global crude steel production capacity of 100 million tons per year for the Nippon Steel Group, including mother mills in Japan and local mills located overseas, up from the current capacity of 66 million tons.

Regarding our current international operations, we have actively pursued a strategy of selecting and concentrating. We have focused on expanding international businesses that align with our strategic objectives and have terminated ventures where there is no justification to continue, including businesses that have either served their purpose, lost their synergy potential, or are not expected to generate profits.

Global crude steel production capacity of 100 million tons

Global steel demand is expected to continue to grow at a moderate pace. We have developed our business mainly in Asia (especially, the ASEAN countries and India), whose market size and growth rate are relatively large globally, and we are well positioned to profit from the scale and growth of this market.

In order to capture growing global demand, we will not only have supply systems of steel products exports, mainly those of high-grade steel products from Japan, and of supplies from overseas operating companies responsible for local production with cold rolling, plating, and other product processes, but also expand our integrated production framework from the upstream steelmaking processes (blast furnace and electric furnace) to capture overall local demand, including commodity-grade products. We are moving toward full-scale overseas business. Our basic strategy is to acquire integrated steel mills through acquisitions and capital participation (brownfield investment) and to expand the capacity of existing bases, in order to maintain the supply-demand balance amid a surplus of steel production capacity and to avoid the risks associated with starting up a new launch. We have acquired Essar Steel (now AM/NS India) in India in December 2019 and G Steel and GJ Steel in Thailand in March 2022. Our present overseas crude steel production capacity is 19 million tons per year, and the total global crude steel production capacity, including the domestic capacity, is 66 million tons.

Going forward, we will expand the capacity of AM/NS India, construct an electric arc furnace at AM/NS Calvert in the U.S., and search for further opportunities to expand our overseas crude steel production capacity to more than 60 million tons, with the long-term vision of achieving a global annual crude steel production capacity of 100 million tons.

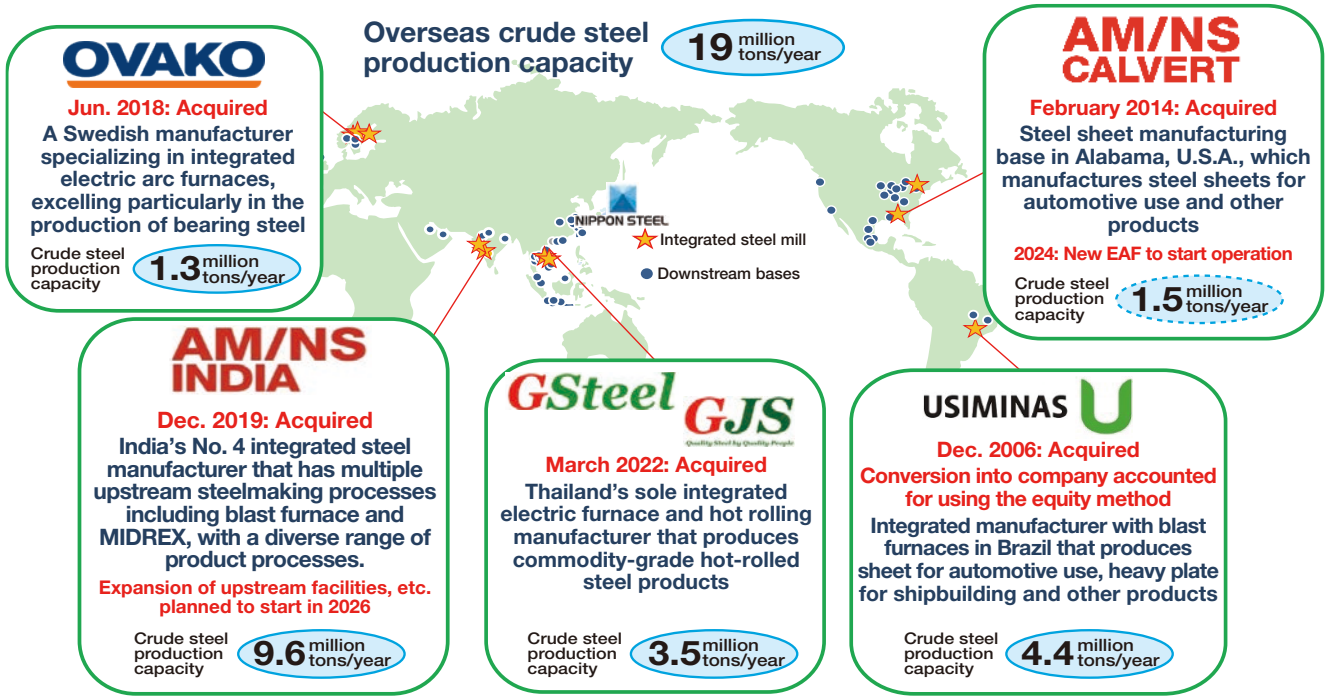
Global Production Framework

(Million tons/year)

		2014	2022	Future Vision
Crude steel production capacity	Japan	52	47	
	Overseas	**6**	**19**	**> 60**
	Being global	**58**	**66**	**> 100**

* This is a basic calculation of the combined production nominal full capacity of companies (including USIMINAS) with an equity stake of 30% or more, which the World Steel Association adopts as a standard measure of crude steel production.

Major Overseas Locations (as of April 2023)



Measures for capacity expansion at AM/NS India

India's population is expected to continue to grow to more than 1.4 billion, surpassing China to become the world's most populous country. India's per capita steel consumption is currently about 80 kg per person per year, which is low compared to industrialized countries such as Japan and China, the U.S. and Europe, and ASEAN countries and Brazil.* Demand for steel products in India is expected to steadily increase in the long term due to the synergistic effect of rising per capita steel consumption, driven by demand related to the progress of industrialization and urbanization, as well as population growth.

India's government, under its "Make in India" policy, is resolutely protecting India's steel industry as a key industry. The market has a very high ratio of local production, with domestic steelmakers supplying approximately 90% of demand. Against this backdrop, major steel manufacturers in India are adopting ambitious strategies to expand their production capacities to meet the expected growth in demand in the coming years.

In this way, we expect the Indian steel market to expand and local production to grow. In December 2019, Nippon Steel acquired Essar Steel jointly with ArcelorMittal, and began operating it as AM/NS India, based on an equal partnership between Nippon Steel and ArcelorMittal.

In line with the growth of the Indian steel market, we plan to grow with capacity expansion at AM/NS India as the core. We have decided to invest in increasing the capacity of the Hazira Works, located on the western coast of India, as shown in the table.

Expanding the capacity of the upstream steelmaking processes can be achieved quickly and reliably by adopting the blast furnace-converter process, which is already an established technology. Furthermore, by utilizing the unused existing land owned in India, which is free from land acquisition issues that can be the biggest cause of obstacles and delays in India, we will capture demand growth at an early stage. We will adopt the blast furnace-converter process capable of manufacturing high-grade steel, and install a degassing equipment to handle wide range of steel products

AM/NS India — Overview of Hazira Works

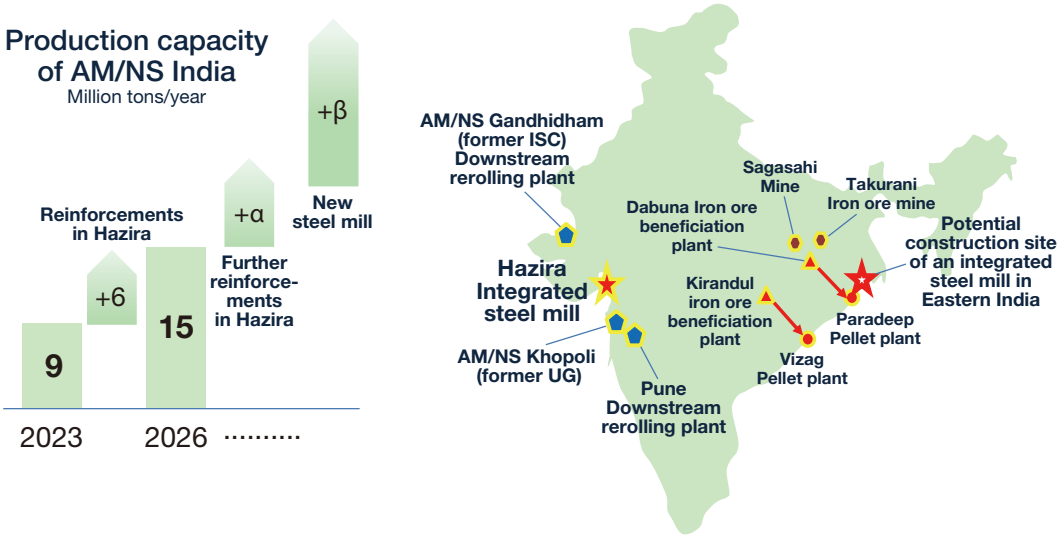
along with our efforts to expand our sheet production capacity. In addition to introducing energy-saving equipment and environment control equipment (for dust, odor, water quality, and noise control) that we have developed in Japan, we will include provisions for applying carbon-neutral technology using blast furnace equipment that ArcelorMittal and the Company are currently developing.

Also, we have decided to expand our cutting-edge sheet manufacturing facilities (for pickling, cold rolling, and steel plate plating) to capitalize on the anticipated growth in demand for various high value-added products, such as cold-rolled and plated steel sheets, including those for automotive and construction materials (highly corrosion-resistant) in the Indian market.

In addition, we are contemplating investing in capacity expansion, which involves building a new steel mill in Eastern India. As a matter of fact, AM/NS India has already signed an MOU with the government of Odisha state, one of the potential sites, to acquire land for constructing integrated steel mills in Kendrapara and Paradeep districts in east India.

* Per capita steel consumption in each country (kg/person/year): approx. 440 in Japan, approx. 650 in China, approx. 300 in developed Western countries, approx. 130 in ASEAN countries, and approx. 110 in Brazil

Capacity expansion of AM/NS India



Capacity expansion of AM/NS India

Decision timing	Facility			Capacity	Principal businesses	Investment	Start of full-scale operation
Sep. 2022	Hazira integrated steel mill	Blast furnace	2 units	7.0 million tons/year	4,500m^3 x 2 units	INR 410 billion (Approx. ¥730 billion)	The First Phase (2H 2025): #2 blast furnace and related facilities, new oxygen converters and continuous casters, and new hot strip mill The Second Phase (1H 2026): #3 blast furnace and related facilities
		Pellet plant	1 unit	Approx. 3.0 million tons/year			
		Sintering	2 units	Approx. 6.0 million tons/year			
		Coke oven	3 batteries	2.1 million tons/year			
		Converter	3 units	Crude steel production capacity 6.0 million tons/year	350 t/ch, largest scale in India Installation of degassing equipment		
		Continuous casting facilities	2 units		2 strands/unit x 2 units		
		Hot strip mill	1 unit	5.5 million tons/year	The largest class in India		
Apr. 2022		Pickling and cold rolling equipment	1 unit	2.0 million tons/year		INR 85 billion (Approx. ¥140 billion)	Plan to start operation by FY2024
		Hot-dip galvanizing equipment	2 units	1.0 million tons/year			
		Cold-rolling and aluminum-plating equipment	1 unit	1.0 million tons/year			
Nov. 2022 Acquired	AM/NS Khopoli	Pickling and cold rolling equipment		1.0 million tons/year	Acquired the former Uttam Galva Steels Established AM/NS Khopoli	Approx. INR 37billion (Approx. ¥67 billion)	
		Hot-dip galvanizing equipment		0.75 million tons/year			
		Collar steel plate		0.28 million tons/year			
		Hammer welded pipe		0.05 million tons/year			
May 2023 Acquired	AM/NS Gandhidham	Pickling and cold rolling equipment		0.60million tons/year	Acquired former Indian Steel Corporation Established AM/NS Gandhidham		
		Hot-dip galvanizing equipment		0.37million tons/year			
		Collar steel plate		0.12million tons/year			

Apr. 2022	Investment in renewable energy	Participated and invested in renewable energy power business, securing 250 MW of renewable energy power per year for the next 25 years for the Hazira Steel Mill and other facilities (full-scale supply to start in 2024).
Sep. 2022	Acquisition of important assets and infrastructure	Acquired ownership of the port and power facilities at Hazira Steel Mill, Vizag and Paradeep Pellet Plants to stabilize and strengthen production and supply chain. Achieved cost savings by reducing infrastructure-related rental payments and facility improvement

Under Feasibility Study	Consideration for construction of integrated iron and steel works in the east	Signed an MOU with the government of Odisha state on the acquisition of land and other items for the construction of integrated steel mills in Kendrapara and Paradeep districts in east India

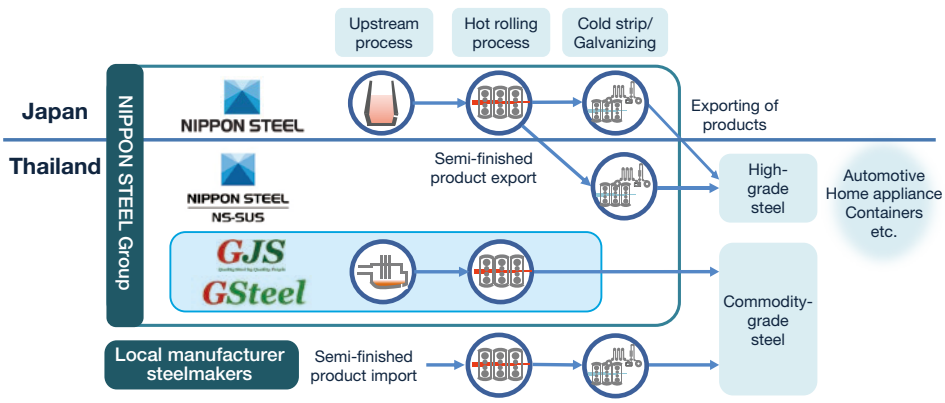
G/GJ Steel

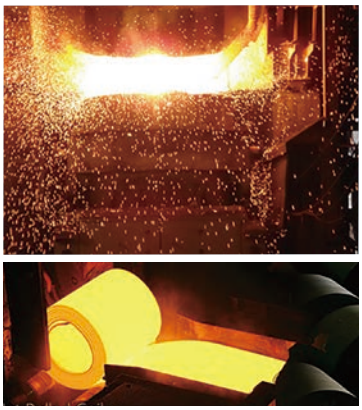
Among the ASEAN countries, Thailand has been an essential market for us, where we have established product processing bases since the 1960s. To meet demand for high-grade steel from local automotive and home appliance manufacturers, we have supplied semi-finished products from Japan, which are then further processed locally at our cold-rolling, coating, and other processing facilities and supplied as final products to local manufacturing companies.

On the other hand, demand for general sheet products, an area other than high-grade steel where large volume demand is expected, is also projected to grow steadily in Thailand. Given the accelerating global trend toward local production, it is important that we secure our position as an insider in the Thai market to capture the demand for these commodity-grade products.

In March 2022 Nippon Steel acquired G Steel Public Company Limited and GJ Steel Public Company Limited, which are integrated steel production mills that produce hot-rolled steel sheets from electric arc furnaces in Thailand, and made them subsidiaries. Both G Steel and GJ Steel manufacture commodity-grade hot rolled products for which large volume demand is expected. Combined with the high-grade steel business at the conventional product processing sites, this has enabled us to establish broad-based business (high-grade steel plus general-purpose steel) in the Thai market. In addition, with the possession of integrated electric arc furnace and hot rolling facilities, the site can serve as a base for the future promotion of “High-grade steel production in large size electric arc furnace,” which is one of the three breakthrough technologies of our Carbon Neutral Vision 2050. We will work to improve the productivity and quality at G Steel and GJ Steel to capture the steadily growing demand for hot-rolled steel in Thailand.

Thai Market in our Global Business Strategy





Electric arc furnace (EAF) and hot rolling equipment at G Steel

Challenge of Carbon Neutrality

With Nippon Steel Carbon Neutral Vision 2050, we are striving to reduce CO_2 in our supply chain by providing two types of value: by providing high-performance steel products and solutions that contribute to reducing CO_2 emissions throughout society, and by providing carbon neutral steel through decarbonization of the steelmaking process.

Providing two types of values targeted by the Carbon Neutral Vision 2050

In support of the ambitious government policy to realize a carbon neutral society in 2050, we announced the Carbon Neutral Vision 2050 as a part of the Medium- to Long-Term Management Plan in March 2021.

Providing two types of values by achieving carbon neutrality

Provision of high-performance steel products and solutions that contribute to reducing CO_2 emissions in society as a whole

- Reduce CO_2 emissions at the time of production and processing by customers
- Reduce CO_2 emissions at the time of use of our products by end customers

Decarbonization of steelmaking process for providing carbon neutral steel

- Reduce CO_2 emissions in customers' supply chains

By providing high-performance steel products and solutions, and by providing carbon-neutral steel through decarbonizing steelmaking process ahead of other countries in order to supply carbon neutral steel to the markets, we are determined to meet decarbonization need of our customers (including approximately 6,000 companies in Japan) and support their international competitiveness.

Decarbonization scenario for "Carbon Neutral Vision 2050"

We have formulated a target of reducing total CO_2 emissions by 30% by 2030, compared to the 2013 baseline and of achieving carbon neutrality in 2050. We are working to develop and actually implement breakthrough technologies in steelmaking process ahead of steel companies in other countries.

Our plan is ambitious compared to those of our global peers, and is intended to significantly contribute to the Japanese government's plan. With the assistance of the Green Innovation Fund*, we are working on specific plans of the roadmap of development and practical implementation.

* Commissioned and grant projects of New Energy and Industrial Technology Development Organization (NEDO), which supports companies to carry out projects aimed at achieving ambitious targets for 2030 in focused areas of the Japanese Government's Green Growth Strategy, such as CO_2 emission reduction.

Our CO_2 emissions reduction scenario

2030 Target — **30% or more reduction in total CO_2 emissions vs. 2013**

30% reduction in total CO_2 emissions vs. 2013 by implementing the COURSE50* in the existing BF and BOF process, reducing CO_2 emissions in existing processes, and establishing an efficient production framework.

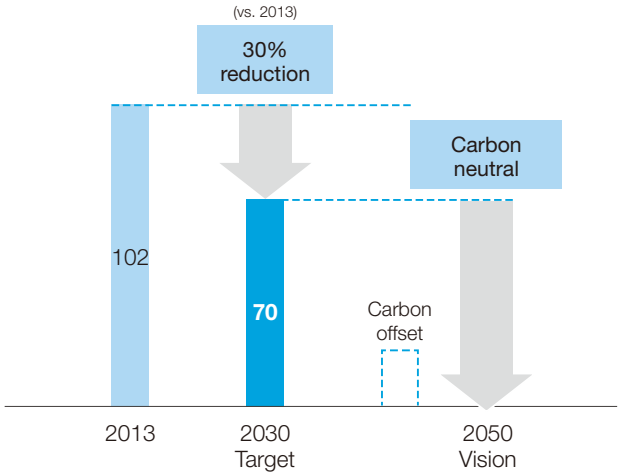
* COURSE50: Abbreviation for CO_2 Ultimate Reduction System for cool Earth 50

Vision 2050 — **Ambition to become carbon neutral**

Ambition to become carbon neutral by taking up the challenge to High-grade steel production in large size EAF and to realize hydrogen steelmaking (i.e., Hydrogen injection into BFs through SuperCOURSE50; Hydrogen direct reduction of iron), and with multi-aspect approach, including CCUS* and other carbon offset measures.

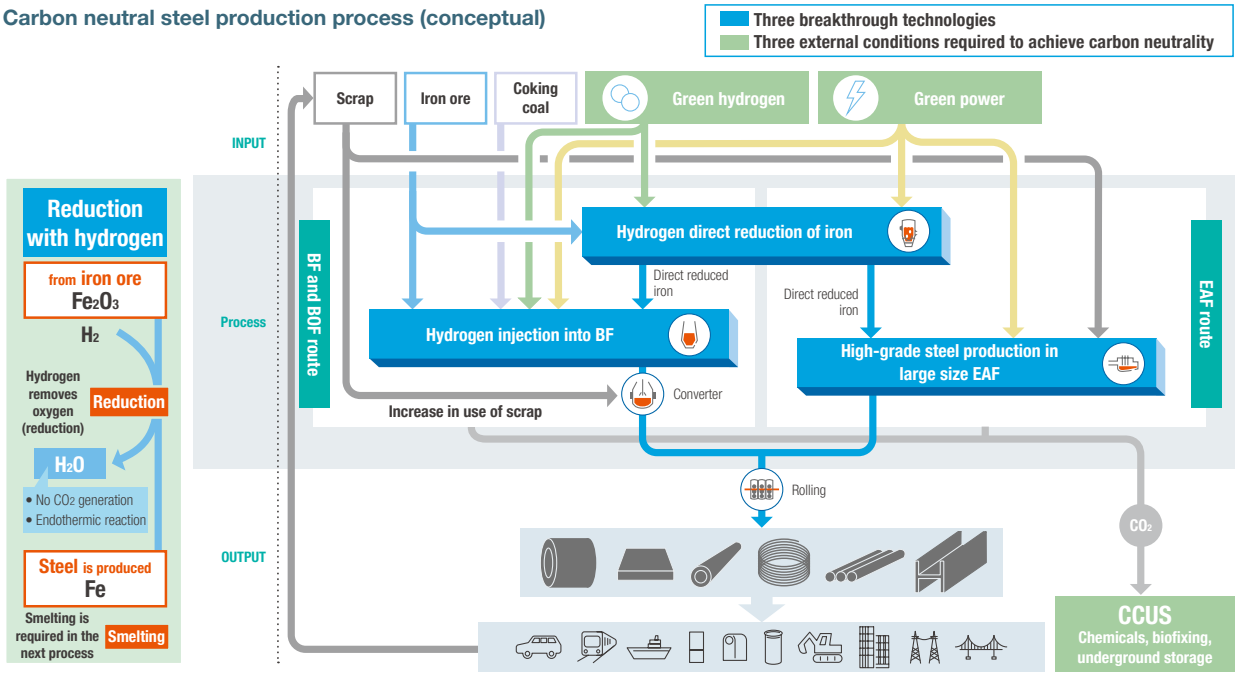
* Carbon Capture, Utilization and Storage.

Total CO_2 emissions* (million tons/year)



[Scope of scenario]
Domestic
SCOPE 1+2
(direct emissions in our production sites + indirect emissions from purchased electricity)
* Including Nippon Coke & Engineering Co., Ltd. and Sanso Center Co., Ltd.

Carbon neutral steel production process (conceptual)



Progress of Carbon Neutral Vision 2050

The Carbon Neutral Vision 2050 aims to achieve carbon neutrality using three breakthrough technologies: “Hydrogen injection into BFs,” “Hydrogen direct reduction of iron,” and ” High-grade steel production in large size EAF."

Concerning “High-grade steel production in large size EAF,” a new EAF installed in the Setouchi Works Hirohata Area started its commercial operation in October 2022, making it the world’s first integrated EAF steelmaking process that enables the production and supply of high-grade electrical steel sheets. Also, regarding the conversion from the BF steelmaking process to the EAF steelmaking process, we are launching full-scale studies at two candidate sites, the Kyushu Works Yawata Area and the Setouchi Works Hirohata Area. We will set up a small EAF (capacity: 10 tons) in the Hasaki R&D Center and start experiments in fiscal 2024.

Concerning “Hydrogen injection into BFs,” three Japanese blast furnace manufacturers, including Nippon Steel, are jointly developing the COURSE50 blast furnace, designed to replace carbon used in the BF as a reducing agent with hydrogen-rich gases generated in steelworks. In this project, the presence of technologies that can reduce CO_2 generation has been confirmed in a COURSE50 test furnace ($12m^3$).

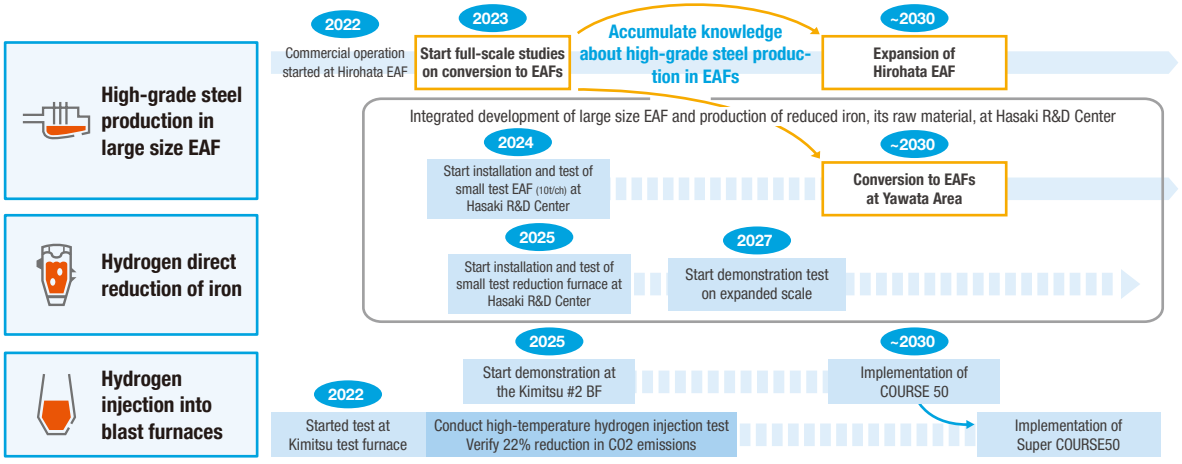
In February 2023, we decided to conduct demonstration tests at the East Nippon Works Kimitsu Area using the No. 2 BF, a large-scale BF in operation that is approximately 400 times larger than the test furnace. We are installing equipment for the demonstration tests, which are scheduled to begin in January 2026.

In parallel with the tests described above, we have been working on technology development since May 2022 to develop Super COURSE50 technology to further reduce CO_2 generation using heated hydrogen by retrofitting the existing COURSE50 test furnace.

In the past tests, we confirmed a 22% reduction in CO_2 emissions from the BF body, with additional tests scheduled within 2023 aimed at reducing CO_2 emissions by 30% or more. In the future, we will conduct more demonstration tests to further reduce CO_2 emissions and develop various enabling technologies, with the aim of early establishment of Super COURSE50 technology in large BFs (50% or more reduction in CO_2 emissions).

Concerning “Hydrogen direct reduction of iron,” we will build a small furnace in the Hasaki R&D Center and start experiments in fiscal 2025. Then, by 2050, we aim to solve issues such as utilization of low-grade iron ore and conversion of reduction material from natural gas to hydrogen, and to commercialize a direct hydrogen reduction reactor using low-grade iron ore from Australia and other countries as feedstock.

Progress of Carbon Neutral Vision 2050



CCUS technology development

CCUS (Carbon Capture, Utilization and Storage) is a technology that separates, captures, and directly uses CO_2 or converts it into other materials and utilizes it or stores CO_2 in the ground. In the carbon neutral steel production process, CCUS technology is used to process CO_2 still generated from the steelmaking process even after it has been minimized. Realization of this technology requires the related technology development as well as preparation of external conditions. The required technologies include development and installment of CO_2 separation and recovery technology (high-performance chemical adsorption liquid) and development of CO_2-based manufacturing technologies for chemicals and fuels. The necessary external conditions include the securing of the storage space, the establishment of the storage infrastructure for CCS, legislation, and tax incentives, the ensuring of business profitability of chemicals and fuels manufactured by CCU (Carbon Capture and Utilization), and preferential treatment of carbon recycled products. The Nippon Steel Group is aggressively engaged in developing these technologies to help realize social implementation of CCUS.

Nippon Steel Group's CCUS Technology Development Initiatives

Capture

CO_2 Separation and Recovery Technology (NEDO COURSE50 Projects)

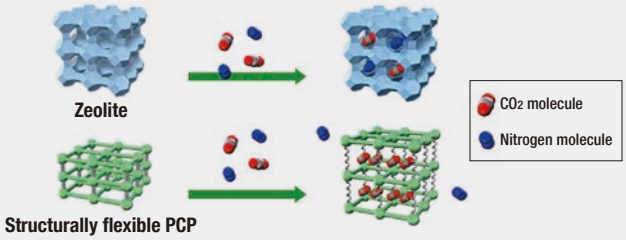
Nippon Steel Engineering Co. in the Nippon Steel Group has commercialized an energy-saving CO_2 chemical absorption process called ESCAP™ (Energy Saving CO_2 Absorption Process), which uses chemical absorption, one of the methods for CO_2 separation and recovery. Two units are already in operation in Japan, including the one installed in the North Nippon Works Muroran Area.

The ESCAP™ is characterized by high energy efficiency with a more than 40% reduction in heat consumption compared to general-purpose technology. In addition, its proprietary impurity removal facility enables recovery of more than 99.9% of high-purity CO_2 from raw material gas with high impurities.

Development of low-concentration CO_2 separation/capture technology (subsidized by the Green Innovation Fund)

Nippon Steel, in collaboration with Oita University, Osaka University, Kyoto University, Chiba University, Nagoya University, Hokkaido University, and Resonac Corporation, started the full-scale development of separation/capture technology for low-concentration CO_2 contained in industrial emission gases.

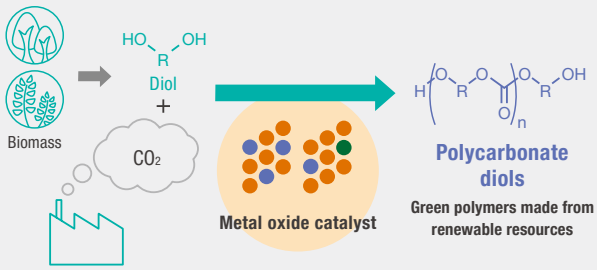
To separate/capture CO_2 efficiently from low-pressure, low-concentration emission gases (with a CO_2 concentration of 10% or less at the atmospheric pressure), we will work on the development and social implementation of a new CO_2 separating agent (structurally flexible PCP), which has higher CO_2 selectivity and enables CO_2 adsorption and desorption with minimal levels of pressure operation.



Utilization

Chemical product manufacturing technology using CO_2 as a raw material (project commissioned by NEDO)

In April 2023, Nippon Steel, Osaka Metropolitan University, and UBE Corporation started research and development on the "development of one-step synthesis process for polycarbonate diol from CO_2."Polycarbonate diol is a representative material for producing high value-added carbon compounds that do not require hydrogen. It is also a raw material for high-performance polyurethanes, widely used worldwide and whose demand is expected to grow further. However, the high environmental impact of its synthesis process has been a major issue. On the other hand, this research and development project is designed to develop a revolutionary process to synthesize polycarbonate diol from CO_2 and diol, a type of alcohol, in a single step with low environmental impact.



Storage

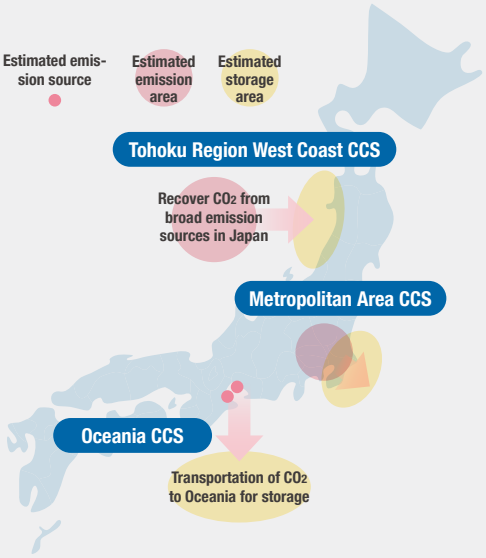
CO_2 storage technology

As part of the Survey on the Implementation of Advanced CCS Projects the Japan Organization for Metals and Energy Security (JOGMEC) adopted for its publicly solicited projects in FY2023, Nippon Steel participates in three joint projects: the Tohoku Region West Coast CCS Project, the Metropolitan Area CCS Project, and the Oceania CCS Project. We will work jointly with each participating company to secure storage sites, develop storage infrastructure, and establish external conditions such as developing regulatory requirements. At the same time, we will take the initiative in studies related to CO_2 separation/capture, liquefaction, and shipping terminals, actively promoting the early social implementation of CCS infrastructure.

Transportation

Integrated CO_2 ship transport technology (NEDO-commissioned project)

Jointly with Japan CCS Co., Engineering Advancement Association of Japan, and ITOCHU Corporation, we have commenced the R&D and demonstration project related to ship-based integrated transportation of CO_2.



Efforts to reduce carbon emission in power generation

We generate 89% of the electricity we use at steelworks, 75% of which is from internally generated energy sources such as waste heat and by-product gases. We also use LNG, petroleum, and coal as external-source auxiliary fuels. Therefore, in order to reduce the carbon content of our electric power structure, we will eliminate all use of inefficient coal-fired power, increase efficiency of thermal power fired by by-products, and utilize CCUS. We will also consider use of non-fossil fuels for external auxiliary fuels (expanded use of zero-emission fuels such as biomass, ammonia, and hydrogen) and purchase of green power.

Issues to consider and promote reducing carbon in the electric power structure

- Total elimination of inefficient coal-fired power
- Increase efficiency in thermal power fired by by-products, utilization of CCUS, and use of non-fossil fuels for external auxiliary fuels (expanded use of zero-emission fuels such as biomass, ammonia, and hydrogen)
- Purchase of green power

Products and solutions that contribute to reducing CO_2 emissions in various areas of society —NSCarbolex™—

NSCarbolex is a brand that integrates "NSCarbolex Neutral," a steel product CO_2 emissions savings in the steelmaking process, and "NSCarbolex Solution." Under the Nippon Steel Carbon Neutral Vision 2050 set forth toward the realization of a carbon-neutral society in 2050, we are committed to reducing CO_2 emissions in our society by providing high-performance products and solutions, in addition to CO_2 emission reductions in our manufacturing processes.

Brand system of NSCarbolex

NSCarbolex™
Innovative action for sustainability

Steel products CO_2 emissions savings in the steelmaking process are allocated

NSCarbolex™ Neutral

High-performance products and solutions that contribute to reducing CO_2 emissions in our society

NSCarbolex™ Solution

NSCarbolex Neutral

Because the decarbonization of the steel industry is challenging, the development of decarbonization technologies is expected to be a very long process.

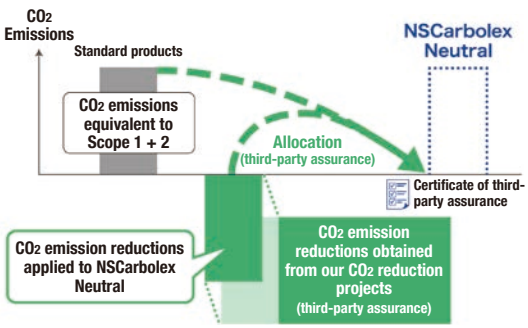
In such a situation, NSCarbolex Neutral enables us to provide customers with steel products with a reduced carbon footprint at an early stage by tracking the total amount of CO_2 emissions we have actually reduced by reforming and improving our manufacturing processes and allocating it to each steel product using the mass balance method.

We believe that addressing decarbonization at an early stage will help our customers improve their competitiveness as society's need for decarbonization increases. We will contribute to our customers' decarbonization efforts by establishing a stable supply system of NSCarbolex Neutral at an early date.

NSCarbolex™ Neutral

Features and mechanism of NSCarbolex Neutral

- Products under this brand take advantage of the reduction in CO_2 missions that Nippon Steel actually achieved by reforming and improving its manufacturing processes.
- These products receive assurance from third-party organizations that the total CO_2 emission reductions and the amount allocated to each product are reasonable.
- These products help customers reduce their Scope 3 CO_2 missions.
- This brand is applicable to all steel products manufactured by Nippon Steel.



NSCarbolex™ Solution

This brand offers high-performance products and solutions that contribute to the reduction of CO_2 emissions, including "NSafe™-AutoConcept," which contributes to the reduction of CO_2 emissions in automobile manufacturing and driving; "High-Efficiency Electrical Steel Sheets," which contribute to the improvement of motor efficiency and the reduction of energy loss in power transmission/distribution networks; "ProStruct™," a construction material solution brand that contributes to the improvement of productivity on construction sites; and "HYDREXEL™," a stainless steel for high-pressure hydrogen environments. Through these products and solutions, we are committed to reducing CO_2 emissions in various scenes.

NSCarbolex™ Solution

Products and solutions targeted in NSCarbolex Solution

Automobiles and home appliances

- Reducing CO_2 emissions in product manufacturing processes
- Reducing CO_2 emissions during product use, etc.

NSafe-AutoConcept

Enable vehicle body weight reduction with high-strength materials and design/manufacturing recommendations

▶ Contribute to reducing CO_2 emissions during automobile manufacturing and driving

Steel for high strength gears

Eliminate the need for heat treatment in secondary processing. Enable vehicle body weight reductions using high-strength materials

▶ Contribute to reducing CO_2 emissions during automobile manufacturing and driving

Zinc-nickel alloy electroplated steel sheet with hairline surface finish

FeLuce™

Enable a beautiful metallic design by itself by giving the plating layer itself a hairlines-like design

▶ Contribute to reducing CO_2 emissions by eliminating the painting process on the customer side

Energy

- Contribute to energy transformation
- Contribute to energy conservation during power transmission and distribution, etc.

Cryogenic steel for LNG storage tanks

Ensure a high level of safety of LNG (liquefied natural gas) storage even in a cryogenic environment

▶ Contribute to the widespread use of LNG, which emits smaller amounts of CO_2 during combustion

Stainless steel for high-pressure hydrogen environments

HYDREXEL™

©Iwatani Corporation

Ensure the strength and workability required for infrastructure construction, such as hydrogen refueling stations

▶ Contribute to the realization of a hydrogen society

High alloy oil country tubular goods (OCTG)

This product will not corrode even in high concentration CO_2 environments due to its world leading corrosion resistance.

▶ Contribute to CCS implementation

Infrastructure

- Reducing CO_2 emissions during construction
- Improving energy efficiency of railroad transport

Ultra-large constant external-dimension H-beam

Mega Hyper Beam™

Extend the benefits of Hyper Beam, such as design simplification and labor savings in processing, to ultra-large sizes

▶ Enables construction with fewer materials in less time, helping to reduce CO_2 emissions

High-speed train wheels and axles

Realize high-strength and lightweight wheels and axles for high-speed railways

▶ Weight reduction helps reduce CO_2 emissions during railway operation

Designing titanium **TranTixxii™**

This product is made of strong, lightweight, and rustproof titanium, provided with a variety of colors and designs

▶ Contribute to reducing CO_2 emissions during construction and maintenance

High-efficiency electrical steel sheets

Enable reductions in electric energy loss (iron loss)

▶ Contribute to the reduction of CO_2 emissions from the driving of cars and the use of household appliances

▶ Improve the efficiency of transformers for electric power transmission

High corrosion resistance coated steel sheet, **ZEXEED™**

- Ensure excellent corrosion resistance in harsh environments
- Post-painting process can be eliminated

▶ Extend the life of solar panel mounting structure

▶ Reduce CO_2 emissions from customers' manufacturing processes and repair painting

TOPICS Further expansion of high grade non-oriented electrical steel sheet capacity and green bond issuance

In May 2023, we decided to implement further measures to increase the manufacturing capacity of non-oriented electrical steel sheets in the Setouchi Works Hanshin Area (Sakai) and the Kyushu Works Yawata Area, in addition to the previously announced measures to increase the production capacity and improve the quality of electrical steel sheets. The new capacity expansion measures will take full effect in 1H FY2027, with the manufacturing capacity of non-oriented electrical steel sheets for eco-friendly cars expected to become about five times the current capacity (approximately 1.6 times the previously announced measures). The total accumulated investment amount, including the previously announced measures, will be approximately 213 billion yen.

Also, in March 2023, we issued green bonds (unsecured straight bonds) totaling 50 billion yen. The bond was issued to procure part of the funds needed to finance "production facilities, research and development expenses, and other related expenditures for non-oriented electrical steel sheets used in eco-friendly car-driving motors." These funds have been fully appropriated by now, the details of which we disclosed in the Reporting.

We view the issuance of green bonds as a strategy to secure funds to meet our commitment to achieve carbon neutrality by 2050. It is also a valuable opportunity to reaffirm and communicate our commitment to our stakeholders.

As for other funds needed to finance production facilities, research and development expenses, and other related expenditures required to offer products and solutions under the "NSCarbolex Solution" and "NSCarbolex Neutral" brands, we will look for the most appropriate financing methods based on our future investment plans and other conditions.

Collaboration with society, policy proposals, and industry activities to achieve carbon neutrality

Decarbonization of steelmaking is an extremely ambitious challenge. In addition to development of carbon neutral technology options, carbon-free hydrogen and electricity, the CCUS, and other factors of social infrastructure are indispensable.

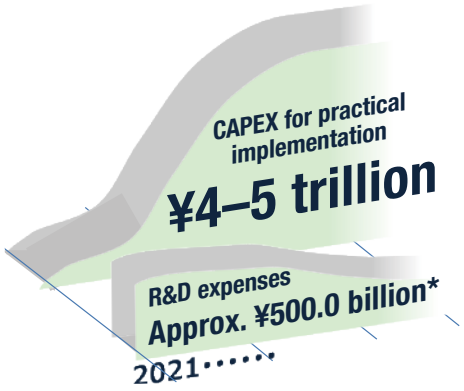
The realization of carbon neutrality in the steel industry is not just a challenge for steelmakers, given that steel as the basic material underpins international competitiveness in Japan's overall manufacturing. It is a national challenge that the whole nation should take it up, based on the policy of aiming at achieving the industry's international competitiveness and carbon neutrality, as well as the national strategy that provides strong, continuous fiscal and other support.

The realization of carbon neutrality in the steel industry requires huge R&D expenditures and capital expenditures for practical use. Nippon Steel alone is expected to roughly require ¥0.5 trillion in R&D expenses and ¥4–5 trillion in capital expenditures. The decarbonizing technology development for the steelmaking process is presenting an appearance of a state-to-state competition. In order to continue to lead the world and maintain and strengthen Japan's overall industrial competitiveness, long-term, continuous government support is indispensable for "discontinuous" innovation and other R&D efforts and equipment implementation.

Europe, the United States, and China have adopted a variety of policies aimed at achieving carbon neutrality on the premise of securing international competitiveness in the steel and other basic materials industries. Japan also needs to introduce a drastic policy system based on national strategy under strong government leadership in order to achieve carbon neutrality ahead of those countries and to maintain and strengthen the international industrial competitiveness.

For realizing these policies, Nippon Steel is determined to take every opportunity to make various proposals on Japan's climate change measures and energy policies based on the Paris Agreement, and to spearhead activities through industry organizations.

Investments needed for the carbon neutral steel project



* Minimum level estimated to be required for the time being

Policy recommendations for realizing a carbon neutral society

President Hashimoto of Nippon Steel is a member of the Strategic Policy Committee, under the Advisory Committee for Natural Resources and Energy of the Ministry of Economy, Trade and Industry (METI), Vice Chairman of Nippon Keidanren (Japan Business Federation), and a member of the Green Transformation (GX) Implementation Council. The Executive Vice President in charge of Environment is also a member of the Central Environment Council of the Ministry of the Environment, representing Keidanren.

In meetings of these government councils and committees and Keidanren, we express and affirm our commitment and determination of the steel industry for achieving carbon neutrality. We also urge for promptly creating Japan's policy package that combines climate change measures and measures to maintain and enhance international competitiveness of industries, led by the government.

In addition, we have recommended a shift in the energy supply structure, including actively promoting the use of nuclear power, advancing policies to achieve carbon neutrality in the materials industry, robust and continuous measures to promote public and private investment at all stages of the transition to decarbonization, from research and development to equipment implementation; measures to ensure equal footing to deal with increases in the operating costs of hydrogen, electricity, and raw materials; and the need to develop a roadmap to realize CCUS implementation. We contribute to policy formulation, as exemplified by the recently passed GX Promotion Act and GX Decarbonization Electricity Act, which reflect these recommendations.

Moreover, we are actively developing policy proposals to achieve carbon neutrality by making use of all opportunities with the government, relevant ministries and local governments, etc. other than the above-stated councils and committees.

Efforts to address climate change through industry organizations

The Japan Iron and Steel Federation (JISF) declared that Japan's steel industry would boldly take up a challenge for achieving carbon neutrality in order to promote Japan's efforts to achieve the mid-term goal of the Paris Agreement. In March 2022, JISF set an ambitious goal of reducing CO_2 emissions from energy-derived sources in fiscal 2030 by 30% compared to fiscal 2013 from an international perspective.

In May 2022, Keidanren announced its initiative, Towards Green Transformation (GX), recommending measures needed to achieve carbon neutrality in 2050 (GX policy package) and other agendas. We are also taking a leading role for the JISF and Keidanren to develop climate change measures.

In addition, we participate in climate change action of the global steel industry, which is led by the World Steel Association, and is selected as the World steel Climate Action data provider for calculating and reporting CO_2 emissions of steel mills using a common global method.

Promoting of Digital Transformation Strategies

Nippon Steel is strongly promoting digital transformation (DX). With the aim of becoming a digitally advanced company in the steel industry, we will work to innovate production and business processes by making full use of data and digital technology, and promote measures that will help speed up decision-making and fundamentally strengthen our problem-solving capabilities.

Nippon Steel's DX Initiatives and Vision

Nippon Steel will promote Nippon Steel DX to innovate all steel business processes.

Specifically, we are working swiftly on various measures to realize "innovative evolution of manufacturing capabilities by developing smarter manufacturing," "strengthening of customer relations by reinforcing the flexible and optimal supply system," and "global management support by enhancing business intelligence."

Innovative evolution of strength in manufacturing based on smarter manufacturing (Production process innovation)

- Develop smarter manufacturing (Cyber Physical Production) through the advanced use of AI, IoT and other digital technologies
- Improvement of labor productivity through the use of automation and predictive detection, etc., and production stabilization and quality improvement through the advancement of production technology
- Ensuring the same level of operations and quality at overseas sites as in Japan

Strengthen customer responsiveness by enhancing flexible and optimal supply system (Business process innovation)

- Establishment of an integrated production planning platform from order to production to delivery (shortening of lead time, flexible response to changes)
- Linkage with supply chain information, etc., and efforts to contribute to customers and create new value
- Optimization of raw material transportation from the mine to steel mills and enhancement of responsiveness to changes in the procurement environment

Global management support through enhancement of business intelligence

- Construction of integrated data platform (NS-Lib) that enables the linking and advanced utilization of vast amounts of data
- Building an integrated data platform that enables real-time understanding of management information and KPIs for optimal action
- Accelerate decision-making and improve problem-solving capabilities from the management level to the front line

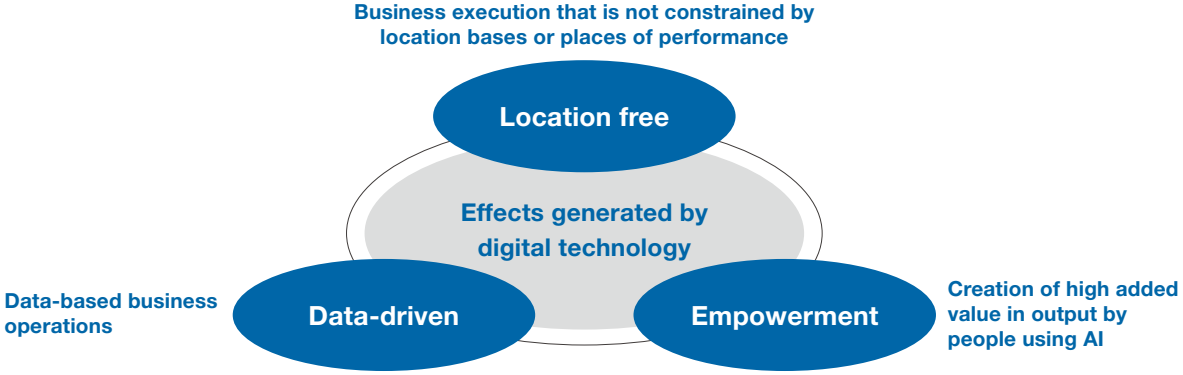
Reform initiatives that make full use of data and digital technology

Specifically, by displaying the three effects of digital technology —"location-free," "data-driven," and "empowerment"— we will innovate traditional workstyles and strive to significantly increase productivity, speed up decision-making, and improve problem-solving capabilities.

In addition, rather than simply applying new digital technologies, we aim to review our business operations and production processes based on data, and thereby enhance decisions that tend to be partial optimizations to optimal decisions from a broader perspective, transcending organizational barriers and hierarchies.

AI alone is not sufficient to create value. Even in the midst of the ever-evolving landscape of digital technology, it is still the individual who conceives and carries out reform. We believe that it is crucial that people start the process by charting a course for forward-looking reform with a sense of mission, and use digital technology as a means to execute the reform.

In addition, we believe that there is significant value to be gained from expanding and advancing reforms based on the knowledge and resources made available through the use of digital technology.

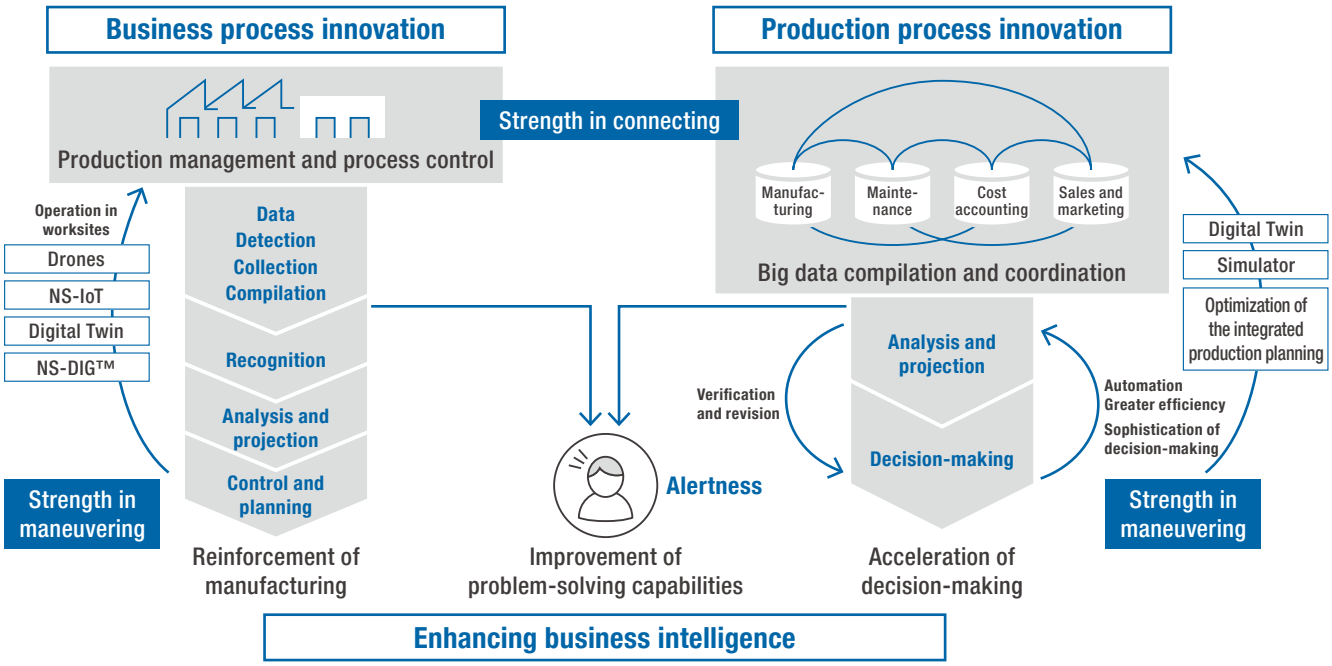


Strength in connecting and strength in maneuvering
Production process innovation and business process innovation

Nippon Steel has been proactively adopting ICT since the 1960s in a variety of fields, including production, sales, logistics, maintenance, purchasing, and profit management, and one of its major strengths is the large number of business systems it has developed and the vast amount of high-quality data it has accumulated. We will enhance our “strength in maneuvering,” which will enable formidable process control and automation, by bolstering and making advanced use of our “strength in connecting,” which will entail organically linking valuable data assets that are dispersed in individual departments and factories by utilizing advanced information technology and the latest digital technology.

These efforts will be applied to both production and business process reform. By setting ambitious goals, we will increase the overall output of solutions and innovations to achieve these goals, advance manufacturing practices, accelerate decision-making, and drastically enhance our problem-solving ability.

We believe that these strengths will contribute not only to business process innovation and production process innovation, but also to the provision of new value to stakeholders through synergies with measures to enhance our strength in manufacturing and strength in sales and marketing.



Effort — Won “Data Management Grand Prize” at the “2023 Data Management Awards”

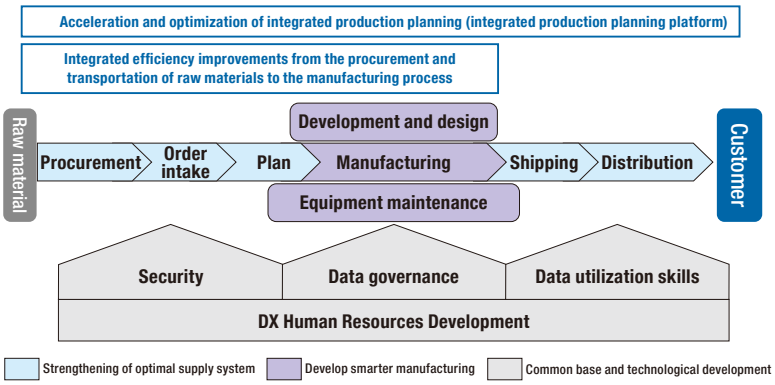
Received the “Data Management Grand Prize,” the first in the steel industry, at “Data Management 2023” at the Japan Data Management Consortium. The “Data Management Award” acknowledges outstanding data management initiatives by companies and institutions that serve as models for others to emulate. The award was given to Nippon Steel in recognition of NS-Lib, an integrated data management platform, as well as the Company’s comprehensive system development, top-down advocacy of data utilization, and initiatives for DX human resources development.

Scene from the award ceremony
Takeo Hoshino, Head of Nippon Steel’s Digital Innovation Div. (pictured right)

Nippon Steel DX Specific Initiatives

Innovation of all steel business processes

Nippon Steel's digital transformation (DX) involves a series of comprehensive reforms across the entire spectrum of the steel business process. This includes the supply chain, from raw material procurement to customer relations, as well as aspects such as development, design, manufacturing and equipment maintenance. To achieve these goals, we are actively building a common infrastructure and driving technology development.



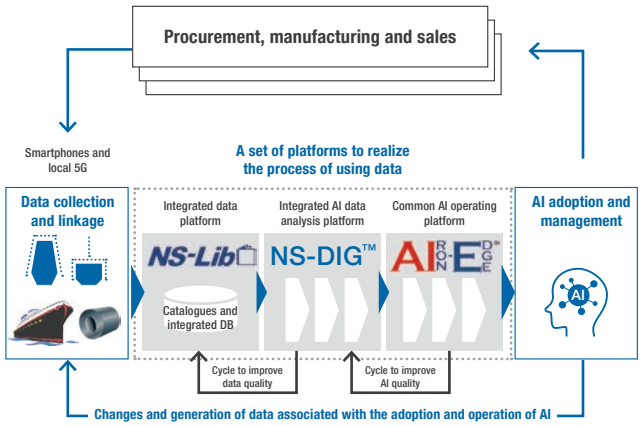
New ways of working with digital technology and data

The use of mobile devices for data communication is growing rapidly at manufacturing sites. Leveraging wireless technologies such as NS-IoT enables efficient collection of operation and equipment data for centralized data aggregation.

In addition to raising the efficiency of OA work with RPAs and Microsoft 365 and making the work more visible with business intelligence tools such as Tableau, the NS-Lib will be deployed as the foundation for data driven operations to reduce data analysis time.

The integrated AI data analysis platform NS-DIG™ and the edge computing platform AIRON-EDGE™ will also make it easy for us to build and implement AI models.

These efforts will create a new way of working that will empower us with the increased value of our time.

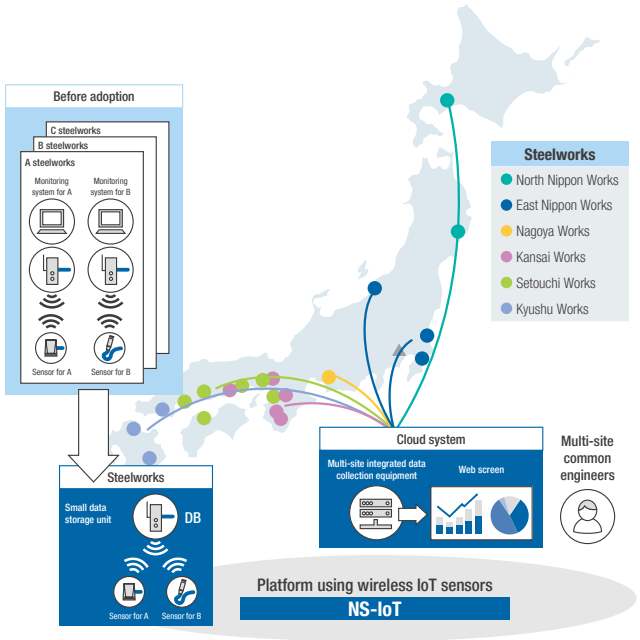


Advanced utilization of operational and facility data using wireless IoT sensors (NS-IoT)

We have built a wireless Internet of Things (IoT) sensor-utilization platform NS-IoT for centralized management of data from each steelworks site by using LPWA (low power wide area wireless communication) and cloud technology.

By centralizing the management of data from sensors and leveraging integrated big data from multiple locations for facility status detection and trend monitoring, the data-driven production process has been achieved. The system will be extended to the entire company and Group companies, starting with East Nippon Works Kimitsu Area and Kashima Area, with a view to expanding the system as a package to other manufacturing industries, etc.

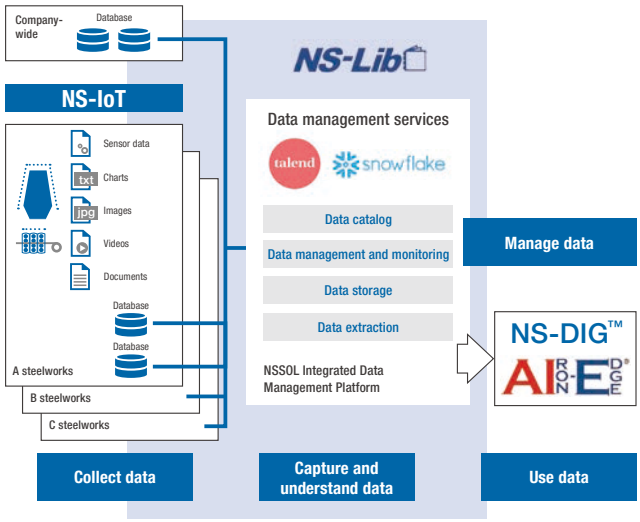
This platform will be used to stabilize production and further enhance quality by improving labor productivity through the use of automation and predictive detection, and by advancing production technology.



Integrated Data Platform (NS-Lib)

NS-Lib is an integrated data utilization platform built by Nippon Steel and NS Solutions by combining TALEND™, a data management function, and SNOWFLAKE™, a data storage and linking function. The platform was put into operation in April 2022. We will integrate and consolidate data that used to be accumulated individually, such as orders, production plans, instructions, and manufacturing, by "cataloging" the meaning of data and the location of the database in the "NS-Lib" (strength in connecting). This enables rapid and advanced decision-making and problem-solving based on the same data from the management level to the front line (strength in maneuvering).

By incorporating the knowledge gained by Nippon Steel, NS Solutions Corporation has launched services on an integrated data management platform aimed at outside parties under the name "DATAOPTERYX."

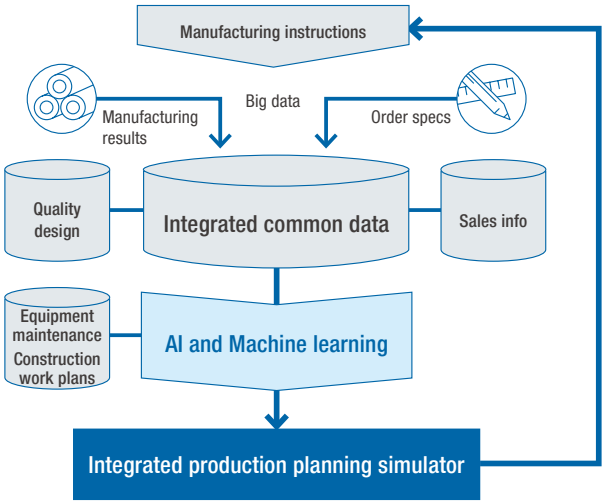


Acceleration and optimization of integrated production planning

The steel industry uses a variety of raw materials, such as iron ore, coal, and scrap metal, to produce diverse steel products for automobiles, ships, bridges, and household appliances. Of these, approximately 70,000 different sheet steel products are produced, and approximately 40,000 orders are handled each month. The production plan is a complex combination of multiple processes, ranging from crude steel production to rolling to surface treatment.

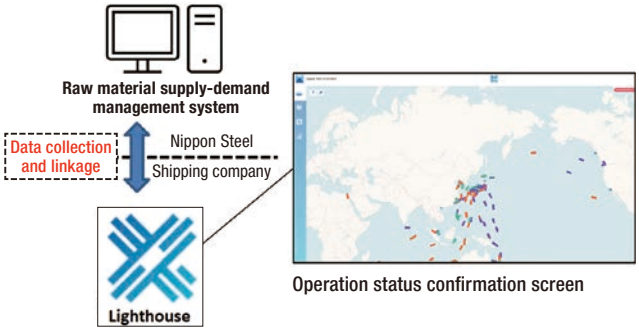
Based on the latest sales information and big data collected by each steel mill on the manufacturing process efficiency and detailed order specifications, we quickly create optimized integrated production plans and build an "integrated production planning platform" that is shared throughout the Company. We will use this platform to unify company-wide information and introduce an integrated production planning simulator that can accurately respond to customer orders and changes in the raw material procurement environment. By applying advanced mathematical optimization technology, this production planning simulator enables rapid selection of the optimal plan from a large number of planning patterns consisting of a huge amount of data. With this initiative, we aim to significantly reduce the workload at each steel works through the sophistication of production planning operations and strengthen optimal production control throughout the Company.

Integrated production planning platform



Integrated efficiency improvements from the procurement and transportation of raw materials to the manufacturing process

Since we are entirely dependent on imports for iron ore and coal, efficient transportation from the mines and coal pits to our steel mills translates directly into cost competitiveness. We have more than 200 brands of iron ore and coal, which comprises 10^{760} intricate combinations of transportation. These plans are generated using an algorithm to formulate the most efficient transportation strategy, supported by a system that can swiftly adapt to weather fluctuations and other influencing factors. In addition, are subject to changes in the transportation environment due to changes in economic conditions, climatic patterns, and geopolitical dynamics. We must manage vessel allocation skillfully to respond flexibly and timely to these needs. In response to this need, we have developed a system to obtain real-time operation information from shipping operators, thereby streamlining the supply chain from raw material procurement and transportation to production.



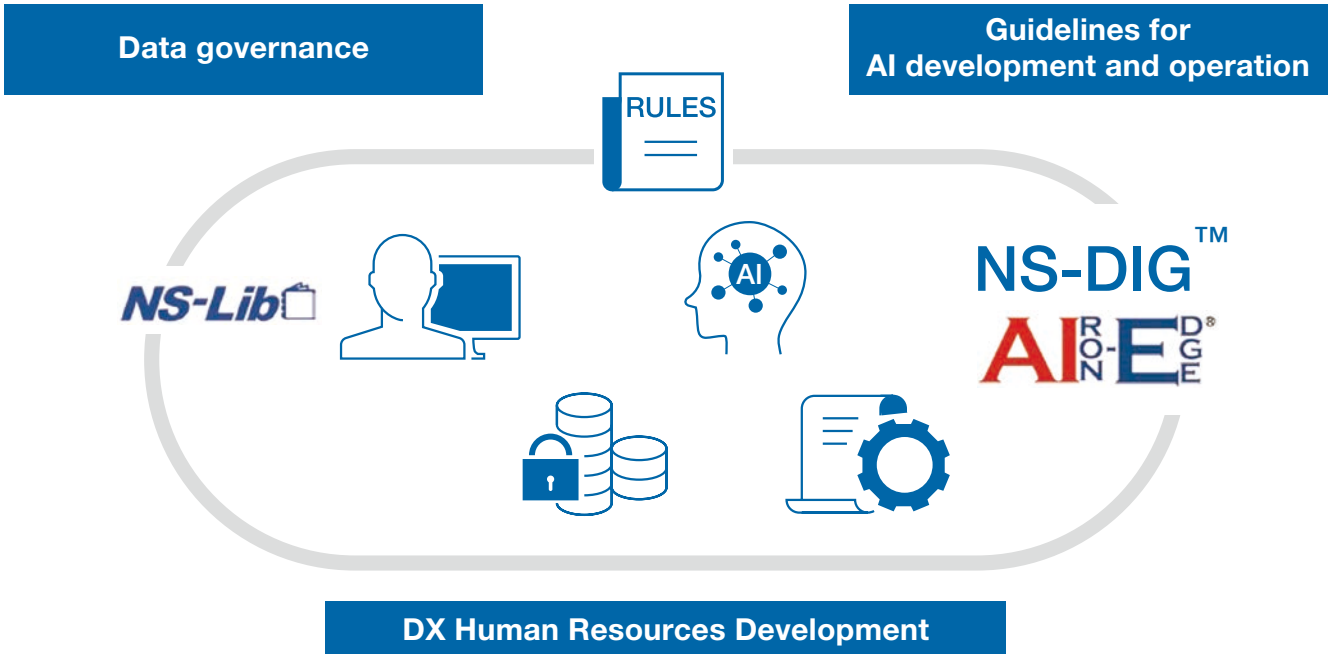
Operation status confirmation screen

Nippon Steel DX Specific Initiatives (data governance, security and human resources development)

Data governance, and guidelines for AI development and operation

Use of data requires good control, quality, and security. We have supplemented our existing information management rules in order to define the rule of data management, such as to create, store, use, release, and dispose, and to strengthen our ongoing data governance.

In February 2022, we set up guidelines for AI development and operation, which compiles various points to consider in using and creating AI. Through the establishment of rules and human resource development, we aim to create an internal culture in which our employees become actively involved in DX and keep growing.



Cybersecurity

Cybersecurity is becoming ever more important in the new workstyle with ICT as data utilization becomes more active: Information is exchanged in all different forms, in all kinds of situations and fields. Furthermore, in recent years, the increasing sophistication of cyber-attacks and attacks on operational technology (OT) or systems that control manufacturing infrastructure has caused some companies to shut down their production lines. In addition, cyber-attacks sometimes extend beyond individual companies, penetrating supply chain networks and affecting multiple entities. This underscores the need to strengthen overall security measures not only at the enterprise level, but also at the level of its affiliates and supply chain partners.

Against this backdrop, we remain committed to strengthening various safety measures and providing safety education, both in Japan and in other countries. Specifically, we are working actively to improve the IT literacy (information security awareness) of every employee who uses our systems by providing security education through e-learning and conducting attack-type e-mail training. In addition, we have established an organization and system dedicated to OT security and collaboration with the IT security unit, and implemented measures to bolster security through network multi-layered defense, etc.

Furthermore, with a focus on ensuring business continuity, we require our subcontract firms and suppliers in our supply chain to improve their security. In particular, we have established a “Group Companies’ Cybersecurity Security Council” with Group companies with whom we closely share security strategies, so that we can work together to raise our security standards. Lastly, the NSG CSIRT, made up of our Group companies, conducts incident response to computer-related incidents.

NSG-CSIRT
Nippon Steel Group

- Proactive detection of incidents, response to incidents, and implementation of reactive measures
- Sending of the procedures to collect, analyze, and respond to incident-related information within the Company and to the Group companies

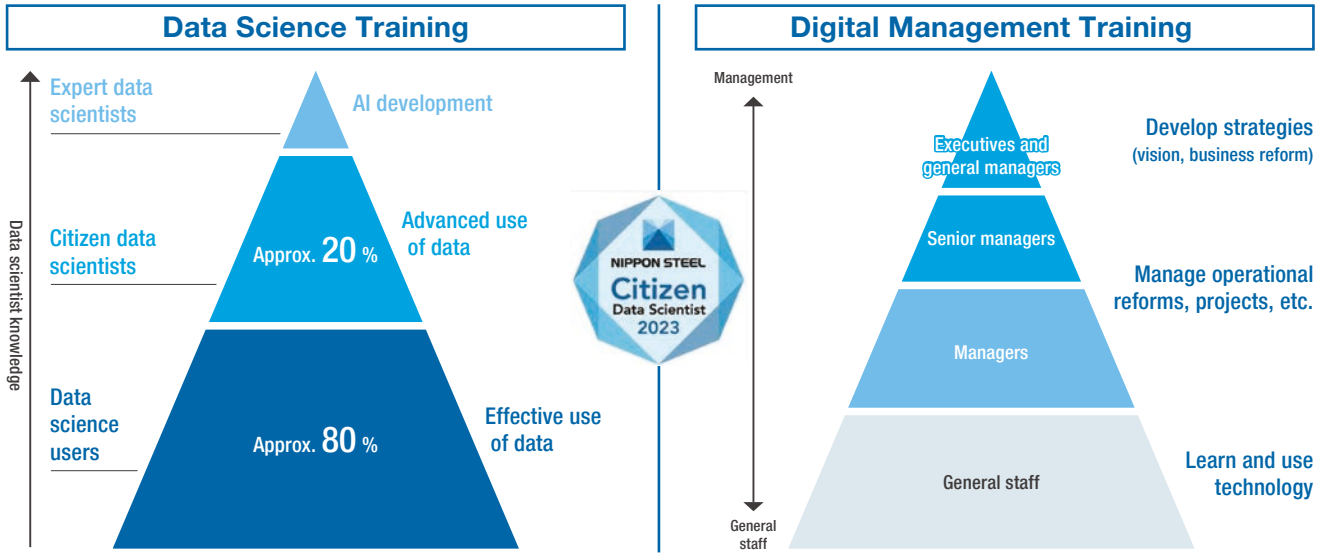
DX human resources development

Nippon Steel defines “those who can extract and solve business problems based on data” as DX human resources, and aims to make all office staff and engineers DX human resources. Skills in three areas of business, data science, and data engineering are required to drive data-driven operations. The strength of our Group is that we have a large number of people who are well versed in operations and have skills in business and data engineering, including people in NS Solutions. Our business competitiveness will be further enhanced by improvement of our data science skills.

We have defined data science knowledge in three levels: Expert data scientists, citizen data scientists, and data science users. In July 2021, we launched data science education programs with the goal of turning all office staff and engineers into data science users by the end of the first half of fiscal 2023. In addition, by 2030, we want 20 percent of all office staff and engineers to be citizen data scientists in every place of work. By the end of FY2022, approximately 4% of all the office staff and engineers have been certified as citizen data scientists, and by 2025, we expect to complete training to reach 10%. To motivate employees to improve their knowledge and skills, those certified as citizen data scientists receive Open Badges.

In December 2021, we also launched a new digital management education program with components for different levels or types of manager. Doing this can facilitate business process reform by improvement of knowledge of management using digital technology. We are working toward the completion of the education courses for all managers by the end of 1H of fiscal 2023.

We intend to promote education both in data science and digital management, and accelerate our production and business process reform, using data and digital technology.

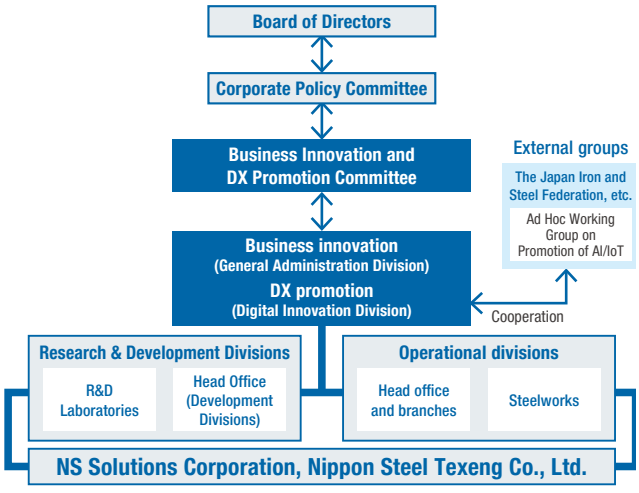


DX promotion framework

With the Digital Innovation Division at the core, the operational divisions and the research and development divisions will work together to strengthen business competitiveness by promoting DX mainly through integrated responses to company-wide cross-sectional issues and data management. Furthermore, we will continue to take on the challenge of advanced initiatives in cooperation with external organizations and with the collective strength of the Nippon Steel Group, including NS Solutions Corporation and Nippon Steel Texeng Co., Ltd.

We have established the Business Innovation and DX Promotion Committee, chaired by the Executive Vice President in charge of business innovation and DX promotion. It is discussing company-wide policies and strategies and promoting related activities based on both the business innovations we have been working on and the promotion of DX.

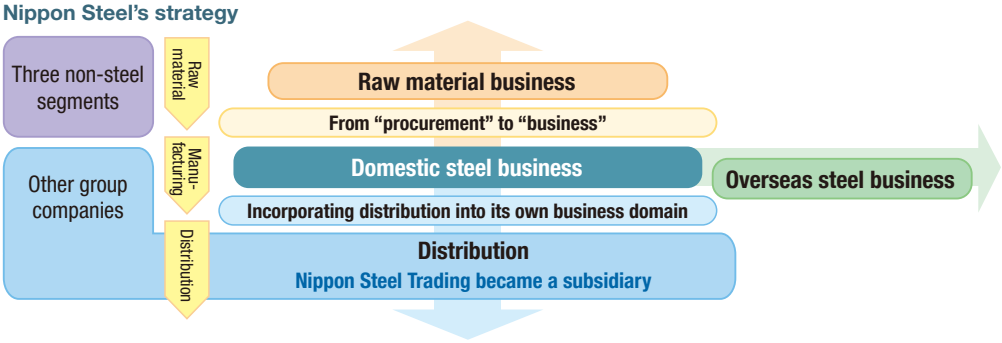
Digital innovation promotion organization



Evolving into a Further Vertically-integrated Business Structure

We also aim to establish an integrated business structure from raw materials procurement to manufacturing and distribution, enhance our competitiveness throughout the supply chain, and develop a more resilient business model in line with our goal of achieving carbon neutrality.

Nippon Steel's strategy



Raw material business / From "procurement" to "business"

Building a business structure resilient to external environment

Nippon Steel aims to achieve carbon neutrality through the multi-aspect development of three breakthrough technologies: "Hydrogen injection into BFs," "Hydrogen direct reduction of iron," and "High-grade steel production in large size EAF." Securing the essential raw materials needed in the manufacturing process of breakthrough technologies is a major concern.

For example, ensuring a consistent supply of high-quality coking coal, which is used as a raw material to produce high-quality, high-strength coke, is essential for the process of hydrogen injection into BFs, one of the breakthrough technologies. This is essential for reducing carbon dioxide emissions while maintaining the stability and efficiency of pig iron production. On the other hand, there is growing concern that the global capacity to supply coking coal for steelmaking will gradually decline, as investment in the development of coking coal for steelmaking is not expected to increase in the future amid the trend toward decarbonization. To promote carbon neutrality in the future, we believe it is imperative that we increase our own investment in raw material interests to ensure stable procurement.

We currently procure approximately 20% of the iron ore and coking coal we use from invested mines, but we intend to increase this proportion in the future by expanding our investment in raw material mines.

Further expansion of Nippon Steel's consolidated earnings

Amidst the continued decline in investment in resource development and other influencing factors, the looming prospect of sustained high raw material and fuel prices, regardless of fluctuations in the steel market, is becoming an undeniable reality. This scenario poses a significant hurdle to our efforts to stabilize consolidated earnings. To improve consolidated earnings, we will expand our investment in raw material interests to cultivate a vertically-integrated business structure characterized by resilience to changes in the external environment.

Incorporating distribution into its own business domain

Changes in the environment of steel distribution

In steel trading, we have not only maintained but strengthened our sales and marketing capabilities throughout the steel supply chain. This was achieved through a comprehensive approach using multiple trading entities as intermediaries in addition to direct transactions with a limited number of consumers. This approach has been instrumental in leveraging our diverse functions including information collection, transaction expertise, credit facilities and investment in and management of distribution and processing ventures. However, it is imperative that we strengthen our competitive edge throughout the supply chain to respond swiftly and appropriately to changes in the steel market environment and its structure, which can fluctuate greatly in a short period of time. This requires increasing our direct engagement with domestic and international consumers and strengthening our ability to seamlessly and comprehensively manage steel transactions. It also means optimizing and streamlining our manufacturing, distribution and processing operations and creating new value.

Turning Nippon Steel Trading into a subsidiary and privately held company

We have established a cooperative relationship with Nippon Steel Trading, the core trading company of our Group, through the sale of steel products and the exchange of personnel. However, the fact that Nippon Steel Trading is a listed company that is an equity method affiliate of the company subjects us to certain restrictions on the mutual sharing of customer and technical information, and the storage and mutual utilization of management resources. In addition, measures aimed at enhancing the corporate value of the Group and Nippon Steel Trading from a medium- to long-term perspective may be viewed as conflicting with the interests of minority shareholders of Nippon Steel Trading if they result in a short-term deterioration in performance or financial position.

We therefore transformed Nippon Steel Trading into a subsidiary and privately held company in order to eliminate these restrictions and realize broader synergies. In this way, we will be able to drive the actions listed below and create new value.

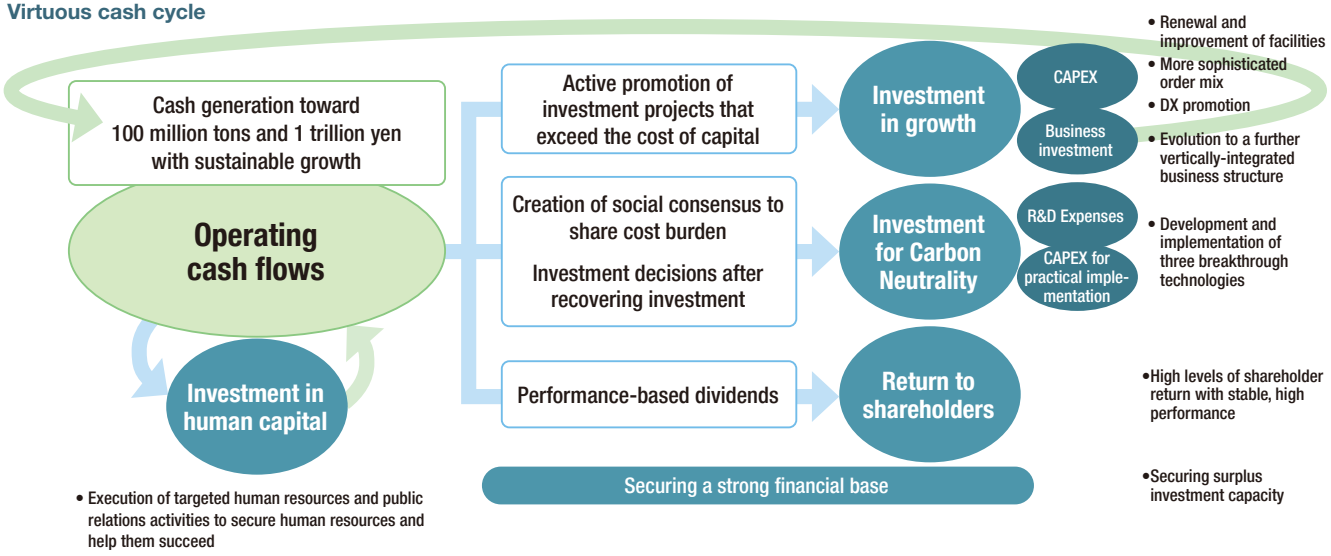
Measures enabled by transition to a subsidiary and private company

Improving and strengthening the efficiency of trading company functions in the Group	• Strengthening and expanding direct sales and marketing to consumers • Improving the efficiency of office work for commercial transactions • Improving the net working rate and establish an optimal system at manufacturing locations, etc. **Strengthening cost competitiveness throughout the supply chain**
Strengthening direct sales and marketing capabilities through integrated use of sales/marketing know-how and infrastructure	Sales/marketing strategy shared by Nippon Steel and Nippon Steel Trading supports: • Prioritizing the input of both companies' sales/marketing capabilities in overseas markets and emerging demand areas related to carbon neutrality, etc. • Maximizing the use of sales/marketing information and processing know-how held by Nippon Steel Trading's domestic and overseas sales/marketing locations and processing bases such as coil centers **Strengthening the ability to respond to diversifying needs of customers and sales/marketing capabilities overseas**
Further sophisticating the supply chain **Building a new business model**	The benefit of being able to share sales/marketing information supports: • Applying the latest digital technology by linking production, inventory, distribution, delivery deadline, and other data scattered throughout Nippon Steel, which is responsible for steel manufacturing, and Nippon Steel Trading, which is responsible for distribution and processing e.g. Optimizing integrated production and distribution (optimize inventory volume, reduce lead times throughout the supply chain, and improve manufacturing efficiencies such as processing yield) • Strengthened cooperation in new areas of expansion, such as GX, to be considered in the future **Initiatives for creation of new added value**

Financial Strategy

By establishing a virtuous cash cycle, we will achieve profit growth toward our vision of 100 million tons and 1 trillion yen, as well as carbon neutrality.

Virtuous cash cycle



Investment plan (FY2021-2025)

Capital expenditures	¥2,400 billion over 5 years
Business investment	¥600 billion over 5 years
Payout ratio	Around 30%

Targets (FY2025)

ROS (Return on Sales)	About 10%
ROE (Return on Equity)	About 10%
D/E Ratio	0.7 or less

Assumption: Non-consolidated crude steel production: About 38 million tons/year

Investment plan

We will aggressively pursue growth investments that exceed our cost of capital.

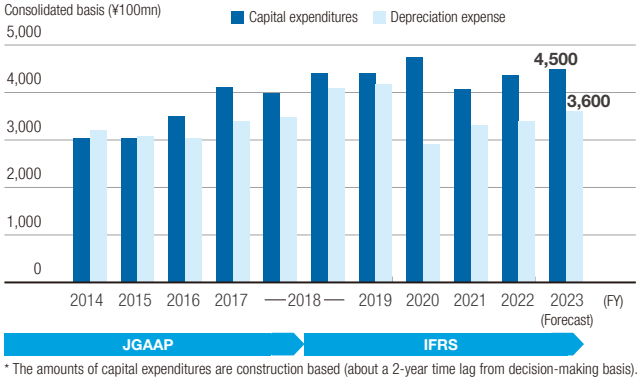
Capital expenditures

We will implement capital expenditures of ¥2,400 billion over the five years FY2021 to FY2025.

We promote the production facility structural measures with suspending less-competitive facilities and consolidating production to competitive ones. We are reducing investment in facilities scheduled for suspension, while selectively investing in remaining facilities to upgrade equipment and improve capacity and quality of high value-added products. Up to the present, we have decided to make investment of ¥213 billion for improving the capacity and quality of electrical steel sheets and investment of ¥270 billion for installing a new next-generation hot strip mill at the Nagoya Works. Meanwhile, many of our steelworks were built during Japan's high-growth era and are passing a 50-year milestone. Since construction, the facilities have been appropriately maintained and refurbished and are in good condition but some facilities for infrastructure and others are in an extremely long refurbishment cycle, which are approaching refurbishment time. Due to the concentration of refurbishment investment for these equipment and facilities, capital expenditures will be at a high level for the near term. We seek to efficiently inject capital based on the long-term refurbishment plan, aiming for reduction in overall capital expenditures.

For determining capital expenditures, we set a hurdle rate for collection period of investment aimed at profit improvement and manage to secure that the internal rate of return (IRR) of overall capital expenditures, including spending for replacing aged facilities, exceeds the cost of capital.

Capital expenditures and depreciation expense



* The amounts of capital expenditures are construction based (about a 2-year time lag from decision-making basis).
* The scope of investments and depreciation has expanded since fiscal 2018 due to a change in the financial accounting system.
* The method of depreciation was changed from the declining-balance method to the straight-line method in FY2020. Impact of the change: -70 billion yen, Impact of impairment loss: -60 billion yen

Business investment

Business investments over the five years from FY2021 to FY2025 are expected to be around ¥600 billion. We will move forward towards a global crude steel production capacity of 100 million metric tons by acquiring and investing in integrated steel mills (brownfields) in high-demand areas where our technological capabilities and product expertise can be effectively leveraged. In addition, we will invest in the upstream raw materials and downstream distribution domains of the steelmaking value chain to broaden our business scope. Our aim is to evolve into a further vertically-integrated business structure through these initiatives.

To date, we have acquired G Steel and GJ Steel in Thailand in March 2022 (total purchase price 55.6 billion yen). In India, we decided to expand AM/NS India's sheet manufacturing facilities in April 2022 (approximately 140 billion yen), invest in the installation and expansion of facilities for iron-bearing materials and hot rolling in September of the same year (approximately 730 billion yen), and acquire critical infrastructure companies and assets (approximately 340 billion yen). (The investment amount is that of AM/NS India. We provide debt guarantees to AM/NS India as required in proportion to our 40% stake)

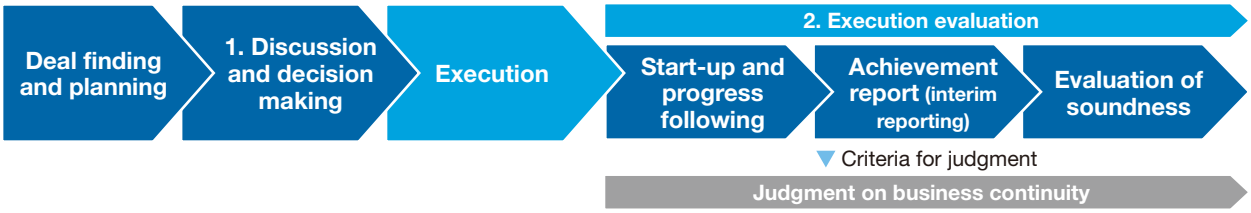
In Japan, we invested in the transition of Nippon Steel Trading to a subsidiary and a privately held company (approx. 137 billion yen).

In terms of increasing overseas steel businesses' profit and reallocation of management resources, we have thoroughly examined past investments and have almost completed asset sale of and withdrawal from businesses that could not move into the black, businesses that had completed their roles, and businesses that lost synergies. We intend to continue improving our asset portfolio.

As for business investment, we set a hurdle rate for the IRR that exceeds the cost of capital, even with consideration of diverse risks and runs a PDCA system, which enables us to track the execution status and make judgment on restructuring, withdrawal, and other options if needed.

COLUMN Business investment management system

Nippon Steel has embedded in its business investment procedures a management system with a clearly-defined PDCA cycle, in order to (1) make appropriate decisions on business investments, such as for founding and equity investing in companies in Japan and overseas, as well as for M&A deals, (2) identify early and solve promptly issues during the stage of execution of those deals, and (3) share and preserve such know-how within the organization.



1. Discussion and decision making

Proposed projects are considered in terms of significance to business strategy, market growth, competitive landscape, and individual risks (country, partner, foreign exchange, and other risks). In the case of M&A deals, based on due diligence, their risks are to be understood and appropriately hedged. After such a procedure and given consideration to risk scenarios, the certainty of generating return that matches investment is confirmed.

Investment and Loan Committee

The Investment and Loan Committee discusses projects from a professional perspective of each corporate unit and division.

The business investment projects are submitted to the Corporate Policy Committee after being discussed at the Investment and Loan Committee. Very important projects are then submitted to the Board of Directors.

2. Execution evaluation

Start-up and progress following

For about three years since start-up, KPIs for operation, production, shipment, financials, and other items are set up for each project, and the corporate division follows its performance relative to the plan once every three months, and reports to the Investment and Loan Committee and the Corporate Policy Committee. The status of particularly important projects is reported to the Board of Directors once a year.

Achievement report

About three years from the start-up, the entire processes from decision making to full-scale operation are reviewed and reported to the Investment and Loan Committee and the Corporate Policy Committee. The status of particularly important projects is reported to the Board of Directors once a year.

Evaluation of soundness

All Group companies in which Nippon Steel has made direct investment are evaluated in terms of financial soundness, based on their financial data, and the results are reported at the Corporate Policy Committee every half year. Those companies in which Nippon Steel has made indirect investment are similarly evaluated but only once a year. They are also reported to the Board of Directors once a year.

Decision on exit or restructuring

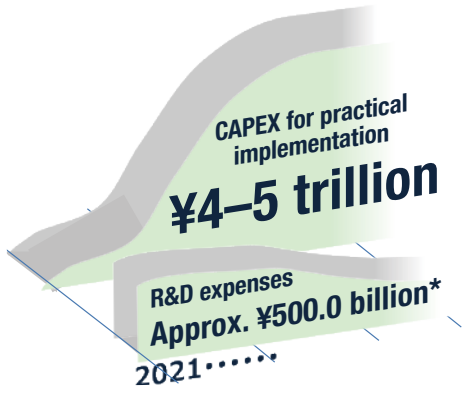
Concerning group companies that are determined not contributing to raise the company's corporate value in terms of financial soundness based on quantitative standards (future cash flow, financial position) and qualitative standards (sustainability, compliance, etc.), the Investment and Loan Committee discusses whether to continue business and the status of particularly important project are to be approved by, or reported to, the Corporate Policy Committee to determine whether to exit (or be reorganized) or restructure.

Investment for achieving carbon neutrality

Developing and implementing the three breakthrough technologies will require huge capital expenditures. At present, our estimate is that there will be a need for 500 billion yen in research and development and 4 to 5 trillion yen in capital expenditures by 2050. We intend to further elaborate on the timing and breakdown of investments over the coming period. This will depend on the status of technological development, the progress of broader societal infrastructure development, and the consensus reached on the equitable distribution of costs across society.

Although the transition to a carbon-neutral steelmaking process will not increase production or improve product functionality and quality, we believe it is critical that comprehensive and effective government support measures enhance the predictability of investment decisions so that we can invest in implementation aimed at CO_2 reduction. We will seek to launch measures that can be economically justified under the premise of establishing predictability.

Conceptual illustration of investments required to achieve carbon neutrality at Nippon Steel



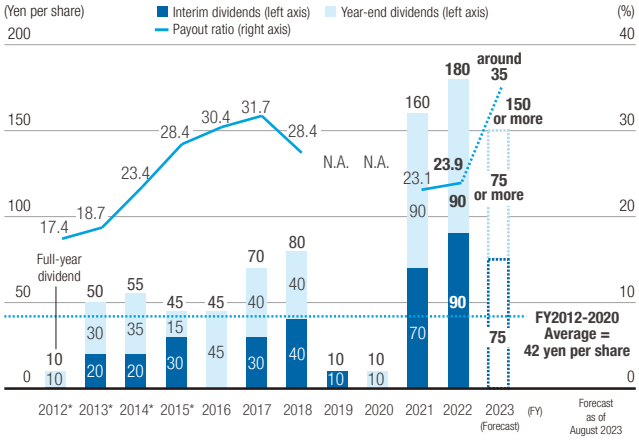
* Minimum level estimated to be required for the time being

Return to shareholders

With regard to shareholder return, we follow our current dividend distribution policy with the target range of around 30% in payout ratio to consolidated net profit, based on the allocation of profits in accordance with operating and financial performance, and by taking into account funds needed to invest for improving corporate value, performance forecasts, consolidated and non-consolidated financial positions, and other factors.

We have established our dividend for FY2022 at 180 yen per share, marking the highest level to date. In FY2021 and FY2022, we deliberately maintained a moderate payout ratio to maintain robust shareholder returns. This approach took into account the inclusion of substantial one-time valuation gains from inventory valuation, foreign exchange gains and similar factors in our net income calculation. In anticipation of a substantial one-time valuation losses, we are projecting a record high payout ratio of more than 150 yen per share, or 35%, for FY2023.

Dividend trends



* Dividends prior to the reverse stock split are adjusted in accordance with the assumptions following the completion of the reverse stock split (from 10 shares to 1 share on October 1, 2015).

Investment in human capital

As the business environment remains challenging, the importance of attracting and retaining a diverse workforce is escalating. This imperative is rooted in the need not only to survive intense competition, expand earnings and drive expansion, but also to effectively address new challenges including the imperative of decarbonization. We will systematically implement a series of public relations initiatives designed to enhance positive recognition, coupled with concrete actions aimed at fostering employee success, including increased compensation levels.

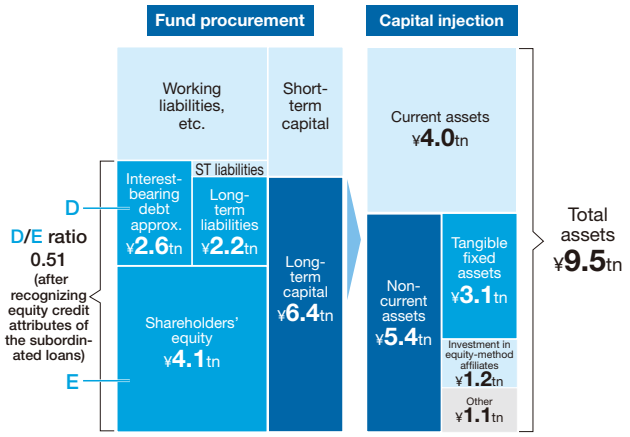
Financial base

The steel industry is a gigantic equipment-based industry, which uses a massive amount of fixed assets, including machinery equipment and other tangible fixed assets, in its business. Procurement for fixed assets is financed by shareholders' equity and long-term borrowings, ensuring financial stability.

Our basic policy is to proactively invest in growth opportunities while maintaining a solid financial base. Nippon Steel considers its D/E ratio to be a key measure in the management of its financial base. The goal is to achieve a D/E ratio of approximately 0.5, a level that enables the company to maintain its A international credit rating. Our target is to lower or maintain the D/E ratio at 0.7 even if the business environment further deteriorates. The status of the credit ratings obtained as of August 2023 is shown in the table.

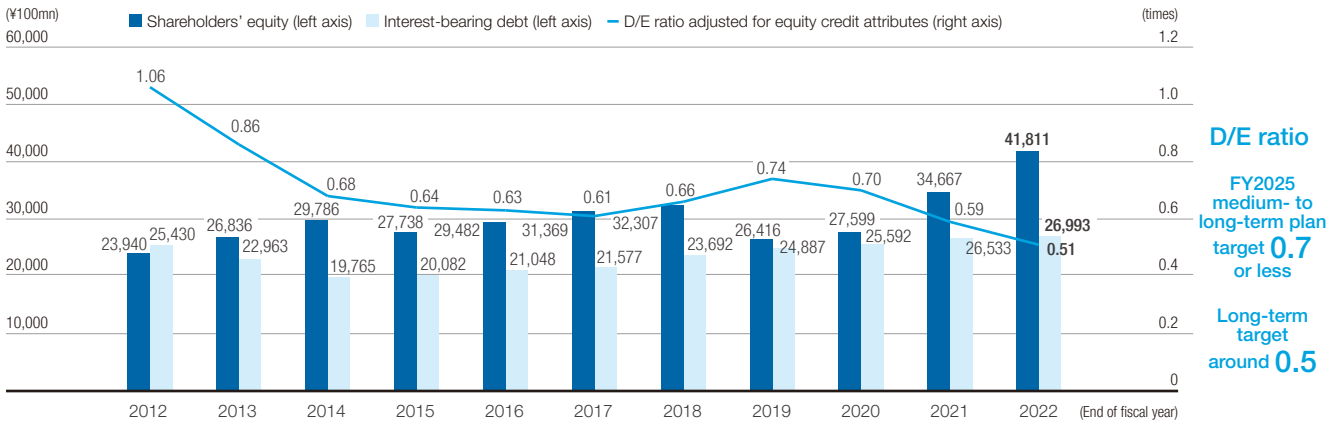
We will strive to secure both solid financial strength and financial flexibility so that we can surely and flexibly execute growth investment in Japan and overseas, in carbon neutral-related facilities, which will be fully implemented in fiscal 2025 and thereafter, and in initiatives to achieve 100 million tons of global crude steel production and to evolve into a further vertically-integrated business structure.

Nippon Steel's asset and liability management (March 31, 2023)



Rating agency		Nippon Steel's rating
Japan	R&I	A+ (Positive)
	JCR	AA- (Stable)
Overseas	Moody's	Baa2 (Stable)
	S&P	BBB (Positive)

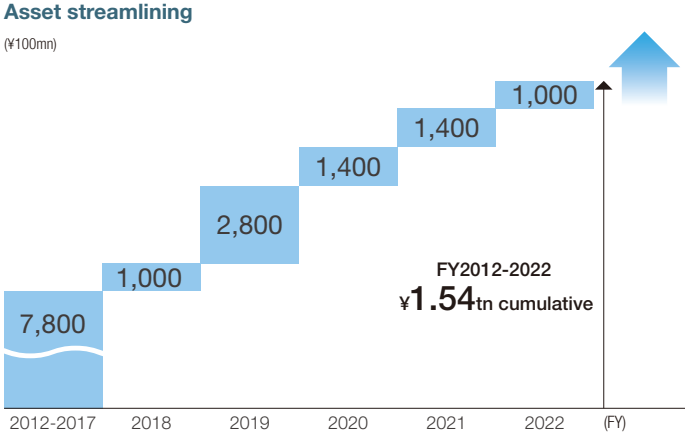
Shareholders' equity, Interest-bearing debt, and D/E ratio



Asset Streamlining

Following the business integration in 2012, we have successfully reduced assets by a cumulative total of 1.54 trillion yen over the 11 years to FY2022. This was achieved through selling of strategic shareholdings, inventory reduction, and improved efficiency of consolidated funds. Going forward we will continue asset streamlining.

Asset streamlining



Asset streamlining by disposing of strategic shareholdings

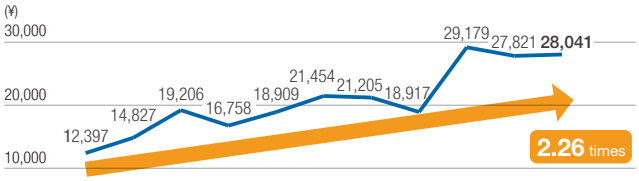
Most of the asset streamlining comes from sale of strategic shareholdings.

Strategic shareholdings are judged to contribute to maintaining and strengthening the business foundation such as the business relationships and alliance relationships between Nippon Steel and the investees, enhancing the profitability of both parties, and thereby contributing to sustainable growth and improving medium- to long-term corporate value of Nippon Steel and the Group. However, we dispose of holdings of companies, with whom we confirmed, based on sufficient dialogues with them, that the above objectives could be achieved without holding their shares.

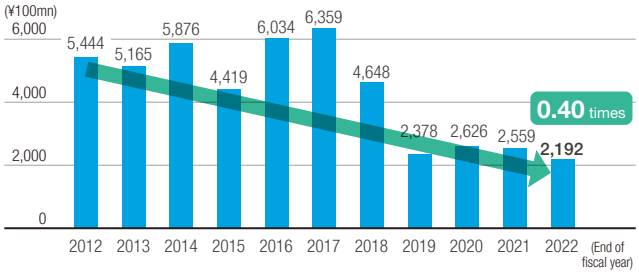
Over the ten-year period from March 2013 to March 2023, we sold and reduced our strategic shareholdings by 60%. Considering the fact that the Nikkei Stock Average has increased 2.26 times, this can be considered as equivalent to a reduction of 80% or more*.

* Balance at the end of FY2022: 219.2 billion yen / (Balance at the end of FY2012: 544.4 billion yen × Growth rate of the Nikkei Stock Average: 2.26 times) = 18% ⇒ Reduction of more than 80 percent in real terms

Nikkei Stock Average



Total value of strategic shareholdings on the balance sheet



Number of issues	480	457	430	408	372	361	345	308	301	284	264

Initiatives to raise share price index

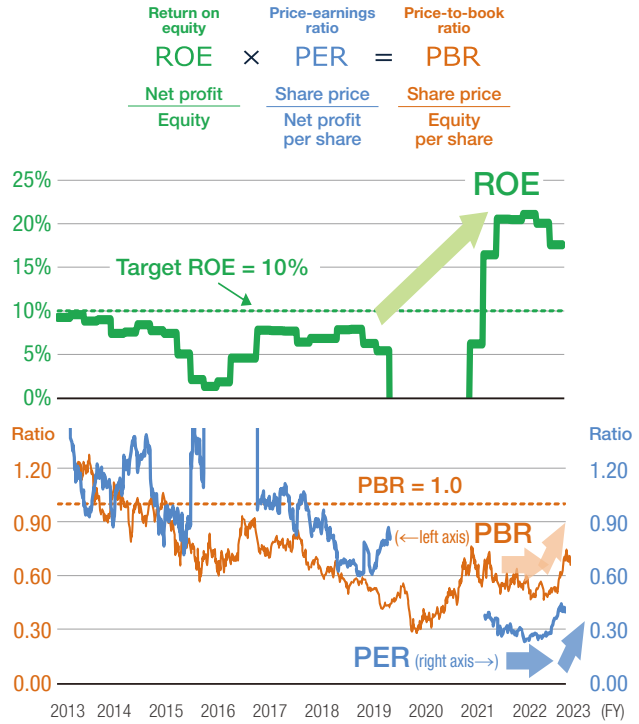
We are aiming for “becoming the best steelmaker with world-leading capabilities.” We believe that an objective indicator of being No. 1 in overall strength is becoming No. 1 in market capitalization, which is the market’s assessment of our performance. However, we do not hold the top position in terms of market capitalization at present. In addition, our PBR remains below 1.

Nippon Steel has established an earnings base that ensures a steady underlying consolidated business profit of more than 600 billion yen. This achievement is the result of our efforts to date on structural reform of the domestic steelmaking and steel fabrication business and the deepening and expansion of overseas operations. Going forward, we are transitioning to a new phase toward our vision of 100 million tons and 1 trillion yen. In addition, we are committed to advancing breakthrough technologies for achieving carbon neutrality ahead of our counterparts in Europe, the U.S., China, and other countries. To ensure the reliability of investment decisions, we will make significant R&D expenditures and investments in implementation facilities that would be necessary to achieve this goal, taking advantage of the fundamel and comprehensive support initiatives of the Japanese government.

We believe that our stock’s PBR has remained below 1.0 because it has taken time for the market to appreciate the company’s efforts and for the stock price to rise accordingly in a phase where the promotion of our efforts leads to rapid improvement in earnings.

We are committed to improving the accuracy and effectiveness of our management strategy disclosures and communications. In addition, we will continue our efforts to promote shareholder and investor understanding of the dual goals of “delivering robust and sustainable earnings with continued growth” and “ensuring the practicality and economic viability of our carbon-neutral vision.” Our ultimate goal is to secure our position as the world’s leading steel producer in terms of market capitalization.

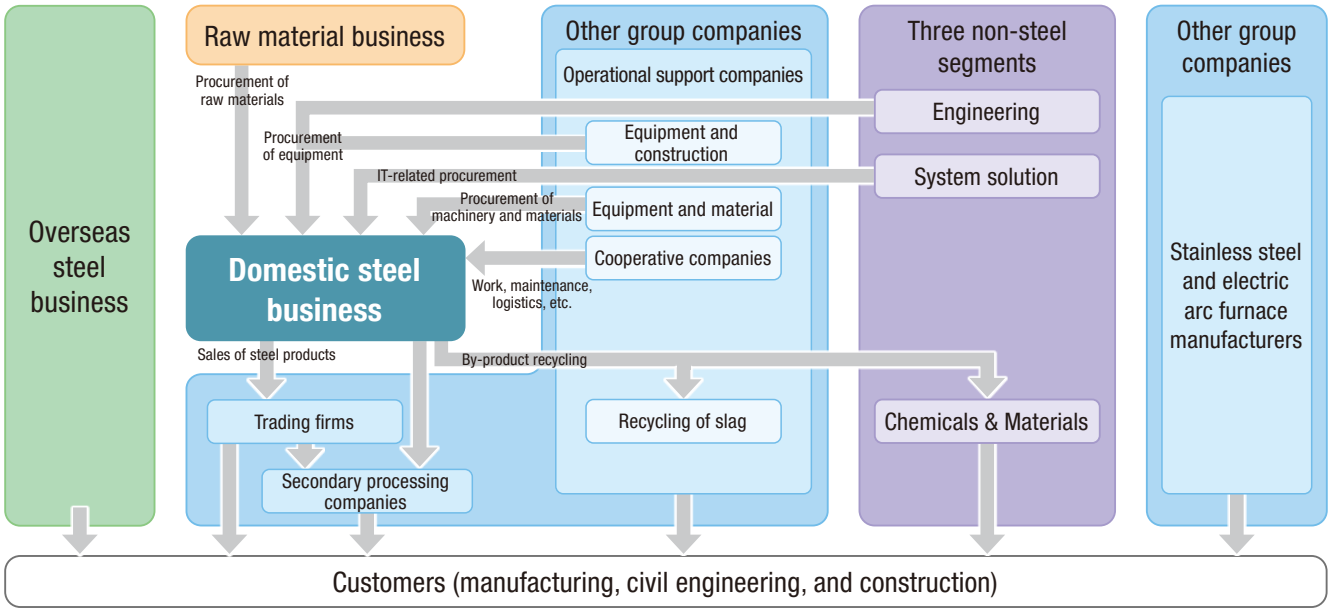
Stock price related indices



Steelmaking and Steel Fabrication Business

The Nippon Steel Group's business domains span from upstream to downstream of the steel industry's value chain. Nippon Steel Corporation, engaged in integrated steelmaking business, and its group companies, are responsible for each process of the value chain, share important strategies, and aim at maximizing the Group's corporate value.

Steelmaking value chain and the Nippon Steel Group's business domains



Domestic steel business

The domestic steel business, which is the core business of our Group, is directly operated by Nippon Steel Corporation, an operating holding company. Through enduring partnerships with our customers, we have developed the world's most advanced product and solution delivery capabilities, cultivated by responding to our customers' demanding requirements. In addition, we have established an efficient and reliable production and supply system for high-grade steel. This has been made possible by integrating our large-scale blast furnaces, coastal steel mills, and exceptional facilities and operating technologies. Our objective is to transform into a carbon-neutral steel product manufacturing process by 2050.

Value Delivered by Steelmaking

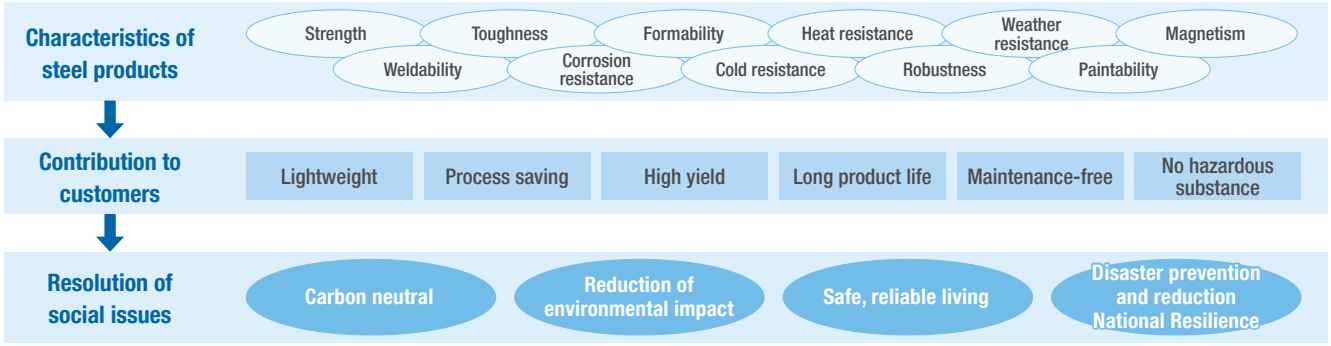
Compared to other materials, steel is used in a wider range of applications and in significantly larger quantities. From large to small applications, steel is intricately woven into every facet of society, undoubtedly asserting its dominance as the most important material.

Steel products offer a wide variety of properties and unlimited potential. Steel can be tailored to meet specific requirements to achieve a range of properties such as strength, formability, weldability or corrosion resistance. This can be accomplished by adding small amounts of various alloys such as manganese and vanadium, controlling the crystal structure through heat treatment or zinc and tin plating. Steel products that exhibit these properties are referred to as "high-grade steel."

High-grade steel helps create value for customers in their steel processing operations. Its multiple benefits include weight reduction, omission of work processes, increased material yield, extended product life, and elimination of hazardous substances and maintenance. These outcomes help address societal challenges such as achieving carbon neutrality, reducing environmental impact, ensuring safe and healthy living conditions, and strengthening national resilience.

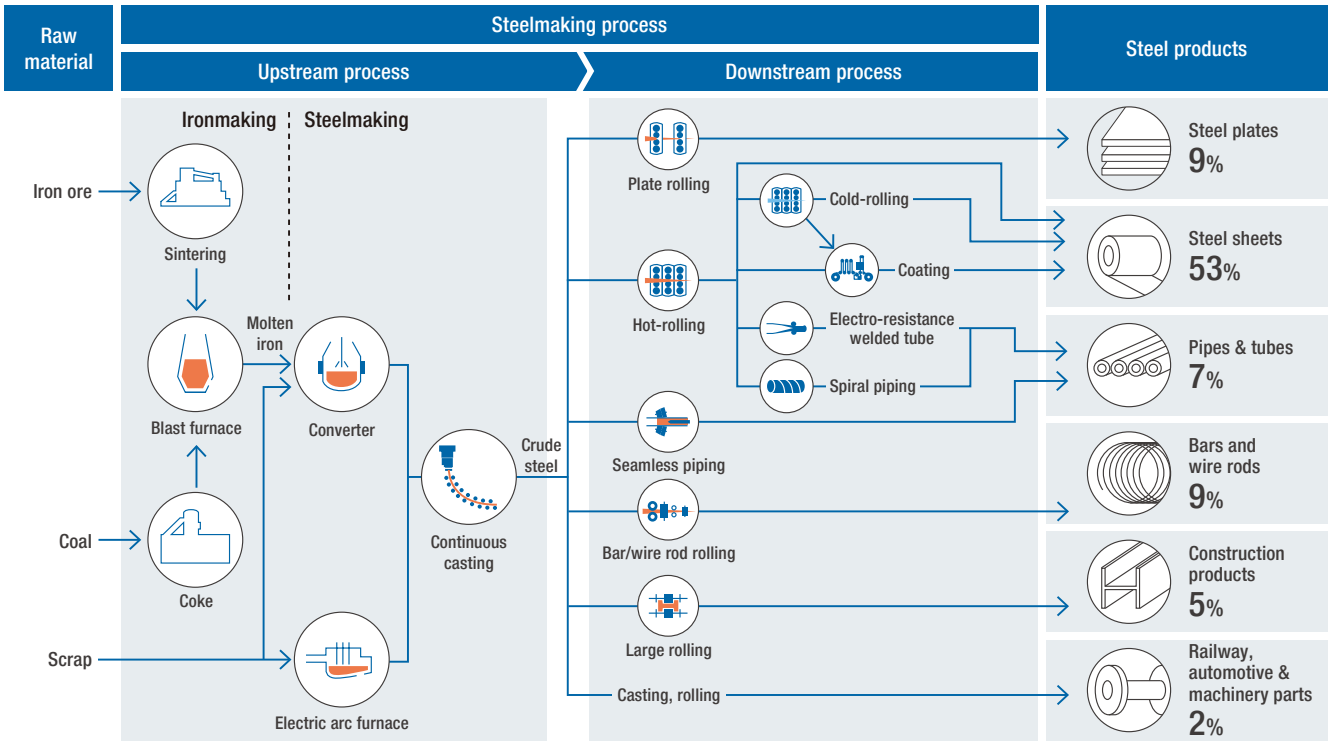
Nippon Steel is at the forefront of the world's steel producers, with leading technology in the field of high-grade steel.

Ways in which the supply of high-grade steel can contribute to the solution of social issues



Steel product manufacturing process

Steel product manufacturing process



The steelmaking process is divided into the upstream process, to melt and reduce iron ore at high temperature, and to solidify the metal, and the downstream process, to make it into products of shapes and properties that meet needs of customers.

Upstream process

The upstream process includes the ironmaking process to produce pig iron which is made mainly in a blast furnace; and the steelmaking process that uses pig iron, scrap, alloys, and other materials to manufacture steel products of diverse features. A large area of level land and a massive amount of initial investment are required for the upstream process, which needs massive upstream facilities for diverse processes including reception of raw materials, distributing a high level of supply of energy, and treatment of by-products. Moreover, a blast furnace once blown in will be kept operating ceaselessly for 24 hours a day and 365 days a year for around 15–20 years, with shutdowns for only a few times of few-day intervals a year. This also means a 24-hour-a-day operation of most other steelmaking facilities as well, which is realized by four teams of workers engaged in three shifts.

Downstream process

The downstream process is divided into processes for rolling, coating, refining and inspection, to name the most important ones, enabling manufacturing of products with features required by customers.

Effective production of high-grade steel at manufacturing bases and R&D bases in Japan

In Japan, six steelworks of Nippon Steel Corporation have 14 manufacturing bases, which we call areas, in aggregate. We also have group companies' factories or mills using electric arc furnaces and for secondary processing of steel products. Nippon Steel Group's domestic crude steel production capacity totals about 47 million tons per year.

In addition to three large-scale research centers, R&D laboratories at each steelworks put research outcome from the research centers to practical use in advanced technology, by improving equipment closely with the manufacturing sites and developing products closely with customers. Nippon Steel Corporation's manufacturing bases and R&D bases in Japan have had a close working relationship with customers for many years. They are a source of value creation that is continually generating operational, equipment, and product technologies—our strengths. We call them mother mills, a base of value creation in our business development.

Efficient, high-grade steel production in large blast furnace, seaside integrated steelworks

All of Nippon Steel Corporation's large blast furnace integrated steelworks in Japan are located in seaside areas, appropriate locations for import of raw materials and export of product shipments. From raw material landing places to upstream and downstream processing facilities, product warehouses, and shipping quays, all the sites are efficiently laid out to comprise a modern steelworks. Most of our 11 blast furnaces (as of the end of FY2022)—the main facilities of the upstream process—are immense, having an average furnace capacity of approximately 4,900m^3. In particular, the No. 1 and No. 2 blast furnaces (5,775 m^3) in Oita are among the world's largest.

The large blast furnace and seaside integrated steelworks we operate are of a high-efficiency production model, originated in Japan. Our domestic manufacturing bases have established this model, ahead of other countries, and have realized high productivity, cost competitiveness, mass production and stable supply of high-grade steel products, and high quality, using long-accumulated operational and equipment technology.

The top-runner approach for continuous improvement in technology level

Our top-runner approach is that all steelworks share their operational and technical know-how and experience as well as daily and monthly KPI data and arrangements work to have newly set precedents and methods, and groundbreaking advances transferred to and shared by all manufacturing bases. The PDCA system is in place, enabling the enhancement of technical levels.

All the steelworks are also connected via a common facility management system. Sharing enormous information by utilizing the DX technology, such as on the problem occurrence rate, component product life, and installation or engineering work schedule, they seek to achieve more efficient, optimal maintenance and repair.

Japan's No. 1 and the world's No. 4 in market share

Nippon Steel is Japan's top steelmaker, dominating roughly half of the market. In global terms, former Nippon Steel had had the No.1 share from 1970 to 2000 (except 1998 and 1999). Subsequently, there were consolidations and reorganizations of global steelmakers, and emergence, consolidation, and reorganizations of Chinese steelmakers, along with China's rapid growth in steel demand and production volume. In 2022 Nippon Steel was ranked No. 4 in the world.

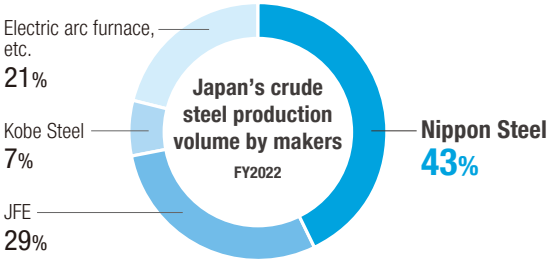
We now aim at "becoming the best steelmaker with world-leading capabilities," not the largest in scale, by using our three key driving forces, "technology," "cost," and "being global."

World ranking in crude steel production volume

2000: 850 million tons			2007: 1,348 million tons			2022: 1,885 million tons		
1	Nippon Steel	28.4	1	ArcelorMittal	116.4	1	China Baowu Group	131.8
2	POSCO	27.7	2	Nippon Steel	35.7	2	ArcelorMittal	68.9
3	Arbed	24.1	3	JFE	34.0	3	Angang	55.7
4	LNM	22.4	4	POSCO	31.1	4	Nippon Steel	44.4
5	Usinor	21.0	5	Baosteel	28.6	5	Shagang	41.5
6	Corus	20.0	6	TATA	26.5	6	HBIS Group	41.0
7	ThyssenKrupp	17.7	7	Angang	23.6	7	POSCO	38.6
8	Baosteel	17.7	8	Shagang	22.9	8	Jianlong Group	36.6
9	NKK	16.0	9	Tangshan Steel	22.8	9	Shougang Group	33.8
10	Riva	15.6	10	U.S. Steel	21.5	10	TATA	30.2
11	Kawasaki Steel	13.0						
12	Sumitomo Metals	11.6	20	Sumitomo Metals	13.8			
21	Bethlehem	9.1		Nisshin Steel	3.5			
24	LTV	7.4						
34	Iscor	5.5						
	TATA							
	Nisshin Steel	3.3						

(Source: World Steel Association)

Japan's crude steel production volume by makers



Sales contracts of steel products

Direct contract-based sales

Contract that a steelmaker produces steel products according to a customer's specified order (price, volume, specifications, etc.) and sells them to the customer via an intermediary trading firm.

Spot market sales

Contract that a steelmaker sells steel products to distributors and trading firms without end users being specified. The distributors and trading firms stockpile the steel products that are purchased at their responsibility and risk, and sell them by their own sales efforts, taking into account the market and other conditions.

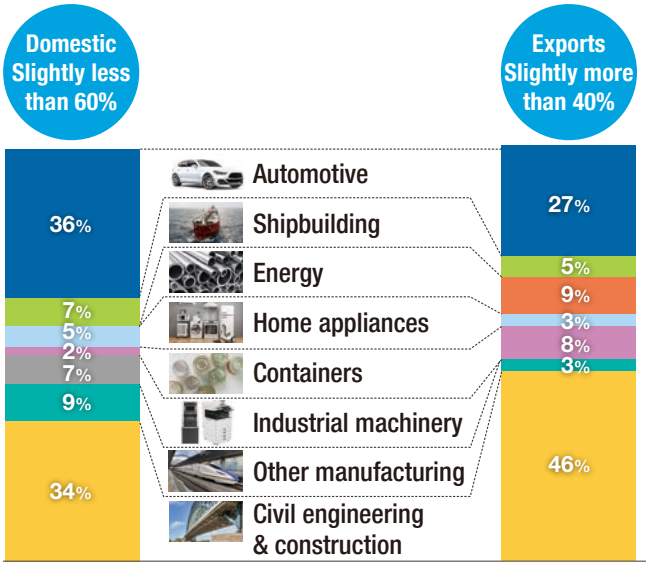
Product expertise honed by working with customers in a variety of fields

In terms of Nippon Steel's sales by industry, the manufacturing sector represents approximately 60%, of which roughly 30% is the automotive sector, and the civil engineering and construction sector occupies the remaining 40%.

The sales contracts to the manufacturing sector tend to have a higher portion of direct contract-based sales, based on our long-term business relationships with customers. We carry out R&D activities jointly with these customers, develop and manufacture steel products with high functionality, and make proposals for solutions and improvements, such as relating to component design and manufacturing method, in addition to supply of materials, responding to their needs. Moreover, we have established an overseas supply network of steel products, to satisfy needs arising from the customers' global expansion. We have thus strived hard to be a partner contributing to these customers' value creation.

The high-grade steel product technology and solution proposal capacity of Nippon Steel have been developed by responding to needs of internationally-competitive manufacturers in Japan. Together with our global production framework, which supports the customers' global development, they have become a part of Nippon Steel's strength.

Shipment breakdown by customer sectors

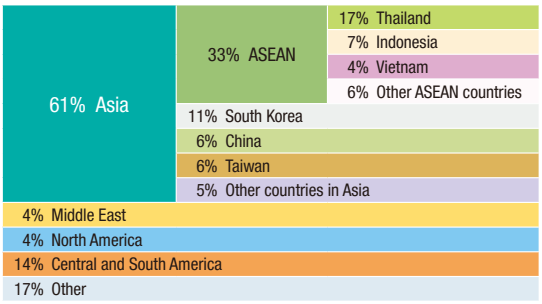


* Number of non-consolidated order intake in FY2022 (excludes semi-finished products)

Strong presence in emerging Asia

Out of Nippon Steel's steel products produced in Japan, roughly 50 to 60% are consumed in Japan and the remaining 40 to 50% are exported. ASEAN countries, South Korea, China, Taiwan, and elsewhere in Asia represent about 60% of the exports. Being closely located to the Asian market with its high growth potential in steel demand is one of advantages of Nippon Steel.

Composition by Export Destination



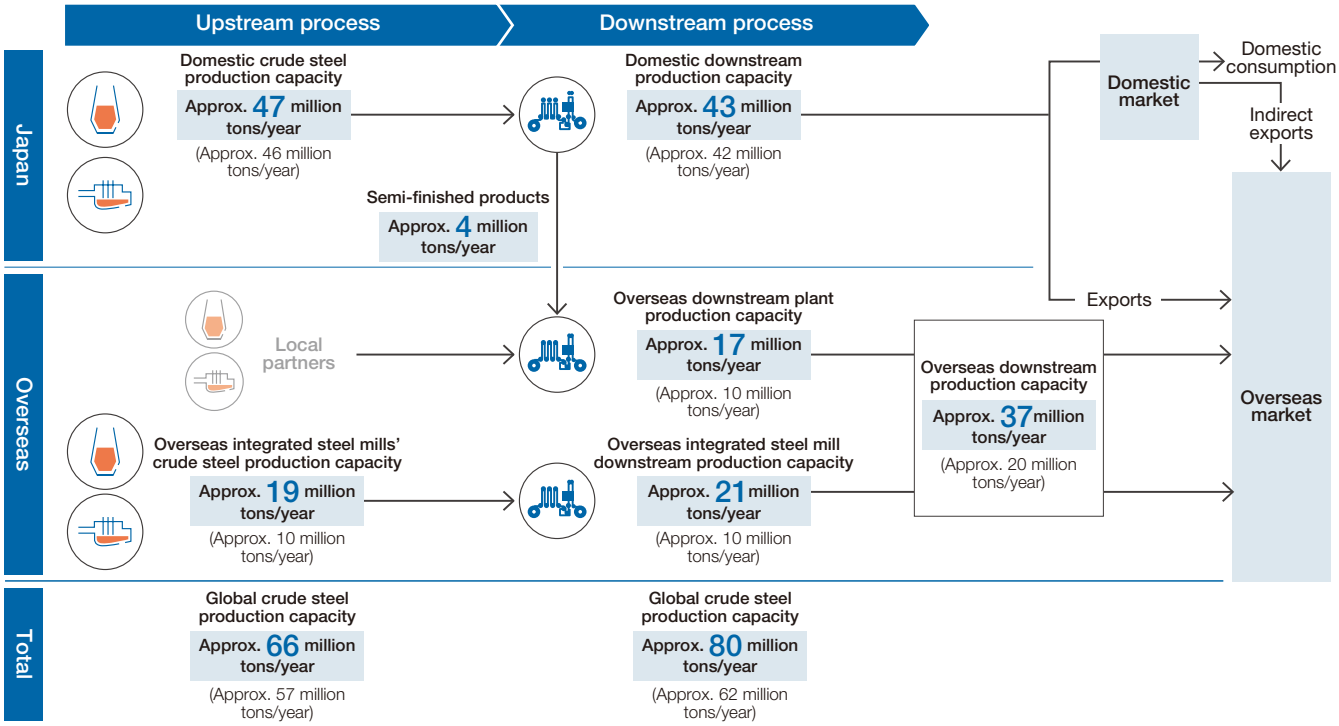
Overseas steel business

Leveraging the strengths cultivated in "mother mills" in Japan in overseas markets, Nippon Steel will expand its plants for integrated manufacturing and downstream processes in the centers of demand, and ensure that local demand is captured in "districts and areas where demand is promisingly expected to grow" and in "sectors in which our technologies and products are appreciated."

At present, the Group's overseas crude steel production capacity is approximately 19 million tons per year and its steel product capacity, approximately 37 million tons.

Global Production Framework*

Simple aggregation of the nominal capacity of each company. Figures in parenthesis reflect the equity ratio of companies with less than 50% ownership.



* Includes the nominal full capacity of companies with a 30% or more stake (including USIMINAS) subject to the crude steel production standard of the World Steel Association and equity-method affiliates with less than 30% stake to which Nippon Steel plays a significant role in supplying materials.

Overseas production capacity*1

Unit: million tons/year

As of April 2023

	Crude steel production capacity	Integrated plant	Downstream plant	Steel production capacity
Overseas total	**19.2**	21.1	17.0	**37.0**
ASEAN	**3.5**	3.1	4.7	**7.8**
China			3.6	**3.6**
India	**9.8**	9.8	0.7	**10.5**
Middle East and Africa			0.8	**0.8**
North/Central America	**0.2**	0.2	6.1	**6.3**
South America	**4.4**	6.9	1.0	**6.9*2**
Europe	**1.3**	1.1	0.03	**1.1**

*1 Includes the nominal full capacity of companies with a 30% or more stake (including USIMINAS) subject to the crude steel production standard of the World Steel Association and equity-method affiliates with less than 30% stake to which Nippon Steel plays a significant role in supplying materials.
*2 Excludes double counting of USIMINAS and UNIGAL 1.03 million tons/year

Capturing local demand in emerging regions

Global steel demand is expected to continue to grow at a moderate pace. Steel demand is expected to grow steadily in the future, especially in the large and high-growth market of Asia (India, ASEAN and others), in line with infrastructure development, progressing urbanization, and industrialization driven by the growth of automotive and other industries. Nippon Steel is well positioned to benefit from the size and growth of this market, having established a business focused on these regions. By promoting these ventures, we will contribute to the economic development of each country as an insider.

We will expand our integrated production framework from iron resources (blast furnaces and electric arc furnaces) to downstream processes (rolling, etc.) there in addition to steel exports from Japan, consisting mainly of high-grade steel from Japan, and steel supplies from overseas companies in charge of local production, focusing mainly on cold-rolled and plating product processes. Our goal is to further strengthen our overseas business by capturing the entire local demand including commodity-grade steel.

Integrated steel mills

We have established an integrated production framework in key overseas markets to capture the growing demand for steel in emerging regions/countries and to add value through integrated production. Our basic expansion policy is focused on capacity expansion of existing facilities and the acquisition of and capital participation in (brownfield investment) integrated steel mills. The aim is to maintain the supply/demand balance in the market amid the trend of overcapacity in crude steel production and to avoid the risks associated with new startups.

Downstream plant

To meet the demand for high-grade steel for automobiles, home appliances and other products from local production facilities of Japan-based customers, semi-finished products are supplied from Japan or by local joint venture partners to local processing plants that supply cold rolled products, plated products and steel pipe products, etc. to customers there.

Raw material business

Invested mines of Nippon Steel

			Year participated	Nippon Steel's ownership	Major shareholder	Production capacity (mn tons/year)
Iron ore and pellet	Australia	**Robe River**	1977	14.0%	Rio Tinto 53.0%	70
	Brazil	**NIBRASCO**	1974	33.0%	VALE 51.0%	10
Coal Carbon neutral steel production process also requires a certain amount of coking coal.	Australia	**Warkworth**	1990	9.5%	Yancoal 84.5%	8
		Bulga	1993	12.5%	Glencore 85.9%	7
		Moranbah North*	1997	6.25%	Anglo American 88.0%	12
		Coppabella and Moorvale	1998	2.0%	Peabody 77.3%	5
		Foxleigh	2010	10.0%	Middlemount South 70.0%	3
		Boggabri	2015	10.0%	Idemitsu Kosan 80.0%	7
	Canada	**Elkview**	2005	2.5%	Teck Coal 95.0%	7
Alloy (niobium)	Brazil	**CBMM**	2011	2.5%	Moreira Salles 70.0%	0.15

* Grosvenor mine was integrated with Moranbah North in 2020.

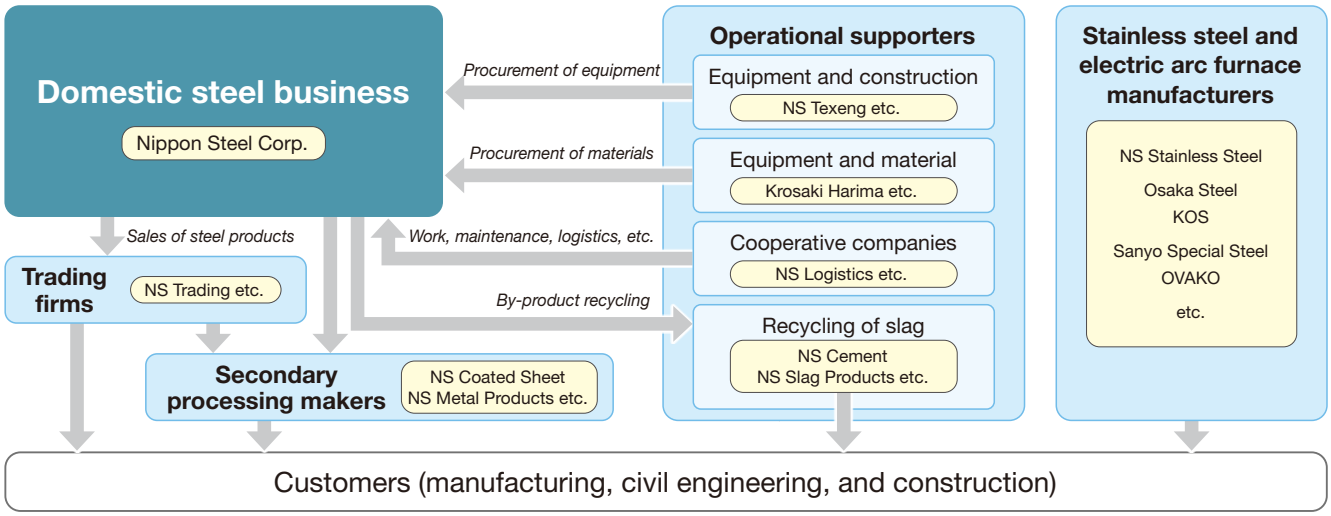
To date, Nippon Steel has made minor investments in raw material mines owned and operated by major resource companies for reliable procurement of raw materials. Roughly 20% of iron ore and coking coal used in the steelmaking business is procured from the invested mines.

These investments have made a significant contribution to consolidated earnings in the face of continued high market prices for raw materials.

Going forward, we intend to increase our investment and transform this endeavor into a comprehensive "business." Our goal is to go beyond procurement and create an integrated business framework that spans raw materials, manufacturing and distribution. By leveraging our understanding of user needs and our expertise in raw material utilization technologies, we will work to ensure the stable procurement of quality raw materials and mitigate the impact of future market fluctuations in the raw material market.

Other group companies

Steelmaking value chain and other group companies



Other group companies support and add value to the domestic steel business in a variety of areas from upstream to downstream in the steelmaking and steel fabrication value chain. In the same way as Nippon Steel Corporation, these companies have achieved stable earnings by strengthening their structure through restructuring and integration, streamlining facilities and improving margins.

Operational supporters (materials, facilities and construction, operation, maintenance and logistics, companies, by-product recycling)

Nippon Steel's steel business is supported by a group of companies engaged in the production, logistics and equipment of steelworks.

Trading firms

Nippon Steel Trading serves as the core trading company of our Group. The collaboration will be further strengthened by converting the company into a subsidiary in April 2023 and making it a privately held company in June of the same year.

Secondary processing makers

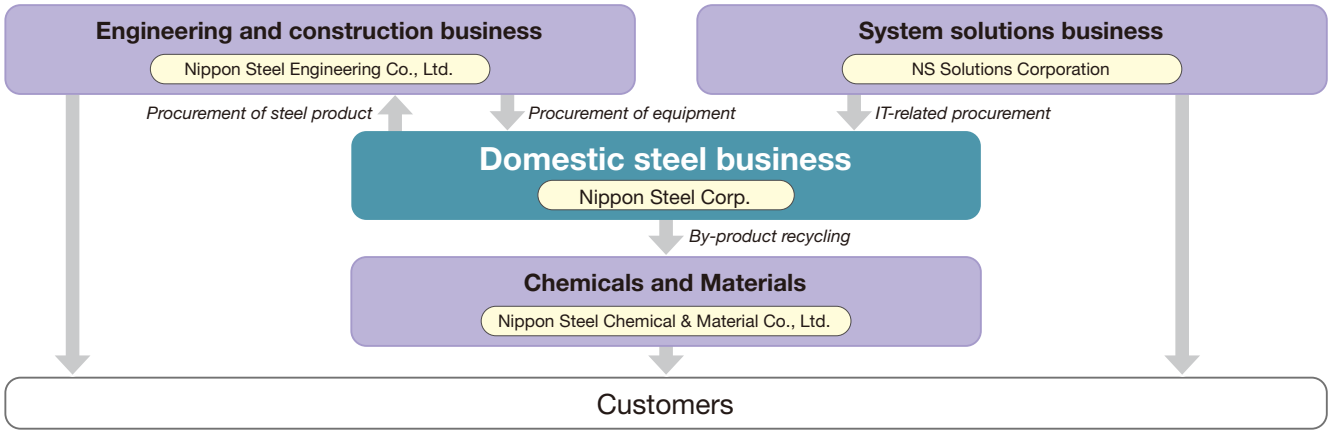
Secondary processing companies of the Nippon Steel Group are engaged in manufacturing and sales of higher-value-added secondary processed products, that respond to end customers' needs, mainly using steel products of Nippon Steel as material and the group's advanced technologies.

Stainless steel and electric arc furnace manufacturers

The electric arc furnace manufacturers of the Nippon Steel Group manufacture sell distinctive products and have top-class competitiveness in their respective fields.

Three non-steel segments

Steelmaking value chain and three non-steel segments



Three non-steel segments, which derived from Nippon Steel's steel business, support the steel business and create synergies. The accumulated technology, products, and services that these companies acquired are used as appropriate for the business pursuit of companies outside the Nippon Steel Group. Each of these segments has approximately ¥300 billion in revenue, and aims to achieve top-class profitability in their respective field.

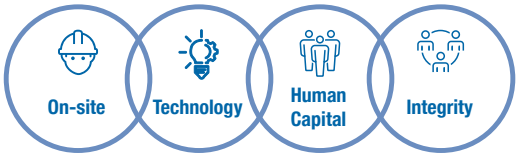
Engineering and Construction Business　Nippon Steel Engineering Co., Ltd.

Our Mission, Our Values and Our Vision

Our Mission

Leveraging technologies and ideas that go one step ahead, we will provide optimal engineering solutions to our clients so that we can contribute to the development of global society and industries.

Our Values



Our Vision

1 Provide optimal solutions to social and customer issues

Create and provide optimal solutions that include not only EPC, but also services and component supply

2 Contribute to decarbonization and national resilience

Social implementation of technologies and services for decarbonization and building resilient and disaster-resistant cities

3 Improve productivity and implement business innovation

Every single employee will refine his or her aspirations and continue to improve productivity and implement business innovation

Our Business

We are involved in numerous projects in Japan and overseas, utilizing our comprehensive engineering skills in the following three strategic sector areas. Our mission is to actively promote DX and contribute to the realization of a carbon-neutral society and the creation of resilient, disaster-resistant communities through our business activities.

Environment and energy

We are contributing to the creation of a sustainable, circular economy through engineering, procurement and construction (EPC) as well as operation and maintenance (O&M) of environmental and energy-related facilities and plants.

FY2022 consolidated revenue ¥237.4bn

Jacket type foundation for Ishikari Bay offshore wind power plant
Steel structure engineering supporting carbon neutrality

Urban infrastructure

As a steel engineering company with a thorough knowledge of the material steel, we support the creation of resilient and disaster-resistant cities by making full use of "Steel × Ideas = Power."

FY2022 consolidated revenue ¥69.0bn

Environment-oriented Green Energy Logistics Center* "MFLP Ebina I"
Received the highest rank of "ZEB" certification, and Contributed to the industry-first net zero CO_2 emissions

* "Green Energy Logistics Center" is a registered trademark of Mitsui Fudosan Co., Ltd.

Steelmaking plants

We provide plants that realize the three ecos of the steel industry (Eco Process, Eco Products, and Eco Solutions) to customers in Japan and overseas.

FY2022 consolidated revenue ¥53.8bn

Coke dry quenching equipment (CDQ) recovers thermal energy from coke and contributes to reducing CO_2 emissions from steelworks

Note 1: Nippon Steel Corporation is planning to take over the steel making plant business of Nippon Steel Engineering Co., Ltd. (excluding coke dry quenching equipment business, etc.) on October 1, 2023 through a simple absorption-type split.
Note 2: Since the above consolidated revenue by sector is before adjustment of inter-sectoral transaction value, there is a difference of approximately ¥8 billion in total from the revenue of ¥352.2 billion of Nippon Steel Engineering Co., Ltd.

Major Group companies of Nippon Steel Engineering Co., Ltd.

Domestic subsidiaries	Nippon Steel Pipeline & Engineering Co., Ltd., Nippon Steel Environmental & Energy Solutions Corporation, Nippon Steel Steel Structure Co., Ltd.
Overseas subsidiaries	Nippon Steel Plant Engineering (Shanghai) Co., Ltd. (China), Beijing JC Energy & Environment Engineering Co., Ltd. (China), THAI NIPPON STEEL ENGINEERING & CONSTRUCTION CORPORATION, LTD. (Thailand), NS-OG ENERGY SOLUTIONS (THAILAND) LTD. (Thailand), NIPPON STEEL ENGINEERING INDIA PRIVATE LIMITED (India), PNS ADVANCED STEEL TECHNOLOGY, INC. (Philippines)

Synergies in the Nippon Steel Group

We will support Nippon Steel's various challenges to become the best steelmaker with world-leading capabilities through the construction of steelmaking facilities that will contribute to adding value to steel products and improving competitiveness, and through joint participation in the Nippon Steel Carbon Neutral Vision 2050.

We will propose solutions to the diverse needs of society and industry by utilizing the steel products, various other products and services of the Nippon Steel Group and our engineering capabilities, including design and construction methods.

Risks and opportunities, and business strategy

Risks

- Long-term contraction of domestic market
- Impact of Japan's declining labor population on supply chains (future concerns about stable procurement of goods/services, quality/delivery, etc.)

Opportunities

- Global acceleration of carbon neutral promotion in all kinds of industries
- Increasing needs for building resilient, disaster-resistant cities and maintaining and renewing aging social and industrial infrastructure
- Accelerated progress and social implementation of digital technology

Business strategy

- Efforts in growth areas toward carbon neutrality (CN)
  - Obtaining a solid market position in the CN-related business area
    Offshore wind-force (including O&M), CO_2 recovery (ESCAP™), storage and utilization, hydrogen and ammonia related facilities (pipelines, receiving, shipping, storage facilities, etc.), utilization of biomass, etc.
  - Development of renewable energy power supply business (expansion and sophistication of energy management system including storage battery technology, etc.)
  - Expansion of Zero Emission Building (ZEB), the highest rank contributing to CO_2 reduction in large-scale logistics facilities, etc.
- Initiatives for enhancing resilience and in the area of aging infrastructure
  - Expansion of material sales business for seismic isolation devices, system construction, etc.
  - Responding to needs for renewal, maintenance, and repair of aging infrastructure in the fields of bridge products, gas pipes, and water works
- Development of new service-type businesses for needs for manpower reduction and CO_2 emission reduction
  - Development of smart cleaning service (cleaning of plant equipment, piping, etc. using ultrasonic waves and prevention of adhesion of dirt)
  - Deployment of next-generation aquaculture production system
- Smarter engineering operations using digital technology to improve productivity.

Sustainability initiatives

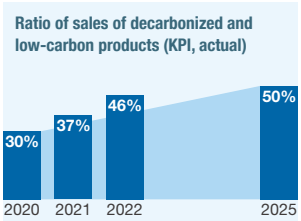
We hold meetings of the Sustainability Committee, chaired by the president, four times a year. Based on the Sustainability Policy (Health & Safety, Quality, Compliance, Environment, Procurement, Human Resources, and Social Contribution), we are also implementing the PDCA cycle of activities in cooperation with Group companies.

Our six priority SDGs

Among the 17 Sustainable Development Goals (SDGs), we have identified six priority goals that the Nippon Steel Engineering Group can make a significant contribution to through the execution of our business activities.

Contributing to CO_2 emissions reduction through decarbonization and low-carbon products

We have set a goal of achieving a sales composition ratio of more than 50% for decarbonized and low-carbon products by 2025 (its effect on CO_2 emissions reduction is equivalent to 32 million t-CO_2/year).



The value creation process

Inputs	Business model	Outputs	Outcomes
Human capital 1,648 people (non-consol.), 4,923 (consol.) (As of March 31, 2023)	**EPC** Engineering, procurement and construction of social and industrial infrastructure, supply of components	■ Waste power generation ■ Sewage sludge fueling ■ Renewable energy (offshore wind power, biomass, geothermal, etc.) ■ Hydrogen-related equipment ■ Pipelines ■ Logistics warehouses ■ System architecture ■ Seismic isolation devices ■ Soil remediation ■ Port development ■ Bridge products ■ Steelmaking plants	■ Creation of a sustainable circular economy • Realization of a carbon neutral society • Building of resilient, disaster-resistant cities ■ Contributing to resolution of social and customer issues ■ Growth of employees • Employees grow through various business activities and experiences
Technological capital Integrated engineering strength (Plant, steel structure, marine) Project management	+		
Social and relationship capital Safety, quality, environment Compliance Supply chains	**Provision of solutions** Operation and maintenance Various services		
DX (digital transformation)			

Chemicals and Materials Business　Nippon Steel Chemical & Material Co., Ltd.

Our Mission

To realize an affluent society and contribute to the global environment through advanced chemical and material technologies
To realize co-creation and co-prosperity with customers as well as the growth and happiness of employees

The Nippon Steel Chemical and Material Group, created through the business integration in October 2018, is developing its business activities with the basic philosophy of "Master Materials, Pioneer the Future," aiming to realize an affluent society through advanced chemical and material technologies, contribute to the global environment, and achieve co-creation and co-prosperity with customers and the growth and happiness of employees.

Nippon Steel Chemical & Material Group Mission

■ Basic Principles

We will contribute to the global environment by providing products and services that enrich people's lives through our own development and accumulation of advanced chemical and material technologies and through the sophisticated and diverse use of materials.

Master Materials, Pioneer the Future
For Your Dream & Happiness

■ Management Principles

We will develop corporate activities with emphasis on the following items, conduct fair and transparent management, and continue to grow as a company that is widely trusted by society.

- Contribution to the global environment
- Realization of a society that is healthy and rich in humanity
- Co-creation and co-prosperity with customers
- Realization of the growth and happiness of employees

■ Action guidelines

- Trust : We follow the laws and social rules, always consider things from the perspective of society and our customers, and aim to earn the trust of society and our customers.
- Challenge : We hope that both ourselves and the company will grow together, and we will continue striving for our targets, being fully aware of our roles and never forgetting our high aspirations.
- Contribution : We will respect the diversity and individuality of every employee, and by supporting and encouraging each other through friendly rivalry, we will produce the best results as an organization and team and contribute to society.

Our business and the value creation process

Coal chemicals

Pitch coke, pitch, naphthalene, phthalic anhydride, carbon black, industrial gases

FY2022 consolidated revenue ¥62bn

Needle coke for electric furnace electrodes

Major Group company

Nippon Steel Carbon Co., Ltd.

Chemical products

Aromatic chemicals, styrene monomer, bisphenol A, divinylbenzene, functional chemicals, lubricating materials

FY2022 consolidated revenue ¥125bn

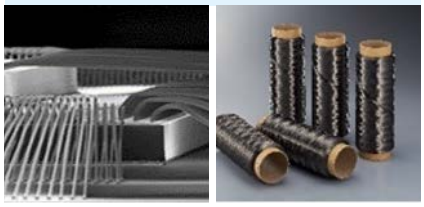
Various chemicals

NS Styrene Monomer Co., Ltd.

Functional materials/composite materials

Circuit board materials, epoxy resins, display materials, metal foils, metal carriers for exhaust gas purification, fillers for semiconductor encapsulants, bonding wire for semiconductors, carbon fiber composite materials, pitch-based carbon fibers, porous carbon materials

FY2022 consolidated revenue ¥88bn



Bonding wire for semiconductors, and pitch-based carbon fiber

Nippon Steel Functional Material Manufacturing Co., Ltd., Nippon Steel Epoxy Manufacturing Co., Ltd., Nippon Micrometal Corporation, Nippon Graphite Fiber Co., Ltd.

Synergies in the Nippon Steel Group

For more than 100 years, we have been working to increase added value through the effective use of steel by-products, and our accumulated technologies for utilizing the various active ingredients contained in coal tar are now also used in the technologies of our functional materials and carbon fiber composite materials businesses, which have grown to become our core businesses.

In addition, based on the inorganic high-performance materials owned by our group, we are developing various application products, and we are also producing great results from research and development collaboration utilizing the advanced technology of Nippon Steel R&D Laboratories (RE).

Increase in added value through effective use of steel by-products

Using steel by-products such as coal tar and coke-oven gas as raw materials, we produce needle coke for electric furnace electrodes, carbon black for automobile tires, and various chemicals.

Picture: Needle coke, carbon black, etc.

Expansion from Group materials to application products

We supply high-performance metal foil based on unique stainless steel materials supplied by the Nippon Steel Group, as well as applied products such as hard disk drive (HDD) suspension materials and metal carriers for exhaust gas purification.

Picture: High-performance metal foil, HDD suspension, metal substrates

Future risks and opportunities, and business strategy

Risks

- Climate change such as global warming and deterioration of the global environment
- Soaring raw material and fuel prices and supply instability
- Intensifying development competition and obsolescence of existing products

Opportunities

- Realization of carbon neutrality, and development of materials and technologies contributing to global environmental protection
- Development of distinctive and differentiated technologies and products
- Efforts to improve productivity and diversify raw material and fuel sources

Business strategy

- Through stable production and quality improvement of “needle coke” used in steelmaking electric furnaces, we will contribute to the realization of carbon neutrality by producing high-grade steel in large electric furnaces.
- We will continue to develop differentiated products that make full use of our unique advanced chemical and material technologies. Semiconductor peripheral materials such as bonding wires, ceramic particles, circuit boards, functional resins, and high-performance metal foils are indispensable for the refinement and sophistication of various electronic devices, the progress of CASE, and the spread of 5G/6G communications. We will develop these various materials and members and provide them to society.
- By improving the production process and building an optimal business portfolio, we will establish a system that can flexibly respond to changes in the business environment.

Sustainability initiatives

Earning the trust of stakeholders
Ensuring compliance and strengthening product safety

Manufacturing that prioritizes safety, the environment, disaster prevention, and quality

As manufacturing companies, the Nippon Steel Chemical & Material Group has clearly established the guiding principle that “safety, environment, disaster prevention, and quality take priority over production, shipments, and cost” and is working to earn the continued trust of all stakeholders, including customers, suppliers, local communities, society, and employees and their families.

Each and every employee of the Group is committed to thorough compliance with laws, social rules, and internal standards, as well as to fulfilling our social responsibility as manufacturing companies by strengthening our product safety initiatives.

Promoting responsible care activities

Responsible Care (RC) activities are activities in which manufacturing companies voluntarily ensure that the environment, safety, and human health are not harmed from product development through manufacturing, distribution, use, and final consumption to disposal, while disclosing the results of their activities and communicating with society. The Nippon Steel Chemical & Material Group has established the Responsible Care Committee, which deliberates and decides on important matters related to RC activities, including the Environmental Management Policy, RC Activity Policy, and the company-wide RC Activity Promotion Plan, and implements company-wide cross-sectional activities.

- RC activity promotion items
  Occupational safety and health, environmental preservation, security and disaster prevention, and product safety

The value creation process

Inputs

Human capital
Number of employees 3,414 (consolidated)
(As of March 31, 2023)

Intellectual capital
R&D expenses ¥4.4bn/yr
Patents Domestic: 1,000 approx. Overseas: 1,400 approx.
(As of March 31, 2023)

Manufacturing capital
Manufacturing bases Domestic: 17, Overseas: 7

Natural capital
Energy usage: 100 thousand KL/year (crude oil equivalent)
Industrial water: 23mn m^3
(FY2022 results)

Consolidated financial capital
Interest-bearing debt ¥5.1bn
D/E ratio 0.03
(As of March 31, 2023)

Social and other related capital
Coexistence with local communities, Co-creation and co-prosperity with customers

Business activities

Developing our unique chemical and material business

As companies that handle various materials other than steel within the Nippon Steel Group, we are engaged in a wide variety of chemical and materials businesses. Utilizing our unique technology, in which organic and inorganic materials are combined, we supply useful products to society in a wide range of business areas, including coal chemicals/chemical products and various functional materials.
We are promoting business activities with the aim of “realizing an affluent society” and “contributing to global environment” as set forth in our corporate philosophy.

Outputs and outcomes

Diverse product lines/creation of social value

Effective use of steel by-products
- Production of needle coke for graphite electrodes for electric arc furnaces used in the recycling of steel scrap
- Production of aromatic chemicals used as raw materials for commodity plastics, Recycling of plastic waste

Provision of high-performance products
- Providing various materials indispensable for high-performance electronic devices (circuit boards, functional resins, metal foils, display/semiconductor peripheral materials, battery materials, etc.)

Reduction of environmental impact
- Production of metal carriers for exhaust gas purification

Development of social infrastructure
- Repair and reinforcement of social infrastructure such as highways, steel bridges, tunnels, using carbon fiber composite materials

System Solutions Business　NS Solutions Corporation

Purpose/Vision/Values

Purpose Value of social existence	Thinking about the future together Opening up new possibilities for society with technology and passion
Vision Medium-term corporate vision	First DX partner
Values Value to cherish	Move! to Change (Challenge)　Move! toward Future (Future) Move! with Everyone (Together)　Move! as Professional (Professional)
Corporate philosophy Ideal image as a company that supports the values	Creation/Trust/Growth

Our Business

Operational solutions business

We provide total solutions in the system life cycle that meet customer needs based on our wealth of knowledge and experience in industries and operations for various fields such as manufacturing, distribution/services, financial institutions, and public utilities.

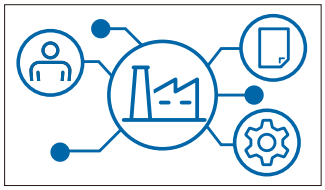
FY2022 consolidated revenue ¥189.8bn

Service solutions business

We provide full outsourcing services (for Nippon Steel) related to IT infrastructure solutions and information systems that combine platform construction technology and advanced operational know-how to meet mission-critical requirements.

FY2022 consolidated revenue ¥101.9bn
(including ¥57.9bn for Nippon Steel)

Four key areas of focus

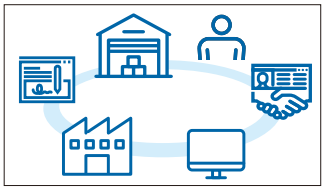


Digital manufacturing

Supporting the promotion of digital transformation of Nippon Steel and the manufacturing industry by utilizing the strength of having a field of Nippon Steel

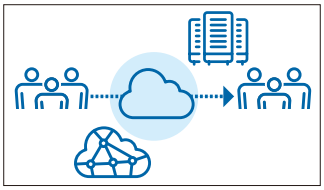
Platformer support

Providing professional services for platformers such as Internet service and electronic commerce (EC) operators



Digital workplace solutions

Consistently providing services/products from consulting to the introduction of IT tools such as secure telework environments and electronic contract systems for realization of new ways of working



IT outsourcing

Providing integrated operations from IT infrastructure including data centers, and responding to new needs such as multi-cloud and zero trust

Major Group companies of NS Solutions Corporation

Domestic subsidiaries	Hokkaido NS Solutions Corporation, East Japan NS Solutions Corporation, NS Solutions Chubu Corporation, NS Solutions Kansai Corporation, Kyushu NS Solutions Corporation, NSSLC Service Corporation, Network Value Components Ltd., NS Financial Management Consulting, Inc., Financial Engineering Group, Inc., Act., NCI Systems Integration, Inc., NIPPON STEEL Hitachi Systems Solutions, Inc.
Overseas subsidiaries	NS Solutions (Shanghai) Co., Ltd., NS Solutions Asia Pacific Pte. Ltd., Thai NS Solutions Co., Ltd., PT. NSSOL SYSTEMS INDONESIA, PT. SAKURA SYSTEM SOLUTIONS, NS Solutions USA Corporation, NS Solutions IT Consulting Europe Ltd.

Synergies in the Nippon Steel Group

For the steelmaking industry, computer systems are an important foundation for supporting all business activities, such as receiving orders, production, shipping, and quality control, and for utilizing various data. Accumulation of know-how and ensuring the continuity of human resource supply by NS Solutions Corporation is essential for Nippon Steel to differentiate itself in the steel industry and maintain its competitiveness.

Nippon Steel Corporation accounts for approximately 20% of NS Solutions' consolidated sales, making it the company's largest customer. While NS Solutions is contributing to Nippon Steel' DX by the power of advanced and cutting-edge installment, the company is continuing to enhance its corporate value by acquiring clients including Japan's leading global manufacturers, Internet service platform providers, major financial institutions, and government agencies through synergies such as customer trust and stable human resource recruitment capabilities in the Nippon Steel brand.

Future risks and opportunities, and business strategy

Risks

- Major changes in customer behavior due to sudden changes in global economic situations
- Risk of IT technology progressing faster than our technological capabilities
- Risk of a decline in the working population, which cannot be followed by the enhancement of our workforce and resources

Opportunities

- Medium- to long-term acceleration of digitalization that responds to paradigm shifts in business and changes in social behavior
- Acquisition of cutting-edge IT technologies such as AI and data science, which are our specialties
- Expansion of businesses that utilize IT technology as working population declines

Business strategy

- Steadily taking in evolving needs
  We will refine the value we provide to our customers, steadily grasp the accelerating DX needs, and work to expand our business.
  (Intensive training of DX human resources, and development of new solutions)
- Business with high added value and continuous improvement of overall corporate value
  We will anticipate changes in customer needs due to DX, create high added value, and continuously improve overall corporate value
  (Promoting DX, accelerating growth in areas of focus, and strengthening production structure)
- Further strengthening of acquisition and training of excellent human resources
  At our company, where human resources are the most important capital and source of growth, we will continue to acquire and train excellent IT human resources by steadily investing in it and promoting the creation of a company that is worth working for.
  (Introduction of a role-based pay for key positions, retirement age of 65, and side jobs and second business, and expansion of remote work that enables telecommuting in remote locations)
- Continuing thorough internal control and risk management
  In order to be a company that is trusted and needed by society, we will work to create true value together with our customers in a fair and highly ethical manner.
  (Enforce the NSSOL Group Code of Conduct "Global Business Conduct.")

Corporate Vision

First DX partner

Growth target

CAGR target	5% ~ 6%
CAGR in focus area	10% or more

Investments for growth

(1) Investments to strengthen business foundation: ¥50 to 75bn
(2) DX acceleration investments: ¥10 to 15bn
(3) Investments and loans such as M&A

Sustainability initiatives

Materiality	Main initiatives	Main SDGs
Resolution of social issues through IT	• Build an integrated data utilization base that utilizes AI and data science that contribute to speeding up new drug development. • Use IoT devices to help manage work safety • Provide virtual desktop environment "M3DaaS" with the No. 1 market share for 10 consecutive years to make remote work highly secure and comfortable. • Contribute to a paperless environment through the electronic contract service CONTRACTHUB.	
Steady provision of IT services as social infrastructure	• Provide robust and efficient IT services that apply advanced technologies such as cloud native.	
Creation of opportunities for diverse human resources to play active roles	• Introduce of a role-based pay for key positions, retirement age of 65, and side jobs and second business, and expand remote work that enables telecommuting in remote locations. • Make PDCA cycle for engagement surveys and workplace dialogue. • Women empowerment (Platinum Kurumin), LGBTQ+ (PRIDE Gold). • Formulate human rights policy and multi-stakeholder policy. • Provide NSSOL academy as a place for autonomous learning and development of core human resources.	
Reduction of environmental impact*	• Provide cloud services through highly energy-efficient data centers. • Expand environmental management system range, introduce green electricity, and calculate of Scope 3 greenhouse gas.	
Pursuit of governance/ compliance as a trusted member of society	• Enforce the NSSOL Group Code of Conduct "Global Business Conduct." • Strengthen the risk management system.	

* In April 2022, we expressed support for recommendations of TCFD. Compared with 2018, we are aiming to reduce Scope 1 and 2 GHG emissions to one-half in FY2030, and realize carbon neutrality in FY2050.

The value creation process

Our Purpose Thinking about the future together Opening up new possibilities for society with technology and passion

Materiality (Key issues for sustainability)

- Resolution of social issues through IT
- Steady provision of IT services as social infrastructure
- Creation of opportunities for diverse human resources to play active roles
- Reduction of environmental impact
- Pursuit of governance/ compliance as a trusted member of society

(Management capital) Inputs

Number of employees 7,458 (consolidated)
(March 31, 2023)
R&D expenses ¥2.32bn
(FY2022)
Number of business locations
Domestic: 10, Overseas: 6
Highly efficient data centers
Sound financial base

Business model

NS Solutions provides consulting services related to customers' information systems from management and information technology perspectives to help customers solve business problems and create new business models, and offers comprehensive system planning, proposal, design, construction, operation, and services.

Management base that supports continuous growth

Outcomes

External
Creation of social value

Internal
Upgrading of management capital

R&D Activities – Sources of value creation and competitiveness

Nippon Steel is engaged in advancing strategic R&D, aimed at sustainable growth of Nippon Steel Group

One of the world's leading research resources

Our R&D resources are among the largest in the world in the steel industry, and we will contribute to the development of society through the R&D aimed at realizing our management plan. Specifically, we will (1) strengthen the development of products with high added value and products that realize carbon neutrality (CN), and (2) acquire a competitive advantage by deploying products and the development technology cultivated in domestic mother mills in the actual site business, and contribute to business expansion for the global system of 100 million tons of crude steel, and (3) work to develop breakthrough steelmaking process to contribute to the realization of CN society. We will also (4) use the vast amount of technical data that we have accumulated over many years and the latest digital technology to optimize production plans, sophisticate operations utilizing data and AI, and digitally transform business operations through autonomous operation of production facilities (DX) (see pages 37-42).

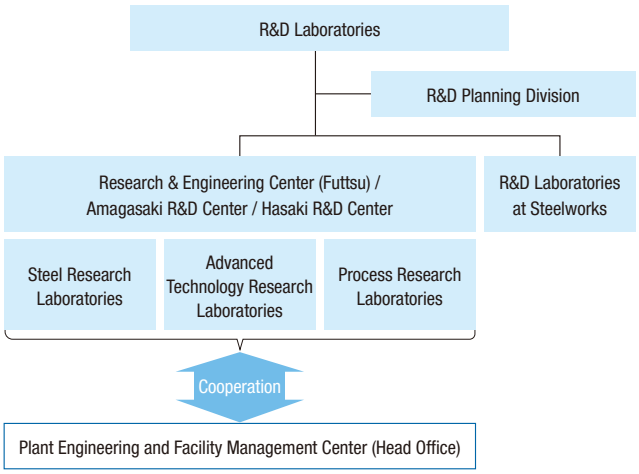
Pillars and contents of medium- to long-term management plan	Representative R&D
Rebuilding of domestic steel business • Shift to a more sophisticated order mix, renewal and improvement of facilities, and concentrated production	• Research on high-performance strategic products that contribute to society (high-tensile steel sheets, electrical steel sheets, etc.) • Research on optimal processes and operation technologies to achieve production stability and efficiency
Promoting a global strategy to deepen and expand overseas business • Building an integrated production framework in markets and sectors that are consistent with our strategy	• Stable production of steel products by suppressing the impact of differences in location and factory facilities • Accumulation of cutting-edge research results in a form that can be used globally
Challenge of carbon neutrality • Hydrogen injection into blast furnaces, Hydrogen direct reduction of iron, High-grade steel production in large size EAF, and CCUS (cooperation with outside)	• Research on new steelmaking processes and new products for a carbon-neutral society • Base research through industry-academia-government collaboration that contributes to the creation of a new society
Promoting digital transformation strategies • Innovation of business operations and production processes using digital technology	• Research on digitization technology that drives remote operation, automation, AI, etc. • Practical application research on advanced algorithms

Modern steelmaking in Japan began with iron ore as the raw material at the end of the Edo period, and continues to progress today. In recent years, in order to develop products that utilize atomic-level observation technology and advanced calculation science and technology, and to develop manufacturing processes for stably mass-producing them at low cost, various researchers with expertise in materials, physics, chemistry, mathematics, machinery, electricity, information, civil engineering and building construction are active, and are participating in a wide range of academic societies both in Japan and overseas. In the middle of the big game change in the decarbonization of society, steel is required to transform from the blast furnace method, which has extremely high production and energy efficiency. On the other hand, there is also a demand for developing products that contribute to the reduction of CO_2 in society as inexpensive structural materials. We will use our wide range of specialized technical capabilities and large-scale steel research resources fully for the R&D issues that are required in this era, and we will lead Japanese industry toward the realization of a carbon-neutral society.

R&D organization

R&D is carried out with the R&D Laboratories as a core. The Steel Research Laboratories mainly perform product development, the Advanced Technology Research Laboratories discover new technology seeds from basic R&D related to segment companies, the Process Research Laboratories process development, and the R&D Lab. conducts practical application research. Thus, we are dividing our organization to be in charge of R&D management that contributes to our global management. In addition, we have contributed to the early practical application of developed products and processes in cooperation with Plant Engineering and Facility Management Center, which oversees equipment engineering. We will promote the development of products and processes for the CN society by utilizing the existing framework of the three laboratories. Furthermore, we will strengthen cooperation with universities and research institutes in the fields that require basic examination, including elemental technologies that our group does not possess, such as hydrogen production technology, which is necessary for innovation in steel processes.

R&D organization



Strengthening products with high added value and process development

We will continue to work on maximizing the potential of steel as a material, that is, achieving our goal of “mastering steel.” Examples of the development of products with high added value include highly corrosion-resistant plated steel sheets (ZEXEED™, etc.), alloyed galvanized sheets (GA), hot-dip aluminum-plated steel sheets (ALSHEET™), nickel-plated steel sheets (SUPERNICKEL™), and grain-oriented electrical steel sheets (GO), non-oriented electrical steel sheets (NO), laminated steel sheets, H-beams with constant external dimensions (HYPER BEAM™), high-alloy seamless steel pipes. We are promoting this R&D to shift to a more sophisticated order mix.

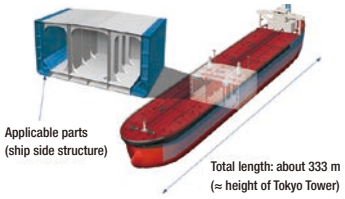
In process development, we utilize various kinds of large-scale laboratory equipment that can accurately simulate the operation of actual production facilities for each process of ironmaking, steelmaking, and rolling, as well as simulation calculation technology. Thus, we are promoting R&D to create highly functional products using a highly efficient steel manufacturing process that considers resources and the global environment.

Next-generation automobiles

We are contributing to reduction of environmental impacts by developing and expanding application of high-tensile steel sheets to achieve both weight reduction and collision safety of automobiles, developing high-efficiency electrical steel sheets for hybrid and electric vehicles, and improving fuel efficiency through the development of underbody products. By adding solution technology to these high-performance materials, we proposed “NSafe™-AutoConcept xEV” as a steel solution concept for electric vehicles that pursues “safety, high performance, and economic efficiency” exceeding the conventional limits. We will continue to contribute to the evolution of automobiles through R&D.

Energy and resources/Shipbuilding

Steel materials for energy and shipbuilding require quality that ensures long-term safety under various service conditions. We are contributing to improving the safety of final products and enhancing the productivity and competitiveness of customers by supplying high-performance products that utilizes advanced technology.

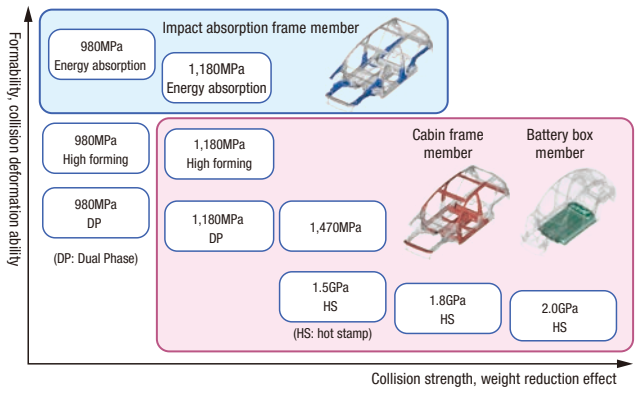


Highly ductile thick steel plate for hull structure superior in collision safety (Nsafe™-Hull)

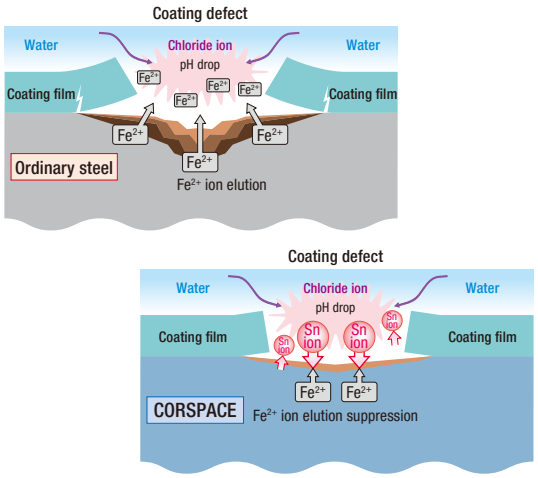
Civil engineering/infrastructure (national resilience)

We accurately grasp market needs and continuously develop and supply building materials that exhibit our originality. We support social infrastructure such as construction (building pillars and beams) and civil engineering (roads/railways, rivers/harbor, building foundations). As an example of recent years, we have worked on basic research to explain the corrosion mechanism of coating defects in conventional steel materials, and found that the addition of a small amount of element (Sn) to steel materials can suppress the elution of iron in a low-pH environment. We developed CORSPACE™, an extended coating cycle steel with excellent LCC, which can reduce the amount of steel corrosion and coating stripped surface in coating defects to about half that of conventional products. Thus, we have received the Excellence Award of the 9th “The Japan Monozukuri Awards” (2023) and the Contribution Award of the 55th “The Ichimura Prize in Industry” (2023). The steel materials and their elemental technologies are protected by a total of 78 comprehensively acquired patents.

Deepening of high-tensile steel sheets for vehicle body frames



Corrosion mechanism of coating defects



Challenge of carbon neutrality

We aim to achieve carbon neutrality using three breakthrough technologies. “Hydrogen injection into blast furnaces” is an effort to replace the reduction of iron oxide using carbon with hydrogen reduction, and the handling of hydrogen and the decrease in furnace temperature due to hydrogen reduction are issues. “High-grade steel production in large size EAF” is based on the existing technology of the electric furnace, but there are issues in reducing impurities and increasing the size of the equipment. “Hydrogen direct reduction of iron” is a process producing reduced iron from iron ore using a shaft furnace, etc., without using a blast furnace, and there are still issues with mass production and stabilization.

Through the Green Innovation (GI) Fund Project of the New Energy and Industrial Technology Development Organization (NEDO), we will propose the future steelmaking processes by solving the above issues through demonstration tests using a test blast furnace in East Nippon Works Kimitsu area and a new test electric furnace and a test shaft furnace at the Hasaki R&D Center (Kamisu City, Ibaraki Prefecture). In addition, we will conduct R&D of carbon offset measures such as “NSCarbolex Solution” that utilizes steel products that can reduce CO_2 during processing and use, and CCUS, etc. We aim for CN with a multi-aspect approach.

Intellectual Property Activities that link R&D results to stronger management strategies

The Nippon Steel Group respects intellectual property rights, regardless of whether they belong to us or others. We will make the most of the intellectual property rights in our business activities, and position them as one of the important factors for obtaining business revenue now and in the future.

Examples of intellectual property utilization for medium- to long-term management plan

Management strategy and R&D strategy based on the medium- to long-term management plan, intellectual property strategy for utilizing the accumulation and utilization of intellectual property in diverse ways in business are integrated as a trinity, and decisions are made through company-wide meetings including top management. In addition, the accumulated intellectual property is not only applied to the business of our group, but also actively utilized for the formation of new market rules by licensing outside the company, promoting cooperation with external organizations, and standardization. Thus, we contribute to the realization of a sustainable society.

Examples of intellectual property utilization for contribution to business to accomplish medium- to long-term management plan

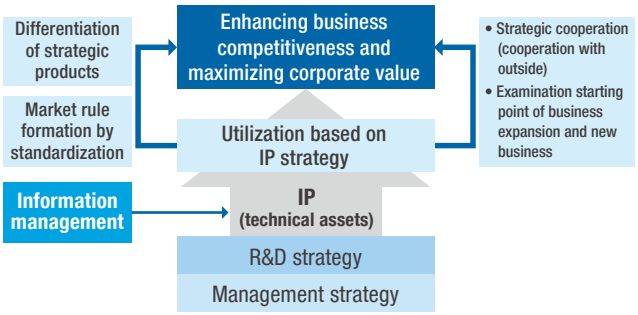
Pillars and contents of medium- to long-term management plan	Examples of representative intellectual property utilization
Rebuilding of domestic steel business • Shift to a more sophisticated order mix, renewal and improvement of facilities, and concentrated production	• Protecting strategic products (high-tensile steel sheets, electrical steel sheets, etc.) with patents for differentiation • Stable and efficient production based on accumulated and expanded technical know-how
Promote a global strategy to deepen and expand overseas business • Building an integrated production framework in markets and sectors that are consistent with our strategy	• Strengthening the competitiveness of overseas Group companies by utilizing our patents and technology know-how • Promotion of strategic globalization considering the value of intellectual property
Challenge of carbon neutrality • Hydrogen injection into blast furnaces, Hydrogen direct reduction of iron, High-grade steel production in large size EAF, and CCUS (cooperation with outside)	• Promotion of development and implementation by combining patents and technological know-how of our company and third parties • Utilization of intellectual property in creating new social rules (standardization of standards)
Promoting digital transformation strategies • Innovation of business operations and production processes using digital technology	• Protection of business and production process reforms by expanding patents • Contribution to digital society by patents and technological know-how related to DX elemental technologies

Policy and system of intellectual property activities

Policy of intellectual property activities

We perform intellectual property activities under the company-wide slogan, “Intellectual property is the source of our corporate activities. Maximize corporate value through enhanced protection management and active utilization.” We are strengthening our awareness of directly linking intellectual property created from short-term, medium- to long-term R&D implemented based on management strategies to maximizing business earnings and corporate value. Based on a specific management strategy and this slogan, we will formulate and act on a flexible and effective intellectual property strategy that responds to all aspects (offense and defense) of individual products and technologies, and share the results throughout the company to continuously strengthen the strategy.

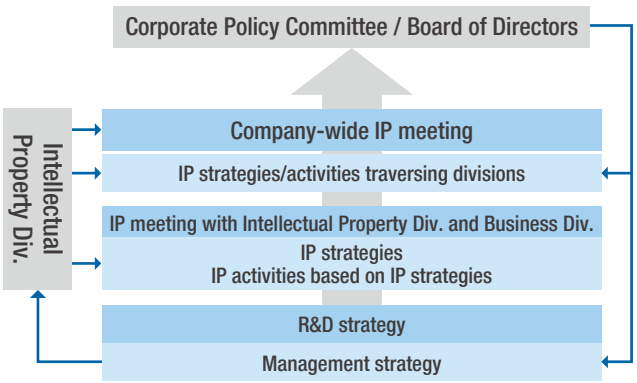
Schematic diagram of our intellectual property



Promotion system of IP activities

Business divisions take the lead in making a trinity of management strategy, R&D strategy, and intellectual property strategy, and then carry out specific intellectual property activities. These activities are supported by the Intellectual Property Division. However, the Intellectual Property Division is actively involved in management from a traversing perspective regarding intellectual property activities that span business divisions. After discussing the progress of these activities at the company-wide meeting and determining the direction of how to proceed with intellectual property activities, the final decision is made by the Corporate Policy Committee and the Board of Directors. In addition, the results of discussion in the Corporate Policy Committee and the Board of Directors are fed back to the business divisions and people involved in the inventions to strengthen the daily intellectual property activity. Further, through continuous information management and intellectual property training, we are improving the awareness and skills of all the employees related to intellectual property.

Schematic diagram of our intellectual property activity promotion system



Securing creation and enhancing protection and utilization of IP

We have been focusing on enriching and accumulating our IP in terms of both quality and quantity to enhance their strategic utilization in all aspect of our business. Specifically, we thoroughly manage technical information related to technical results obtained through our independent research and collaboration with universities and external research institutes, and secure and accumulate intellectual property that can be used in our business activities.

Nippon Steel secures the most advanced newly created technologies and other proprietary technologies such as carbon neutral steel technologies, as intellectual property (IP) through the patent acquisition and tacit knowledge of know-how we have accumulated. We utilize them in the course of our business practices and contribution to society in line with our medium- to long-term IP strategy.

Specific initiatives in intellectual property activities

[Our patents in 2022] Japan approx. 14,000 /Overseas approx. 16,000 (non-consol.)	
1. Support the creation of new IP	• Plan IP strategy that contributes to the business strategy • Build and evaluate the IP portfolio • Enrich the function of establishing rights for inventions, discoveries, and IP
2. Enhance the protection and utilization of IP	• Globally protect and actively use IP as a means to differentiate strategic products • Actively use IP in strategic alliance with collaborating partners • Thoroughly control technical information including business secrets • Establish brand strategies with the aim of enhancing corporate value and product value • Strictly deal with counterfeit products as well as any violation and illegal use of our IP

Value of our patents

LexisNexis “PatentSight™” provides a patent value index PAI (Patent Asset Index™) based on the technical value and market value of patents. According to this PAI, the value of patents of Nippon Steel Group are increasing as shown in Figure 1. In addition, in Figure 2, the evaluation in 2022 shows relatively high value compared with domestic and overseas competitors. We also carefully evaluate domestic and international patent applications in line with our management strategy. At the same time, we continue to improve and accumulate important patents, thereby increasing our valuable patent portfolio, which not only supports our business revenues but also benefits society as a whole.

Figure 1. Changes in patent value (compared to 2022)

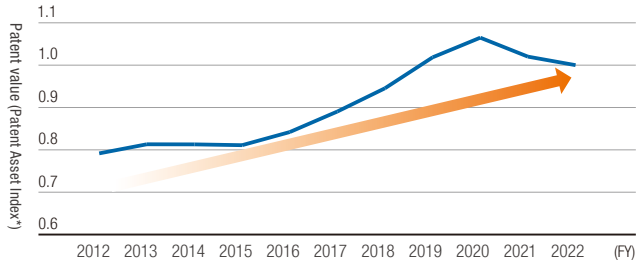
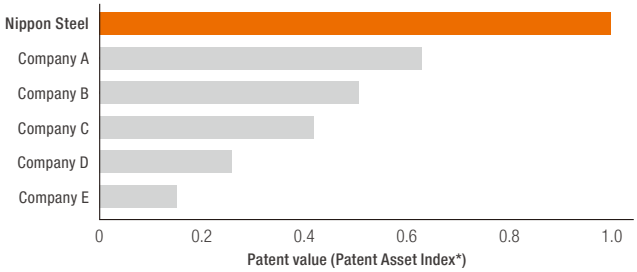


Figure 2. Relative comparison of patent value with domestic and overseas competitors (2022)

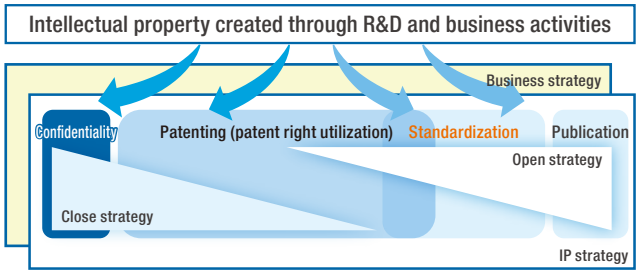


* Calculated using PatentSight™, a patent analysis tool of LexisNexis.
Comprehensive evaluation index of patent calculated by multiplying “technical value” calculated based on the number of citations of patents and “market value” calculated based on the country of application for patents with valid legal status (patents pending and granted).

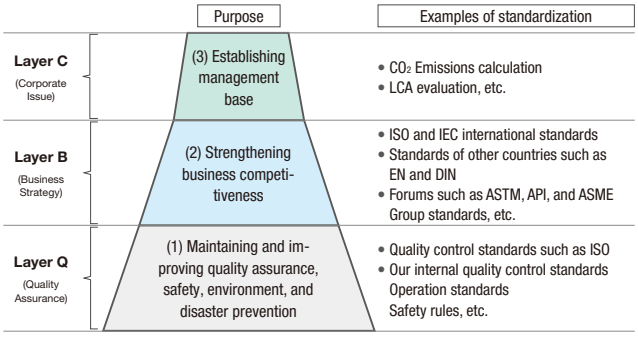
Initiatives for standardization

Based on our intellectual property strategy, we utilize intellectual property created through R&D and business activities by combining confidentiality, patenting, standardization, and publication. Regarding the standardization, we participate in internal activities related to quality assurance, safety, environment, and disaster prevention, as well as external activities related to JIS, ISO, API, etc., and actively standardize steel materials and material testing methods. As an example of standardization activities, our employees were recognized for their contributions to the creation of international standards for magnetic materials and their measurement methods, and received the 2022 International Electrotechnical Commission “IEC1906 Award.”

Intellectual property created through R&D and business activities



Our activities related to standardization



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

Process to identify materiality

Consider requests from stakeholders on environmental, social issues and listing candidate issues

→ Generalize the issues in due consideration of the company's corporate philosophy and values

→ Verify the issues from the viewpoint of the company's value creation process and strategy

→ Discuss and approve issues in the Board of Directors meeting

- Evaluate importance based on evaluations and comments from investors, NGOs, and ESG rating agencies
- Evaluation through dialogue with investors, NGOs, and sustainability experts

Identified materiality (priority issues)

1. Safety, environment, and disaster prevention
2. Quality
3. Production
4. Human resources, and diversity & inclusion
5. Together with local communities
6. Corporate value enhancement and return profits to stakeholders

Thorough implementation of compliance

Nippon Steel's Materiality

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).

1 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 world-leading 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 respect for human rights and diversity & inclusion, as well as human resources development 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.

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

Basic to our value creation process is use of a diverse range of financial/non-financial assets and competitive advantages, and provision of 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 CO_2 emissions by the three "Eco" initiatives and innovative technology development, and recycling of industrial waste (such as plastics).

Concerning climate issues which threaten the future of humankind, we are advancing initiatives on two fronts: provision of high-performance steel products and solutions for contributing to CO_2 emission reductions of the society; and breakthrough technology development for decarbonizing the steelmaking process. These initiatives are aimed at achieving carbon neutral by 2050.

3 Corporate value enhancement and return profits to stakeholders

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.

4 Thorough compliance

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

Materiality, KPIs and major initiatives in FY2022 (including some initiative implemented in FY2021)

1 Safety, environment, and disaster prevention

1 Safety and health

Target and KPI	Main Initiatives and Achievements in 2022	
• Accident frequency rate **0.10** or less • **Zero** fatal accident	• Adherence to the six company-wide compliance requirements and promotion of greater machine safety aimed at prevention of serious and repeated disasters • Prevention and risk reduction of accidents, based on safety risk evaluation • Acquisition of ISO45001 for management systems of occupational health and safety (OH&S) and establishment of internal audit system to secure safety management	• Accident frequency rate: **0.11** • Number of fatal accidents: **1**

2 Environment

(1) Climate change measures

Target and KPI	Main Initiatives and Achievements in FY2022	
[Promotion of the Carbon Neutral Vision 2050] • Target in 2030 **30**% reduction of total CO_2 emission vs.2013 • Vision for 2050 **Carbon neutral**	• Launch of "NSCarbolex™," a brand to collectively refer to our "products and solution technologies that contribute to reducing CO_2 emissions across society" • [Hydrogen injection into in blast furnaces] Decision to introduce demonstration equipment for gas containing hydrogen injection technology to the No. 2 blast furnace in the Kimitsu area of East Nippon Works for the start of demonstration tests from January 2026 • [High-grade steel production in large-size EAFs] Start of commercial operation of a new electric furnace in the Setouchi Works Hirohata Area • Start of a full-scale examination of conversion from the BF steelmaking process to the EAF steelmaking process, with the Kyushu Works Yawata Area and the Setouchi Works Hirohata Area as candidate sites • [CCUS] Participation in three advanced CCS projects of Japan Organization for Metals and Energy Security (JOGMEC).	
[Implementation of "Eco Process"] • Maintaining high-level effective use of energy	• Effective use of byproduct gas (coke oven gas, blast furnace gas etc.) and waste heat	• Use of byproduct gas: **100**% • Use of waste heat in steam generation: **76**% • In-house generated energy use in in-house power generation: **72**%
• Promotion of adopting advanced energy-saving technology	• Adoption of high-efficiency power generation equipment and oxygen plant; conversion to regenerative burners in the reheating furnaces	• Investment cost for energy-saving: ¥**37.4**bn
[Enhancement of "Eco Products"] • Supply of high-performance steel products to help customers reduce CO_2 emissions through use of their end products	• Decision to make an additional investment (¥90bn, total of ¥213bn) for high-grade non-oriented electrical steel sheets at Setouchi Works Hanshin Area (Sakai) and Kyushu Works Yawata Area • Expansion of products that acquire EcoLeaf environmental labels (12 cases added from last year: total 47 cases)	
[Contribute with "Eco Solutions"] • Transfer and dissemination of the world-leading energy-saving technology to help CO_2 emission reduction globally	• Growing cumulative CDQ delivery record by Nippon Steel Engineering in the group	• Total of **137** units (contributing to **28.73**mn tons-CO_2 reduction, FY2021)

(2) Contribution to creation of a circular economy

Target and KPI	Main Initiatives and Achievements in FY2022	
[Realization of zero emissions within the company] • Reduction in final disposal amount: **263,000** tons or less (FY2025 target)	• Promotion of recycling of byproducts (slag, dust, sludge, etc.) in and out of the company	• Final waste disposal: **271,000** tons
[Acceleration of recycling of waste generated in society] • 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: **200,000** tons (equivalent to 30% of Japan's total plastic waste)

(3) Conservation of biodiversity and nature positive

Target and KPI	Main Initiatives and Achievements in FY2022	
[Contribution to the conservation of biodiversity and nature positive] • Promotion of activities aimed at achieving the 30by30 biodiversity target	• Participation in the 30by30 Alliance for Biodiversity • Promotion of the Creation of Hometown Forests at steelworks • Promotion of the Creation of Sea Forests	• Participated in March 2023 • Greenery space: **850** ha • Creation of sea forests at **44** locations in total (+ 6 areas from the previous year)

(4) Promotion of environmental risk management

Target and KPI	Main Initiatives and Achievements in FY2022	
[Air environment preservation] • Maintaining low-level emissions of SOx and NOx	• Installment of equipment that reduces SOx and NOx emissions; shifting to low-sulfur fuel; adoption of low NOx regenerating burners	• SOx: **13**mn Nm^3 • NOx: **23**mn Nm^3
• Maintaining of lower discharge levels than voluntary targets in chemical substances • VOC (volatile organic compounds) emissions: **1,106** tons/year (down 30% vs. FY2000) • Benzene emissions: **172** tons/year (voluntary target, along with the government target)	• Continual efforts based on the voluntary reduction plan	• VOC: **396** t/year • Benzene: **80** t/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

Target and KPI	Main Initiatives and Achievements in 2022	
[Elimination of disaster risks and group-wide sharing of effective measures] • **Zero** serious disaster-related accident	• Promotion of recurrence prevention and measures against disaster-related accidents based on risk assessment • Promotion of initial response training aimed at minimizing damage when a risk occurs • Implementation of various types of 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: **0**

2 Quality

1 Quality control and guarantee

Target and KPI	Main Initiatives and Achievements in FY2022
• Systemization and automation aimed at more credibility in testing and inspection	• Promoting a shift from manual data input to automatic data input as a measure to prevent input errors and falsification of pre-shipment judgment data

2 R&D and intellectual property investment/utilization

Target and KPI	Main Initiatives and Achievements in FY2022	
• Promotion of strategic research and development aimed at sustainable business growth • Respect for intellectual property and enhancement of its strategic protection and utilization	• Active promotion of research and development related to priority issues such as product sophistication, process efficiency, and the development of carbon-neutral-oriented innovative processes • Promotion of utilizing intellectual property aimed at strengthening patent applications related to priority issues, response to infringement of patent rights, technical tie-ups	• R&D expenses: ¥**70.5**bn (consolidated) • The number of patents held: app. **30,000** (14,000 in Japan and 16,000 overseas)

3 Solutions that result in customer satisfaction

Target and KPI	Main Initiatives and Achievements in FY2022	
• Number of awards from customers, government, and institutions	• Awards received include the 69th Okochi Prize, the 55th "Ichimura Prize in Industry for Distinguished Achievement," the 2023 MEXT Minister's Award, and the 9th Monodzukuri Nippon Grand Award	• Number of awards from customers, government, and institutions: **10**

3 Production

1 Stable production and supply

Target and KPI	Main Initiatives and Achievements in FY2022
• Initiatives for more stable production and supply (hardware and software)	• Relining of Nagoya Works No. 3 blast furnace, and reform of Setouchi Works Hirohata Area steel scrap and pig iron melting process (electric furnace commercial operation start) • Standardization of veterans' operational skills and extended use of experts • Use of IoT and AI for operational support, efficiency improvement of facility inspection and operation monitoring, and reinforcement of predictive monitoring

4 Human resources, and diversity & inclusion

1 Respect for human rights

Target and KPI	Main Initiatives and Achievements in FY2022
	• Respect for human rights

2 Diversity & Inclusion

Target and KPI	Main Initiatives and Achievements in FY2022	
• 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	• Diversity & Inclusion	• Number of women in managerial positions: **65** (as of April 2023) • The ratio of paid holidays taken: **82.9**% (FY2022)

3 Human resources development

Target and KPI	Main Initiatives and Achievements in FY2022	
• Promotion of measures to develop human resources to enhance workplace strength and technological advancement	• Human Resources Development	• Hours of training and education: **800** thousand hours/year in total of all employees (28 hours/person, year)

5 Together with local communities

1 Environmental preservation/creation activities in communities

Target and KPI	Main Initiatives and Achievements in FY2022	
• 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

2 Activities mainly in the support of education, sports, and arts

Target and KPI	Main Initiatives and Achievements in FY2022	
• Ongoing promotion of hosting plant visits	• Proactively accepting plant visits by shareholders, investors, and junior high/elementary school students	• Number of plant visitors: app. **130,000** (FY2019 results; almost no implementation in FY2020, 2021, and 2022 due to the COVID-19 pandemic)
• Continual execution of corporate philanthropy in the support of music via Nippon Steel Arts Foundation	• Support of music activities via presentation of Nippon Steel Music Awards and operation of the Kioi Hall	

6 Corporate value enhancement and profit distribution

1 Securing of profit and enhancement of corporate value

Target and KPI	Main Initiatives and Achievements in FY2022	
• ROS of **10**% (FY2025 plan target) • ROE of **10**% (FY2025 plan target)		• ROS of **11.5**% • ROE of **18.1**%

2 Profit distribution

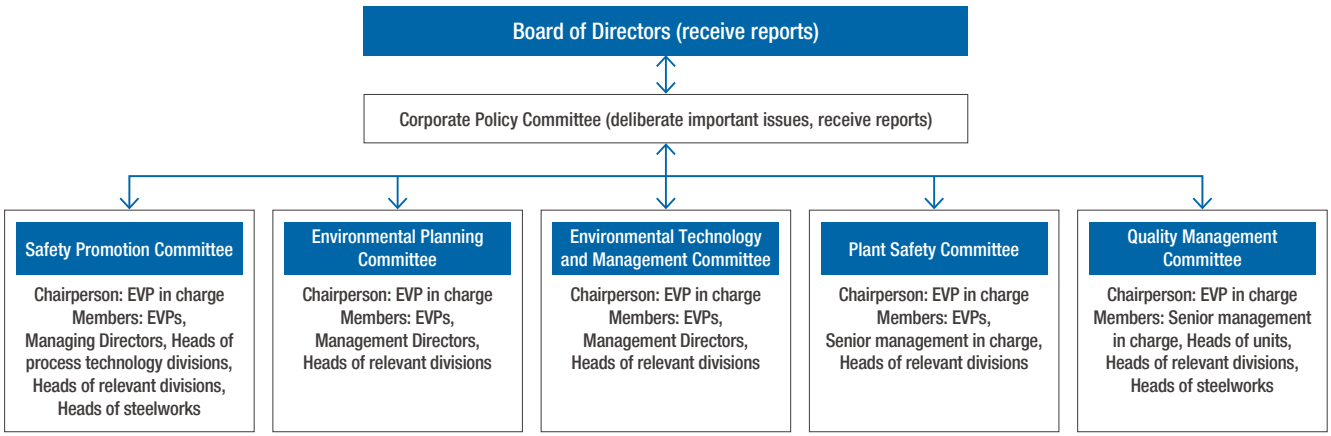
Target and KPI	Main Initiatives and Achievements in FY2022	
(1) Salary and wages payment to employees • Bonus payment amount • Revised amount of salary		• Base bonus amount: ¥**2.35**mn • Revised amount of salary: ¥**2,000**
(2) Appropriate tax payment • Tax payment (consol.)		• Tax payment (consol.): ¥**214.4**bn
(3) Dividend payment to shareholders • Dividend payment Note: Target consolidated payout ratio: around 30% (FY2025 management plan)		• Dividend per share: ¥**180**/year

Thorough implementation of compliance

Adhering to laws and regulations as a base of all activities

Initiatives on Safety, Environment, Disaster Prevention and Quality

Gigantic movable equipment, high-speed rotating equipment, high-temperature molten materials, and flammable gas are among what are employed in making iron and steel.
Nippon Steel assigns the maximum preventive measures and manages to minimize risks in terms of safety and disaster prevention, and contaminating the air, water, and soil. Our steelworks are operated under the manufacturing priorities that "Safety, the environment, and protection against disasters are the most valuable factors that take precedence over all other things."
In addition, quality management is one of the most important aspects in obtaining the trust and satisfaction of customers in the provision of products and services.
These matters are ensured by the management organization which has the Board of Directors at the top.



* See details of the management organization of each committee in Nippon Steel's website.

Safety and health

In keeping with the corporate philosophy that "safety and health are the most valuable factors that take precedence over all other things and they are the basis that supports business development," we have firmly kept our manufacturing priorities in all of our activities.

We have been improving our Occupational Safety and Health Management System (OSHMS) and strive at making safe and secure workplaces. The Basic Policy on Safety and Health is applied to Nippon Steel as well as to related or subcontracting companies.

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

We promote risk assessment and conduct regular safety risk assessments during the planning of new projects and for existing projects to prevent accidents and mitigate risks. We also appropriately analyze actual accidents and promptly make known effective examples of accident-preventive measures. As a result of continuing efforts, our safety performance in 2022 shows that the number of accidents accompanied by lost work time was 5 for the Company, 16 for our cooperating companies (including fatal cases of zero for the Company and 1 for cooperating companies), the comprehensive accident frequency rate was 0.11 (vs. the domestic steel industry average of 0.98), and the intensity ratio was 0.04 (vs. the same average of 0.26).

The goals for safety and health in 2023 are zero death or serious injury, and the comprehensive accident frequency rate of 0.10 or less. We will continue to strengthen our efforts to achieve a safer working environment.

Accident frequency rate (Lost time incident rate) = (Number of accidents and recordable incidents, accompanied by lost work time / Total number of hours worked by all employees) ×1,000,000

Target
Accident frequency rate **0.10** or less
Zero fatal accidents

Acquisition of third-party certification

Nippon Steel's 12 steelworks areas and offices acquired the ISO (JISQ Q) 45001 Health and Safety certification (published in March 2018) as of April 2023. We target to acquire the certification for all our steelworks and offices.

Acquisition of ISO (JIS Q) 45001 certificates	
FY2019	Kansai Works Wakayama Area
FY2020	Amagasaki Area and Osaka Area of Kansai Works; Nagoya Works; Kyushu 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

ISO (JIS Q) 45001 Health and Safety certificate of the Kashima Area

Environment

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.

Atmospheric risk management

In order to reduce emissions of sulfur oxides (SOx) and nitrogen oxides (NOx), we are taking measures such as using low-sulfur fuel, adopting low NOx generating burners and installing effective equipment, including equipment that eliminates SOx and NOx emissions. To curb emissions of soot and dust, we install dust collectors, windbreak net, and sprinklers and prevent scattering of particles, based on air pollution risk analysis through scientific simulation. We also conduct constant monitoring and regular patrols.

Water risk management

We use approximately 6 billion m^3 of freshwater a year at all of our steelworks and factories combined. Approximately 90% of this is recycled or reused to reduce wastewater discharge. We have also installed devices such as automatic detectors, wastewater shut-off gate, and made emergency water storage pits. All of our operational bases in Japan are confirmed not to be adjacent to areas evaluated as High Risk and more by the World Resources Institute (WRI) Aqueduct.

Soil risk management

We are taking appropriate measures in compliance with the Soil Contamination Countermeasures Act, guidelines issued by the Ministry of the Environment, 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.

Management of discharged chemical substances

We appropriately manage the production, handling, and discharge or disposal of chemical substances in accordance with the laws concerning the management of chemical substances and the voluntary control manual developed by the Japan Iron and Steel Federation (JISF) and ourselves. We developed a voluntary reduction plan of hazardous air pollutants specified in the environmental standard, such as benzene and volatile organic compounds (VOC). As a result of our undertaking, we have already reached the targets and have maintained the target levels. We also took the lead to promote use of alternatives to steelmaking materials and equipment that contain hazardous materials such as polychlorinated biphenyl (PCB) and mercury.

Disaster prevention

Trust and co-existence with customers, communities and society are of utmost importance to Nippon Steel, and it is important for the sustainability of the Company to avoid accidents that undermine the trust. We have therefore established a system and structure for autonomous and continuous disaster prevention activities. We implement measures to reduce the risk of accidents, while proactively preventing them with the aim of enhancing disaster management.

Initiatives on reduction in disaster risks

Our Plant Safety Division is responsible for (1) promoting recurrence prevention and measures against disaster-related accidents based on risk assessment, (2) promoting initial response training aimed at minimizing damage when a risk occurs, and (3) third party monitoring, hearings from head office management, and self-monitoring by steelworks disaster prevention managers for the purpose of a survey of disaster prevention activities. Grasping the status of management and promoting necessary corrections are the three pillars of activities aimed at reducing disaster risk. We promote essential disaster prevention improvement measures in manufacturing sites, with a goal set at zero serious disaster-related accidents.

Target **Zero** serious disaster-related accident

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.

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.

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 five basic rules of quality behavior have been made known to all employees, with a focus on improving the awareness in quality compliance and preventing quality problems to occur. Information on quality-related examples is promptly shared across the Group and at appropriate times measures are launched to resolve issues through standardization, systemization, automatization, and other action. These measures are then implemented to enhance identification management of actual products and to improve reliability of testing and inspection.

Climate Change Measures

Nippon Steel recognizes climate change as a priority problem that threatens survival of the human race. Climate change would also severely affect our business environment and earnings. In order to do our share of actions needed to influence the environment, and at the same time ensure sustainable operations, we are working at energy conservation and CO_2 emissions reduction throughout our supply chain.

Nippon Steel Group's efforts for energy conservation and CO_2 emissions reduction

Through carbon neutralization, we will offer two types of value: "Provision of high-performance steel products and solutions that contribute to reducing CO_2 emissions in society" and "provision of carbon neutral steel through decarbonizing steelmaking processes." We aim to reduce CO_2 emissions at the time of production and processing by our customers, at the time of use of our products by end consumers; and in the supply chain of our customers.

In addition, Nippon Steel by itself as well as the Nippon Steel Group including consolidated crude steelmaking companies that have blast furnaces and electric furnaces with high CO_2 emissions have set a target for 30% reduction in CO_2 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.

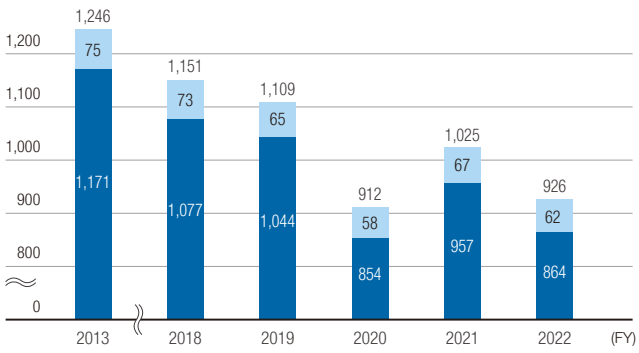
Nippon Steel Group's energy consumption and energy-derived CO_2 emissions

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.

In FY2022, due to the effects of these energy conservation initiatives and the decrease in production affected by the global slump in demand for steel products, our energy consumption and energy-derived CO_2 emissions significantly dropped to 926 petajoules (PJ) and 78 million tons-CO_2 (a preliminary figure), respectively.

Energy consumption

(petajoules)

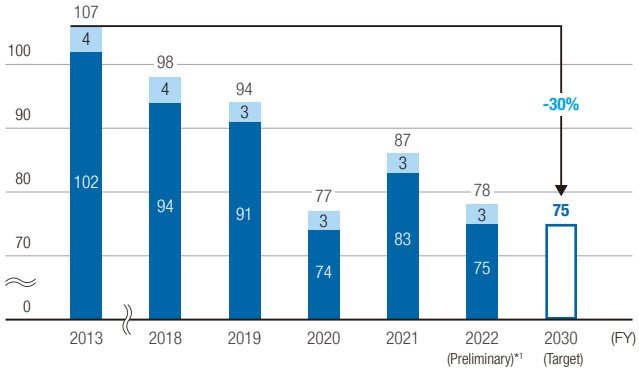


Energy consumption (group companies)
Energy consumption (Nippon Steel)

[Calculation method]
Calculation for the Company and its domestic subsidiaries is based on methods in 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 rules or guidelines.
[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).

Energy-derived CO_2 emissions

(million t-CO_2)



Energy-derived CO_2 emissions (group companies)
Energy-derived CO_2 emissions (Nippon Steel)

*1 Preliminary figure: The amount of CO_2 per unit of purchased electricity from each of general power companies in Japan in fiscal 2022 is assumed to be the same amount as in fiscal 2021.
*2 Excluding energy consumption and CO_2 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 CO_2 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 CO_2 emissions are included in the aggregate.

CO_2 emissions in the value chain

CO_2 emissions originated from energy source and generated in Nippon Steel's manufacturing process (Scope 1 and Scope 2) as well as CO_2 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.

Scope1・2

(FY)	CO_2 emissions (thousand tons-CO_2) 2013	2018	2019	2020	2021	2022	Calculation method
Scope1 Direct emissions from owned sources associated with use of fuel	89,578	81,337	78,575*3	63,010*3	71,315*3	**63,397**	Based on the Carbon Neutrality Action Plan. See the boundary of data collection stated below.
Scope2 Indirect emissions from the generation of purchased energy	13,825	12,850	12,100*3	11,035	12,462*3	**11,912***1	
Scope1+2	103,403	94,187	90,675*3	74,045*3	83,778*3	**75,309***1	
(Energy consumption per ton of crude steel: t–CO_2/t)	1.89	1.89	1.93	1.97	1.88	**1.92**	
Crude steel production*4 (consolidated-base, 10,000 tons)	5,474	4,990	4,709	3,766	4,445	**3,913**	

[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 rules or guidelines.
[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 CO_2 per unit of purchased electricity from each of general power companies in Japan in fiscal 2022 is assumed to be the same amount as in fiscal 2021.
*2 Excluding CO_2 emission associated with the IPP operation by the steelworks.
*3 Past figures are retroactively revised according to the change in calculation method.
*4 G/GJ Steel is not included.

Scope3

(FY)	CO_2 emissions (thousand tons-CO_2) 2020	2021	2022	Calculation method
Scope3 All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company				
1 Purchased goods and services	14,379	15,994	**12,939**	Calculated using method*5 below for purchased iron ore, coking coal, coke, and oxygen
2 Capital goods	1,632	1,400	**1,503**	[Amount of capital expenditures] × [Emission factor]
3 Fuel and energy related activities not included in Scope 1 or 2	291	338	**293**	[Amount of electric power procured and fuel used] × [Emission factor]
4 Upstream Transportation and Distribution	629	710	**638**	[Transportation distance reported in the Energy Saving Law document] × [Emission factor]
5 Waste generated in operations	4	5	**5**	[Amount of waste] × [Emission factor]
6 Business travel	4	4	**4**	[Number of employees] × [Emission factor]
7 Employee commuting	14	14	**13**	[Number of employees] × [Emission factor]
15 Investments	1,125	1,053	**1,193**	[Emissions by subsidiaries and affiliates that emit GHG of over 10,000 tons] × [Equity stake of each company]

[Source of emission factor]
"Emissions unit value database for accounting of greenhouse gas emissions throughout the supply chain (ver. 3.3)" (March 2023, 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)
[Boundary of data collection] Nippon Steel

*5 Iron ore and coal: [Amount purchased of procured iron ore and coal] × [Emission factor]
Coke : [Amount purchased of procured coal at source] × [Emission factor] + [Amount of energy used in production of coke] × [Emission factor by energy source]
Oxygen : [Amount of energy used in production of oxygen] × [Emission factor by energy source]
Due mainly to partial changes in CO_2 emission factor sources in FY2022, CO_2 emissions significantly decreased in FY2022 compared to FY2021 levels. If calculated using the same CO_2 emission factors as FY2021, CO_2 emissions in FY2022 come to 14,619 thousand t-CO_2.

Example of Scope 3 efforts: CO_2 emission reduction by raising efficiency in logistics

Nippon Steel maintains a high modal shift rate*6 of 98% and works at reducing CO_2 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. This vessel was awarded the Small Cargo Vessel Award of the Ship of the Year 2019*7. 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 decided to introduce cargo vessels equipped with a hybrid propulsion system consisting of a natural gas-fueled engine and battery, for marine transportation of domestic raw materials.

Hybrid Cargo Ship "Utashima" equipped with lithium-ion batteries

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*8 achievements for FY2022

(Reference)

	Transportation quantity: 10,000 tons/year		Million ton-kilometers/year		g-CO_2/ ton-kilometers
Ship	1,827	(57%)	12,195	(91%)	39
Railway	6	(0%)	35	(0%)	25
Truck and trailer	1,424	(43%)	1,244	(9%)	211
Total	3,257	(100%)	13,474	(100%)	

*6 Modal shift rate: Modal shift means replacing a means of transport from trucks to trains and ships. The modal shift rate, according to the definition by the Ministry of Land, Infrastructure, Transport and Tourism, is a ratio of volume transported by trains and marine transportation (including ferries) in long distance transport of over 500km.
*7 Award by the Japan Society of Naval Architects and Ocean Engineers
*8 Ton-kilometer: Total sum of the weight of load (ton) transported multiplied by transport distance (km). The reference amounts (in grams) of CO_2 emissions per ton-kilometer travelled are the average for all industries (Ministry of Land, Infrastructure, Transport and Tourism)

Efforts to address climate change in the field of resource recycling and biodiversity

1 Recycling of waste plastics

Using coke ovens at seven areas of Nippon Steel's five steelworks, about 200,000 tons of used plastic containers and packaging collected from general households nationwide are recycled 100%, in compliance with the Act for Promotion of Use of Recycled Resources. This contributes to reduction of about 600,000 tons of CO_2 a year.

In order to contribute to Japan's strategy to recycle plastic resources, we are developing technologies to expand waste plastic processing capacity of coke ovens, to densify waste plastic pellets as raw material, and to dechlorinate.

2 Maximum use of steel scrap

Recycling of steel scrap is one of the key measures for achieving carbon neutrality.

We will significantly reduce CO_2 emissions in steelmaking process by maximizing the use of domestic steel scrap.

3 Blast furnace cement

Blast furnace cement is made up of 45% blast furnace slag mixed with conventional cement, which reduces CO_2 emission by 40% (320 kg per ton of cement) compared to ordinary cement production.

4 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 (CO_2 absorption and fixation in the marine ecosystem), which is getting more attention as a measure against climate change.

In FY2022, we calculated the CO_2 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). As a result, we acquired J-Blue Credit certification for 49.5 t-CO_2 as the amount of CO_2 absorbed and fixed (blue carbon) over the five years between 2018 and 2022.

This accomplishment marked the first blue credit certification for a kelp seaweed bed in Hokkaido, and it was the first joint application between a fishery cooperative association and a private company.

Encouraged by this accomplishment in calculating the amount of CO_2 absorbed, we will spread this approach to other ocean areas in Japan where the creation of sea forests is pursued for publicizing the total amount of CO_2 absorbed in seaweed bed creation projects.

Certificate of J-Blue Credit™

Efforts to adapt to climate change

In addition to taking mitigation actions against climate change, Nippon Steel is making initiatives to prepare and adapt to potential impacts of such change. We have many products that are used for a long time as construction material 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 changes also leads to business opportunities for Nippon Steel. In various steelworks in Japan and overseas, water storage tanks have been installed and an administration office is built on a piloti structure, which allows to create an open space with no walls on the lowest floor and makes the building less vulnerable to tsunami. This is a part of efforts of Nippon Steel to be well prepared for emergencies such as flooding and high waves.

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

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

Scenario analysis

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 referred to the two scenarios (the below 2°C and 4°C warming scenarios*) of the International Energy Agency (IEA) and evaluated them over a medium- to long-term time period, up to 2050. In addition, the 1.5°C scenario (IEA NZE2050), which assumes progress in reducing and eliminating carbon emissions, was also adopted as a reference scenario in the analysis. At the same time, we have formulated a new climate change countermeasure vision with the aim of achieving "carbon neutral in 2050" consistent with the 1.5°C warming scenario, and have decided to tackle development of breakthrough technologies aimed at carbon neutral, as a challenge for the management.

* The below 2°C warming scenario is a case wherein much-needed measures will be implemented to keep global average temperature increase below 2°C (1.75°C) compared to pre-Industrial Revolution times. The 4°C warming scenario is a case that global average temperature will increase by 4 degrees, without taking any economic or additional measures against climate change.

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)
Below 2℃	**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)*1	**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 electrical steel sheets
	Transition factor 2 Shift to other lightweight materials, prompted by tighter fuel efficiency regulations, etc. (multi materials)	Shift to other lightweight materials, 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) • Cooperation with Group companies (Nippon Steel Chemical & Material) to capture demand for CFRP, etc.
	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 customers' demand	**Opportunities in demand growth for low-carbon steel** ■ Some shift to EAF steel with low CO_2 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 "EcoLeaf" environmental label for more products • Accelerate the Carbon Neutral Vision (breakthrough technology development, including high-grade steel production in large-size EAF and hydrogen injection into blast furnaces) • Promote the use of direct reduced iron and other measures to reduce CO_2 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 new technologies	• Facilitate the development and implementation of innovative technologies by utilizing government support such as the Green Innovation Fund • Consider sharing of cost by society
	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. • 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
	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: 490mn tons in 2050 (vs. 90mn tons in 2020)*2	**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. stainless steel for high-pressure hydrogen environments (HYDREXEL™)
	Transition factor 6 Increase in cost caused by adoption of carbon pricing (CP)	Increased cost due to adoption of carbon pricing	**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 CO_2 emissions through the expanded use of direct reduced iron, reduction in CO_2 emissions in existing processes, and advance in breakthrough technologies such as hydrogen injection into BFs and high-grade steel production in large size EAF • 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
4℃	**Physical factor 1** Abnormal weather to suspend raw material suppliers' operation	Difficulty to procure raw materials caused by abnormal weather	**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
	Physical factor 2 Abnormal weather to suspend operation and shipment	Difficulty in operation caused by a natural disaster	**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.	• Continual implementation of adaptation measures, with consideration of long-term trends. Measures against typhoons and heavy rain, measures to prevent crane overturns, measures against earthquakes and tsunami (securing emergency 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 expanding sales in Japan and overseas, e.g. steel-slit dams and NS ECO-PILETM method

*1 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).
*2 Source for data on renewable energy and hydrogen: the NZE 2050 Scenario of the IEA World Energy Outlook 2021.

Human Rights, Diversity & Inclusion, and Human Resources Development

Number of employees (consol.) (March 31, 2023)	Number of employees (non-consol.) (March 31, 2023)
106,068	28,331

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

Respect for human rights

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 smooth 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 Code of Conduct has been set. By adhering to the Code, Nippon Steel conducts business ethically, while paying full heed to human rights issues arising with the increasing globalization of the economy.

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.

Based on these basic ideas concerning respect for human rights, we strive to create a workplace environment where employees can share diverse values and maximize their abilities.

Addressing human rights risks

From the viewpoint of promoting human rights awareness activities by assigning human rights awareness advocates at each steelworks and each office, and of implementing corporate-wide human rights awareness activities, we hold a corporate-wide forum of human rights awareness advocates each year. The forum is chaired by a responsible Director and is attended by human resources managers of steelworks and offices. The human rights awareness activity policy is decided at the forum and specific activities are implemented in each steelwork and each office.

In addition, our efforts are mirrored by our Group companies in Japan and abroad and we regularly carry out monitoring surveys. Through these efforts, we are continuously and systematically engaged in activities to prevent human rights abuses.

Prevention of forced or child labor

Adhering to international norms concerning forced or child labor, Nippon Steel has the 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 related matters, including the status of each country, region, and type of work, hold meetings with labor representatives, and appropriately reward employees by paying performance-based 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.

In addition to the general education, we also address specific human rights abuse risks in formulating and 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.

The number of recipients of training courses by rank on human rights (FY2022 results)
5,541

Mechanism of corrective actions

We have clarified whom to contact for consultation on various compliance issues including human rights. This is a part of efforts to establish a groupwide claim 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 discrimination.

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 and various stakeholders. Regarding the response to these individual incidents, such as internal reports and consultations, we strive to appropriately resolve the incidents, while making sure to protect the privacy of the persons and to ensure that they do not receive unfavorable treatment.

Furthermore, in the event of disputes concerning the interpretation of collective agreements, labor-management agreements or other rules directly related to them, a grievance committee, which has members from both the management and the labor side, is established to resolve the dispute.

Communicating with stakeholders

Adhering to laws and the group-company labor agreements, and respecting the rights to organize and to bargain, Nippon Steel strives to maintain sound labor-management relationships. With a focus on mutual understanding through two-way dialogue, we have a place for discussion with labor unions for the entire Company as well as for each steelworks and each office. There we discuss various matters including the operating and financial performance and working conditions.

Our steelworks and offices also regularly set up a place for dialogue with the nearby residents' associations to ask for their understanding of our business operations and listen to opinions and requests from them; this is part of what we do to realize better communication with the local community.

Labor-management discussions (FY2022)

59	926
times for the entire Company	times at steelworks and offices

Number of union members and unionized rate (March 31, 2023)

25,115 (100% unionized)

Diversity & Inclusion

Basic policy

From the perspective of creating a company where diverse employees are productive, perform at their best, being empowered, and feel proud and fulfilled, we are reinforcing our diversity & inclusion efforts with a focus on the following five areas, as one of important management issues.

The Diversity & Inclusion Department has been established as a dedicated unit to promote these efforts.

1. Promote female employee's participation and career advancement
2. Realize work life balance so as to enable employees with various backgrounds and circumstances to perform at their best
3. Develop health management in order for employees to perform at their best until the retirement age of 65
4. Prevent harassment
5. Promote empowerment of the elderly and the disabled

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 implementing measures such as to open 24-hour childcare centers within the steelwork sites.

In-house childcare center (East Nippon Works Kashima Area)

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 have been conducted to facilitate flexible placement and development based on the understanding of individual circumstances and to improve retention rates.

At the same time, we will continue to make changes to enhance the working environment, including improvement of the environment for expanding work placement for women especially in steel mills.

The ratio of women in overall hiring (Average ratio for CY2021–CY2023)

Office staff and engineers	Operators and maintenance personnel	Overall hiring
22%	8%	11%

Toward further promoting women's participation in the workplace

We have developed and announced a goal and an action plan to support female employees to continue to demonstrate their abilities through career development, and to promote their empowerment in all workplaces and levels. We target at least doubling and possibly tripling the number of female employees in management positions by 2025 from 36 in 2020, and an increase by at least four times and possibly seven times by 2030.

Support for employees' career development and work-life balance

We facilitate the development of female employees by providing them with opportunities for growth through proactive efforts in anticipation of their various life events, and by actively promoting their advancement to managerial positions. As a development policy for the appointment of employees to managerial positions, we have established new respective career training programs for young and middle-class employees since fiscal 2022. These programs motivate participants through conversations with senior female employees and foster exchanges among participants, in addition to helping them develop career aspirations based on lectures and group work.

We are creating a workplace culture where work and home life are comfortably balanced by supporting employee in various ways, including improving and disseminating guides for employees facing life events as well as for their managers. We also provide to managers education concerning unconscious bias and diversity management. With the aim of encouraging male employees with young children to actively participate in childcare, since the second half of fiscal 2021 we have been encouraging them to take childcare and related leave.

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

Enabling flexible ways of working

All human resources with their diverse attributes and circumstances, such as age, gender, and restrictions on work time and workplace due to childcare and nursing care, 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 move away from traditionally-set ways of working and pursue more flexible and diverse ways of working in accordance with the nature of work at any given time and fluctuation in workload flow of operations needed at that time, and the circumstances of each individual.

Specifically, we are utilizing the telework system and expanding workplaces that use the "coreless flexible system," which eliminated the core time—an essential time period to be in the office. Based on these systems, we aim to achieve improved productivity and employees' work-life balance, while pursuing ways in which individuals can perform at their best.

Realization of a flexible way to take time off from work

We have been establishing the environment for our employees so that it facilitates a flexibility in the ways to take time off from work, tailored to the circumstances of individual employees and their 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 there not needing to attend meetings and other events on those days to take off.

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 recovered to paid off-days for parental leave.

Matched to the ongoing aging of Japanese society, 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 leave days that have been accrued can be used for nursing care purposes, as part of our efforts to provide an environment in which employees can work with peace of mind while providing care.

The expired annual leave days can also be utilized 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. For recurrent education, we have established a leave system for obtaining a degree at a university or another educational institution.

In order to promote the use of these systems, we have created and utilized brochures summarizing work and leave systems, and are working to foster a culture that facilitates the use of these systems.

Utilization of paid leave days (FY2022)
82.9%

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

Basic policy

We aim at ensuring that all employee work at their best from the time of joining the company to retirement, which has been extended to the age of 65. To accomplish this, we assist them to maintain and enhance both mental and physical health. We conduct health promotion measures focusing on disease prevention as well as early detection and treatment. We are committed to providing advanced health checkups including cancer or mental disorder screening and encouraging employees to get regular checkups, and provide consultation or counseling about lifestyle or stress coping by health care professionals, as needed. Employees are expected to also be committed to implementing measures for their own health maintenance, such as getting various checkups and improve their daily lifestyle. We believe that such efforts by both the Nippon Steel Group and its employees become a source of motivation for work. They are encouraged to balance their work and health and they try not to get sick and, in case they get sick, they continue working while undergoing treatment.

Promoting physical wellness

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 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.

Cerebral cardiovascular disease control

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 will improve the implementation rate of specified health guidance, which 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 the goal.

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. For general employees, 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 a 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.

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.

In the past, 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 milestones, from new employees to managers. From FY2020, in addition to the above 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 so that employees who face a harassment issue can consult with other people, in addition to someone close to themselves, such as their supervisor or co-worker.

Each of the contact points takes individual actions and makes sure not to disbenefit 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 the elderly and the disabled

Employment for the elderly

We have decided to raise the retirement age from 60 to 65 in fiscal 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.

Assuming that the same work will be carried out, even after the age of 60, the employment scheme as well as the salary and bonus scheme will remain the same up to the age of 65.

Under this new system, hopefully, all generations, up to 65 years of age, will continue to perform at their best at the front lines of our workplaces, while also invigorating the skill transfer process and communication within the workplace between generations, thereby creating a vibrant company.

Employment for the disadvantaged

Recognizing employment of the disabled as an important social challenge, we are implementing an action plan for their employment and providing a friendly working environment.

Since 2007, we have established special-purpose companies to expand employment opportunities. As of July 2023, at five special subsidiaries, over 100 people are actively engaged mainly in various outsourced work from Nippon Steel. The work includes data input and printing of written documents, cleaning of the steelworks premises, cleaning and management of the welfare facilities, and cleaning of work clothes.

Employment rate of the disabled (as of June 2023)
2.45%

To secure human resources and promote active participation

In the middle of major environmental changes such as intensifying recruitment competition due to population decline in recent years, diversification of individual career views, and fluidity in the labor market, in order to realize our management strategy, it is extremely important to secure human resources and to promote the further active participation of employees. As one of our most important management issues, we will implement various personnel and public relations measures more than ever before. In order to secure human resources, in addition to the stable recruitment of new graduates and the recruitment of postdoctoral researchers such as highly specialized doctoral personnel, etc., we will actively recruit experienced personnel, including the alumni recruitment. We will also develop public relations measures to raise awareness of our company among a wide range of generations, on top of students who are seeking job. We will also raise the level of compensation for employees, including starting salaries. In order to promote active participation of human resources, we will strengthen measures to improve employee engagement by promoting internal dialogue and communication and providing opportunities for challenge and growth, such as sending mid-career and young employees overseas. We will promptly put these current measures into action, and we will further consider and implement initiatives to secure and promote the active participation of human resources.

Human Resources Development

Based on the belief that the development of excellent personnel is a prerequisite for the development of excellent technologies and the production of excellent products, Nippon Steel is striving to enhance workplace strength and technological advancement and to improve its overall manufacturing capabilities.

Basic policy

Recognizing that the source of competitiveness is the power of people, Nippon Steel's Management Principles state that "we develop and bring out the best in our people to make our Group rich with energy and enthusiasm," positioning human resources (HR) development as a priority theme. A goal of HR development is to create people 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.

Number of training/learning hours (FY2022)
28 hours/year per employee (**0.8** million hours/year)

Personnel development of operators and maintenance staff

The operators and maintenance staff relentlessly build up their skills in steelmaking and maintenance, starting from joining the Company, on the assumption of continued long-term employment to retirement. They thus fundamentally support the Company's initiative at our worksites. 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 Nippon Steel 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 the elderly to continue working with health and motivation.

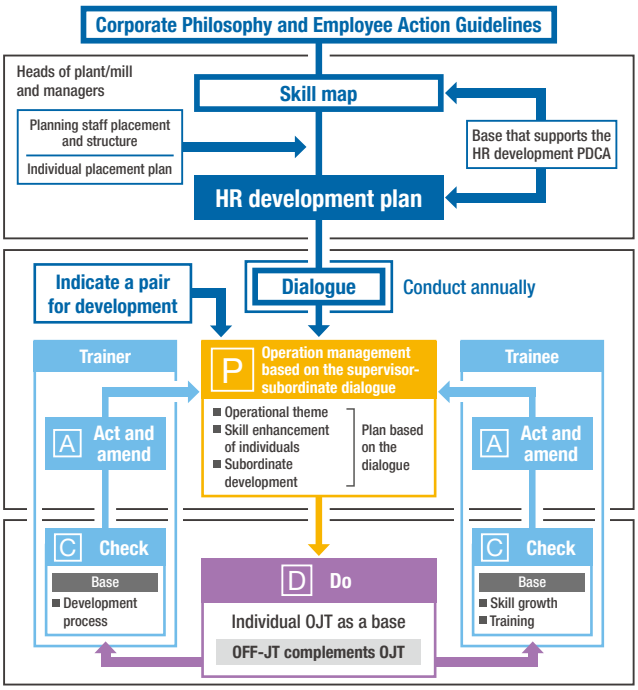
We are also actively promoting cooperation in HR development with partner companies, which play an important role in our steelmaking, from the perspective of deepening and expanding our partnerships. Specifically, in addition to the training of each partner companies, the training programs for various ranks of employees of these partner companies, such as newcomers, young staff, job leaders, and line managers are provided with Nippon Steel's employees 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.

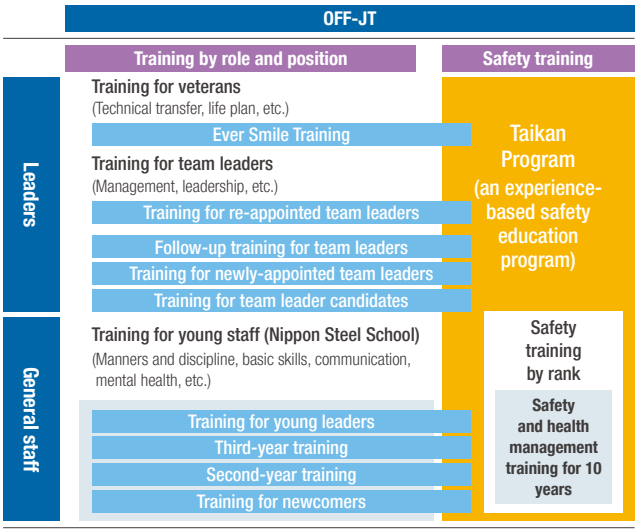
Basic Policy for Human Resources Development

1. 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.

Human resources development PDCA (conceptual rendering)



Development of operators and maintenance staff



Note: In addition to the above, training to impart and improve knowledge and skills needed for partner companies' employees by rank (newcomers, young staff, team leaders, job leaders, and line managers) with Nippon Steel's employees as instructors is available.

Personnel development of office staff and engineers

Following the Basic Policy for HR Development, Nippon Steel uses a HR Development PDCA for office staff and engineers, who implement OJT-based HR development plans. Specifically, development plans are formulated for each person based on the Corporate Philosophy, Employee Action Guidelines, and organizational strategies. Based on a concrete one-year plan, a supervisor and a subordinate have an extended dialogue throughout the OJT period, review the development situation at year-end, and formulate the next year's plan.

The OFF-JT is also being enhanced to complement 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.

Development of managers

The training courses are provided to managers to match the managers' qualification and position, and are given so that they can acquire proper understanding of their responsibilities and authority as managers; knowledge, skills, and mindset that contribute to enhancing their management as supervisors; and group management capabilities. In recent years, we have given increased attention to management education. We added new courses including one for line manager candidates to enhance line management skills on the manufacturing field, and one for new managers to ensure they have a correct understanding of their roles and responsibilities as managers and acquire the risk management and job and organizational management skills. In addition to these, we enhance education on dialogue skills as a supervisor.

Development of staff who support technological advancement

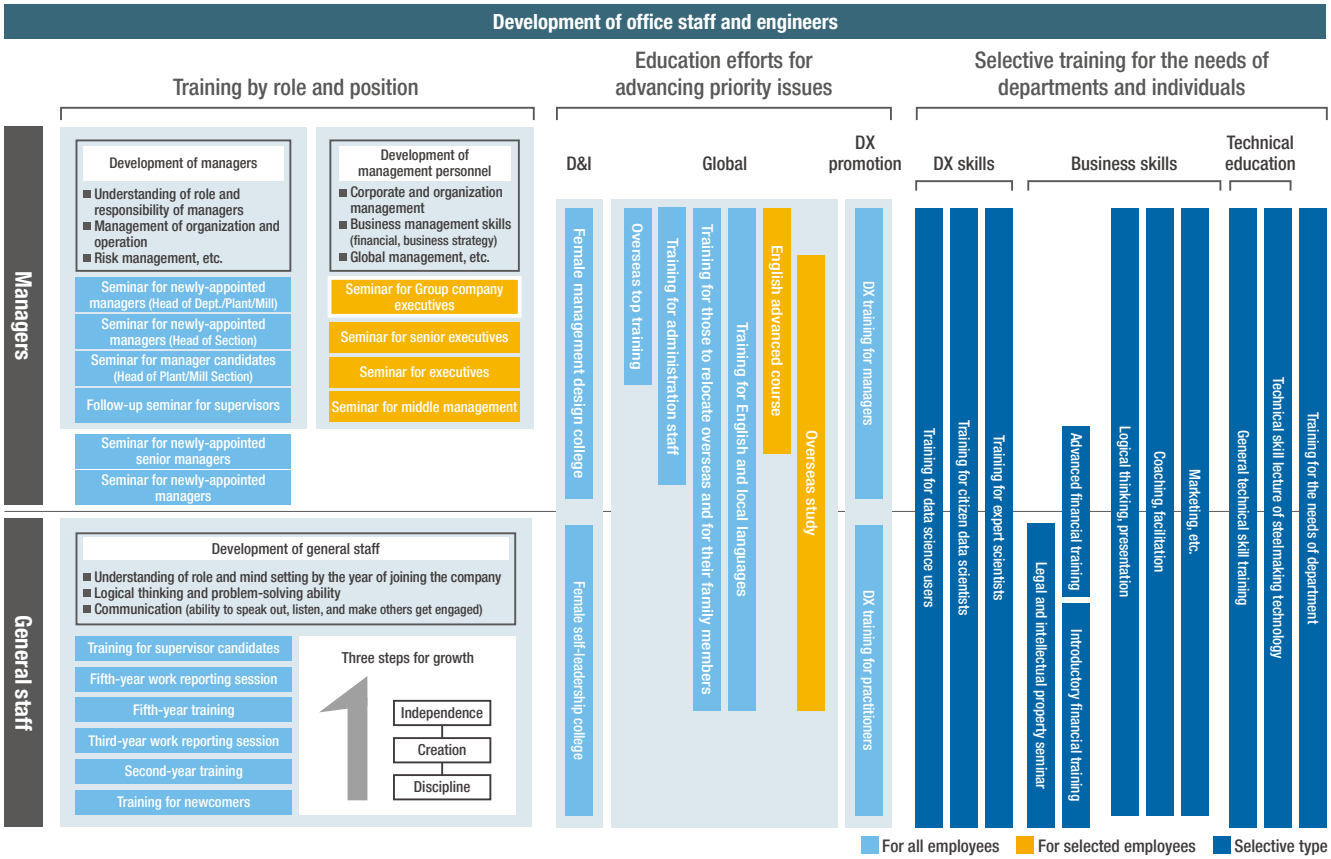
In order to train human resources that achieve world-leading technologies and manufacturing capabilities, courses to learn the essential knowledge and technologies for steelmaking engineers are prepared. In particular, the content of courses classified as steelmaking process-specific technologies is 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.

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 standards for English language skills to be reached by 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 need for translators or interpreters.

Development of staff who drive DX

We provide digital management education to all managers to make them understand their role in promoting DX and encourage them to change their mindset when the situation so warrants. We have also established a DX skills training program as data science education intended to develop data science users who can effectively use data, and citizen data scientists who can make advanced use of data.

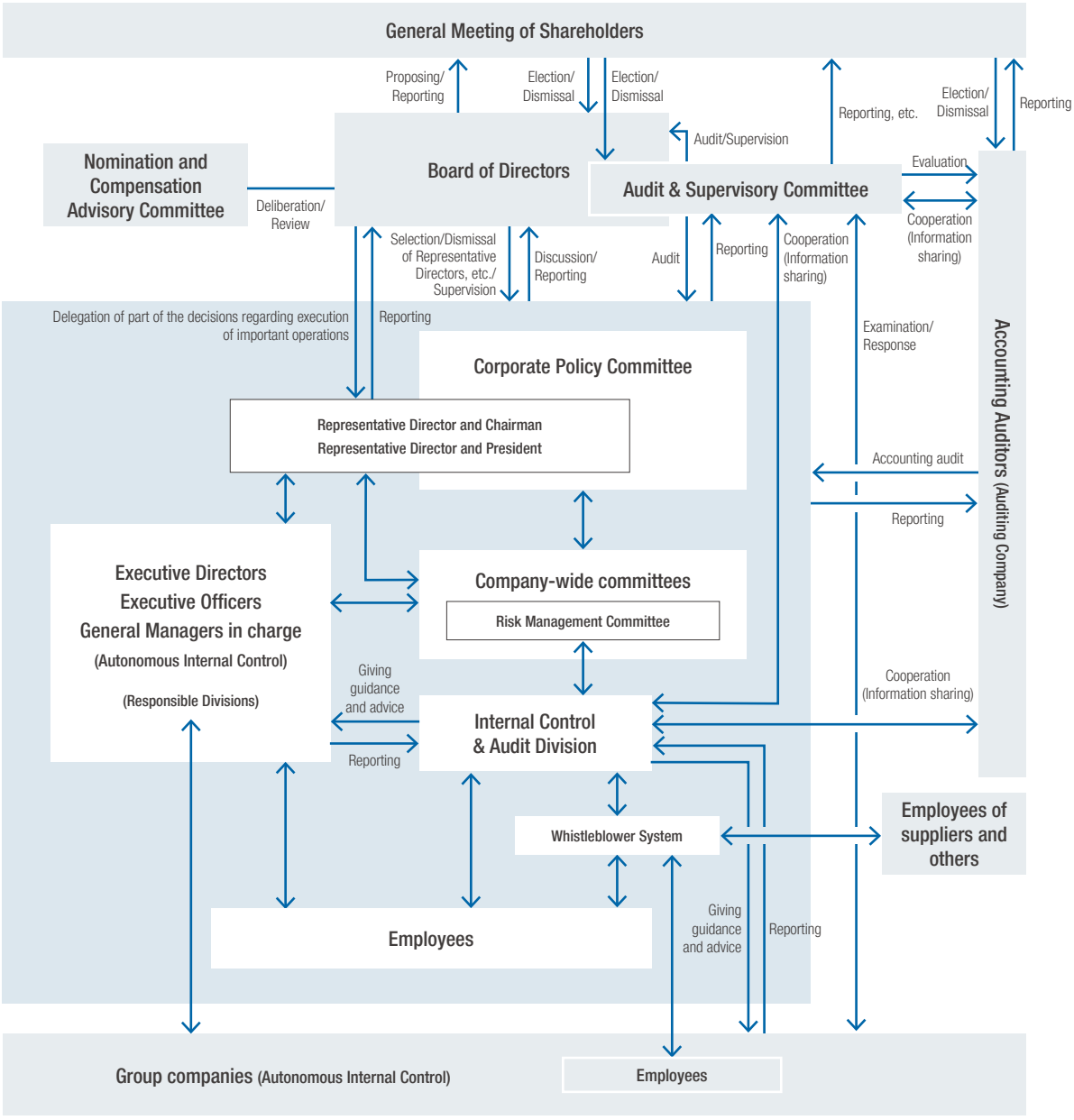


Corporate Governance Structure

The Nippon Steel Group is engaged in business activities based on its Corporate Philosophy—that we will pursue world-leading technologies and manufacturing capabilities, and contribute to society by providing excellent products and services.
Heeding that Philosophy, the Nippon Steel Group has established a corporate governance system suited to the businesses of the Nippon Steel Group in order to achieve the sound and sustainable growth of the Nippon Steel Group and increase its corporate value over the medium- to long-term, in response to the delegation of responsibilities by and trust of all stakeholders, including its shareholders and business partners.

Basic views on corporate governance

Nippon Steel has adopted a company structure with an Audit & Supervisory Committee for the purpose of, among others, expediting management decision-making, enhancing discussions by the Board of Directors relating to matters such as the formulation of management policies and strategies by limiting the number of items for deliberation by the Board of Directors, and strengthening the supervisory function of the Board of Directors over management.



Board of Directors

The Board of Directors of Nippon Steel is comprised of fifteen (15) members, of whom ten (10) are Directors (excluding Directors who are Audit & Supervisory Committee Members) and five (5) are Directors who are Audit & Supervisory Committee Members, and is chaired by the Representative Director and President. Independent Outside Directors account for one-third (5 out of 15, including one female Director) of all members of the Company's Board of Directors.

By all Directors appropriately fulfilling their respective roles and responsibilities, prompt decision-making is achieved corresponding to changes in the management environment, and multifaceted deliberations and objective and transparent decision-making are secured. In addition, Directors who are Audit & Supervisory Committee Members have the voting rights on the Board of Directors regarding decisions on proposals for the election and dismissal of Directors as well as on election and dismissal of Representative Director, and other decisions in general regarding business execution (excluding decisions that have been delegated to Directors). The Audit & Supervisory Committee has the authority to give its opinions at the General Meeting of Shareholders regarding the election, compensation, etc. of Directors, excluding directors who are Audit & Supervisory Committee Members. This structure strengthens the supervisory function of the Board of Directors over management.

Furthermore, the Board of Directors delegates part of the decisions regarding execution of important operations (excluding matters listed in each item of Article 399-13, Paragraph 5 of the Companies Act) to the Representative Director and Chairman and Representative Director and President, thereby expediting management decision-making, while enhancing discussions by the Board of Directors relating to matters, such as the formulation of management policies and strategies, important business strategic issues, safety, environmental issues, disaster prevention, and quality assurance.

Audit & Supervisory Committee

The Audit & Supervisory Committee acts with the obligation of contributing to the establishment of a high-quality corporate governance system that enables sound and sustainable growth of Nippon Steel and its Group companies, by supervising the performance of responsibilities by Directors and acting as part of the Company's oversight function, as an independent organ fulfilling its roles and responsibilities that are recently expected, in response to the delegation of responsibilities by the shareholders, and social trust.

Nomination and Compensation Advisory Committee

The Nomination and Compensation Advisory Committee has been established to conduct discussions and deliberations on a wide range of topics relating to the nomination and compensation of the Directors in general, including the compositions of the entire Board of Directors and the Audit & Supervisory Committee, the system and levels of the Directors' compensation, and other topics. The Committee comprises five members: the Representative Director and Chairman, Kosei Shindo, the Representative Director and President, Eiji Hashimoto, and Outside Directors Tetsuro Tomita, Kuniko Urano and Masato Kitera. The Representative Director and President serves as the chairman of the Committee. The Nomination and Compensation Advisory Committee, as a general rule, is held twice a year.

Corporate Policy Committee

The Corporate Policy Committee comprises the Representative Director and Chairman, Representative Director and President, Representative Directors and Executive Vice Presidents, and other members, and is held once a week, in principle. The execution of important matters concerning the management of Nippon Steel and the Nippon Steel Group is determined at the Board of Directors after deliberations in the Corporate Policy Committee. In addition, Nippon Steel has introduced an Executive Officer system for setting clear responsibilities and improving management efficiency by more prompt decision-making.

Company-wide committees

As a deliberative body prior to the Corporate Policy Committee and the Board of Directors, we have established company-wide committees chaired by the Executive Vice President for each purpose and field. (As of April 1, 2023, there are a total of 23 committees, including the Ordinary Budget Committee, Equipment Budget Committee, Investment and Loan Committee, Risk Management Committee, Green Transformation Promotion Committee, and Environmental Planning Committee)

Measures implemented to enhance corporate governance

June 2006	• Reduction of the number of directors in the Articles of Incorporation from 48 to 15 (Increase to 20 when Nippon Steel & Sumitomo Metal Corporation was established in 2012) • Adoption of the Executive Management System • Adoption of a limited liability contract with External Auditors
June 2014	• Appointment of Outside Directors (two) • Adoption of a limited liability contract with Outside Directors
June 2015	• Adoption of a limited liability contract with full-time Audit & Supervisory Board Members
October 2015	• Establishment of the Nomination and Compensation Advisory Committee
June 2018	• Increase the number of Outside Directors to three (appointment of a female director)
June 2020	• Transition to a Company with an Audit & Supervisory Committee

Number of meetings held in FY2022

Board of Directors	Audit & Supervisory Committee	Nomination and Compensation Advisory Committee
14 meetings	18 meetings	2 meetings

Internal control system

Nippon Steel has established internal control and risk management systems, based on autonomous activities by internal divisions and group companies, according to the Basic Policy on Internal Control System, which was resolved by the Board of Directors, and the Internal Control Basic Rules. The Internal Control & Audit Division cooperates closely with each area's functional division in charge of risk management, develops annual plans concerning internal control and risk management, prepares a scheme for check and review, regularly ascertains the status of internal control across the entire Group, and works at continual improvement.

Recognizing that creation of a sound and open organization is indispensable in raising efficiency of internal control, Nippon Steel emphasizes dialogues in and out of workplaces and regularly conducts awareness surveys regarding internal controls to all employees. By doing these, the Company checks the employees' awareness on the compliance and internal control activities, carries out education and enlightenment through the survey, and complements the internal control system. Based on these results, the effectiveness of the internal control system is regularly reviewed for achieving greater efficiency in management and is incorporated in an internal control plan of the next year.

As a whistleblower system, the Compliance Consulting Room was established to receive information relating to the risks associated with operation not only from officers and employees of Nippon Steel and the Group companies, but also from their families and others. It is also positioned as one of the bodies that monitor the status of internal control activities, in addition to its functions on compliance and optimization of operations, such as to prevent accidents and violation of laws, and to improve operations. In fiscal 2022, there were 433 cases of internal reporting and consultations.

Risk management

The status of risk management initiatives is reported to the Corporate Policy Committee and the Board of Directors after deliberations by company-wide committees chaired by the Executive Vice President for each purpose and field. In addition, the vice president in charge of internal control serves as the chairperson for overall internal control, including matters related to risk management in each field (labor safety, harassment, environment, disaster prevention, quality assurance, financial reporting, information security, etc.). The Risk Management Committee, which is held every quarter, deliberates and approves the status of initiatives, and reports important matters to the Corporate Policy Committee and the Board of Directors. Through these mechanisms, our Board of Directors supervises important managerial risk control.

Activities of the Audit & Supervisory Committee

The Audit & Supervisory Committee Members who are mutually elected by the Committee cooperate closely with the department in charge of internal audits, and proceed with daily supervisory activities in a planned way, with a main focus on the development and operation of the internal control system, the development of business infrastructure, and the progress of various measures for management plans, in accordance with, among others, the standards for the Audit & Supervisory Committee's audits, the policies and plans of audit and supervision, and assignment of duties as set forth by the Audit & Supervisory Committee. In addition, the Audit & Supervisory Committee Members attend important meetings, such as meetings of the Board of Directors, and conduct onsite audits of steelworks and other facilities. Further, the Audit & Supervisory Committee Members ask Executive Directors and employees, among others, to explain the performance of their responsibilities, and other related matters, and actively express opinions.

For the Group companies, the Audit & Supervisory Committee Members of Nippon Steel exchange opinions and information with the Directors of such Group companies and the Directors, etc. of the responsible divisions of Nippon Steel, and as necessary, receive business reports from them and ask them for explanations. Further, the Audit & Supervisory Committee Members of Nippon Steel seek to improve the quality of the supervisory activities as the whole Group, by establishing close cooperation with the Group companies' audit & supervisory board members, through liaison conferences and other opportunities.

The full-time Directors who are Audit & Supervisory Committee Members, as the Members selected by the Audit & Supervisory Committee, strive to exchange opinions with the department in charge of internal audits and other departments, collect information, and prepares the audit environment, pursuant to the audit policy and plan stipulated by the Audit & Supervisory Committee. They also attend the Board of Directors, the Corporate Policy Committee, and other meetings, interview relevant people on the agenda or matters to be reported and discussed and on other important matters, receive reports from the Accounting Auditor, and conduct surveys on the status of business and assets in the headquarters, steelworks, and other places.

The Outside Directors who are Audit & Supervisory Committee Members contribute to Nippon Steel's sound and fair management by, among other tasks, expressing their respective opinions independently at the Board of Directors, the Audit & Supervisory Committee, and other opportunities, and performing supervisory activities, including audits on the business and affairs and the status of assets at major steelworks, etc. and hearing of reports from the Accounting Auditor, as Audit & Supervisory Committee Members selected by the Audit & Supervisory Committee, based on their vast experience in, and deep insights into, such areas as laws, public administration, public finances, corporate accounting and economies. In addition, Outside Directors who are Audit & Supervisory Committee Members strive to share information and understanding about Nippon Steel's management issues with the Representative Director and Chairman, Representative Director and President and Outside Directors (excluding Directors who are Audit & Supervisory Committee Members) through liaison meetings and other means.

Regarding the above audit activities of the Audit & Supervisory Committee, the Audit & Supervisory Committee reviews the audit activities of the previous fiscal year and reflects improvements in the audit plan for the next fiscal year to improve the effectiveness.

The Audit & Supervisory Committee reviews matters such as selection of and compensation for Directors (excluding Directors who are Audit & Supervisory Committee Members) in compliance with the standards set by the Audit & Supervisory Committee and by taking account of the overview of discussions of the Nomination and Compensation Advisory Committee. The Audit & Supervisory Committee then forms its opinion, which may be expressed at the Board of Directors meeting or the General Meeting of Shareholders, if necessary.

Policies on and procedures in the nomination of director candidates and the appointment and dismissal of senior management

Policies on the nomination of director candidates and the appointment of senior management

For the nomination of Director candidates, and the appointment of senior management, Nippon Steel's policy is to consider not only each individual's experience, insight, and expertise, but also the size of each of the Board of Directors and the Audit & Supervisory Committee as a whole, and the balance of candidates comprising these respective boards (including the number of Outside Directors) so that Nippon Steel will establish an optimum board composition in which each individual is able to appropriately fulfill its role and responsibilities and properly respond to the management challenges of the Group's business.

Nippon Steel believes the appointment of the President and other senior management to be one of the most important roles/functions of the Board of Directors. To ensure that optimum human resources who are capable of realizing the sustainable growth of the entire Group and the mid- to long-term improvement of its corporate value are appointed to the office of President and other senior management in a timely manner, Nippon Steel provides various opportunities for Directors and Executive Officers who are to become successor candidates to improve their credentials by strategically assigning and rotating them to various positions, and by other means as well.

Procedures in the nomination of director candidates and the appointment of senior management

The nomination of Director candidates and the appointment of senior management are resolved at the Board of Directors after discussion at the Nomination and Compensation Advisory Committee. The Nomination and Compensation Advisory Committee conducts discussions and deliberations from various perspectives, in accordance with the policies stated above, taking into account, among others, the sizes of the entire Board of Directors and the Audit & Supervisory Committee and the balance among the candidates who will comprise the members.

The nomination of candidates for Directors who are Audit & Supervisory Committee Members is to be submitted to the Board of Directors for deliberation, after the approval at the Audit & Supervisory Committee.

Procedures in the dismissal of the President and other senior management

In the event that any disqualification for Directors as stipulated by laws and regulations occurs to the President or other senior management, Nippon Steel shall dismiss him or her from the President or other managerial positions by the resolution of the Board of Directors. In addition, in the event that the President or other senior management has engaged in any acts suspected of committing fraud or breach of trust, or in the occurrence of an incident to the President or other senior management that has caused significant hindrance to the continuation of duties, etc., Nippon Steel may dismiss him or her from the President or other managerial positions by the resolution of the Board of Directors, while also taking into account discussions and deliberations at the Nomination and Compensation Advisory Committee as necessary.

Policies in determining the compensation for directors

Directors (excluding Directors who are Audit & Supervisory Committee Members)

Basic policy

Nippon Steel sets the base amount of compensation for each position as it deems appropriate in consideration of the skills and responsibilities it requires of each Director. This base amount varies within a certain range based on Nippon Steel's consolidated performance. The Company then determines the amount of monthly compensation for each Director within the limit approved by the General Meeting of Shareholders.

Policy on performance-linked compensation

In accordance with the "Basic Policy" above, compensation for Directors (excluding Directors who are Audit & Supervisory Committee Members and Outside Directors) consists solely of monthly compensation, and the amount of compensation is wholly based upon the performance of Nippon Steel, in order to give incentives for the sustainable growth of Nippon Steel's group and improvement of its corporate value. As indicators for performance-linked compensation, Nippon Steel uses consolidated annual profit/loss (however, corrections were made for the sake of fair remuneration commensurate with earnings for the term by excluding the portion of gains/losses from reorganization for production facility structural measures; hereinafter the same in this section), which clearly indicates its business performance and earnings power, and consolidated EBITDA, while taking into account other factors including the revenue targets in the Medium- to Long-term Management Plan.

Compensation for Outside Directors (excluding Directors who are Audit & Supervisory Committee Members) consists solely of monthly compensation, and fixed compensation in principle, but the amount of compensation may be increased or decreased only in the event of significant changes in the consolidated annual profit/loss of Nippon Steel.

Method to determine compensation for each individual

The specific amount of monthly compensation of each Director (excluding Directors who are Audit & Supervisory Committee Members) is determined by the Board of Directors after the deliberation of the Nomination and Compensation Advisory Committee.

Directors who are Audit & Supervisory Committee Members

Nippon Steel determines the monthly compensation for each Director who is Audit & Supervisory Committee Member, within the limit approved by the General Meeting of Shareholders, by considering the duties of the Director's position and whether the Director is full-time or part-time.

Methods of determining the policies

The policies described above are determined by resolution of the Board of Directors, after the deliberation of the Nomination and Compensation Advisory Committee, for Directors (excluding Directors who are Audit & Supervisory Committee Members) and by discussion of Directors who are Audit & Supervisory Committee Members for Directors who are Audit & Supervisory Committee Members.

The Nomination and Compensation Advisory Committee conducts discussions on a wide range of topics including the system of Directors' compensation and the appropriateness of the compensation levels by position, taking into account the survey results of directors' compensation levels of other companies obtained from third-party research organizations.

Total amounts of compensation for directors (FY2022)

Position	Number of recipients	Total amount (yen)	Total amount by type (yen)		
			Monthly compensation	Non-monetary compensation	Other compensation
Directors (excluding Directors who are Audit & Supervisory Committee Members)	13	962,645,000	962,645,000	—	—
Outside directors	4	36,720,000	36,720,000	—	—
Directors who are Audit & Supervisory Committee Members	9	184,500,000	184,500,000	—	—
Outside directors	5	53,280,000	53,280,000	—	—
Total	22	1,147,145,000	1,147,145,000	—	—

* The above number of recipients includes four (4) Directors (including two (2) Outside Directors) and four (4) Directors who are Audit & Supervisory Committee Members (including two (2) Outside Directors) who retired at the conclusion of the 98th General Meeting of Shareholders held on June 23, 2022.

Analysis and evaluation of the effectiveness of the Board of Directors as a whole

At Nippon Steel, the office of the Board of Directors (General Administration Division) conducts quantitative analysis through comparison of the number of the agenda items submitted for deliberation or reported to the Board of Directors and the number of hours of deliberation, as well as the attendance rate and the number of opinions expressed by attendees at meetings of the Board of Directors with these of prior years; and the Board of Directors, taking into account selfassessments and opinions of each member of the Board of Directors on the operation of the Board of Directors obtained through individual interviews with them, annually analyzes and evaluates the effectiveness of the entire Board of Directors and utilizes such analysis and evaluation to improve the future operation and administration of the Board of Directors. In fiscal 2020, Nippon Steel decided to take the opportunity of the transition to a Company with an Audit & Supervisory Committee to establish the Rules of the Board of Directors, enhance discussions by the Board of Directors on matters such as the formulation of management policies and strategies, strengthen the supervisory function of the Board of Directors over management, and devise and improve operation of meetings so as to contribute to these efforts.

The Board of Directors, at its meeting held in June 2023, analyzed and evaluated the effectiveness of the Board of Directors for fiscal 2022, confirming that the Board of Directors functions effectively based on a comprehensive judgment. It also confirmed that Board meetings were attended by more than a majority of Directors, which is needed for making resolutions, and that all of the matters submitted for deliberation or reported to the Board of Directors pursuant to the Companies Act or Nippon Steel's rules were resolved or confirmed. At each of Board meetings, attended by almost all Directors, all matters on the agenda with relevant information being provided in advance were resolved after questions and answers and discussion among Directors and Audit & Supervisory Board Members from diverse perspectives, in light of the perspective of improving Nippon Steel's corporate value in the mid- to long-term or other various perspectives.

In addition, from the perspective of further improving effectiveness, based on the opinions of each director in the effectiveness evaluation of FY2022, we will continue to consider further improvements to the composition, contents, and method of providing materials for the Board of Directors. We will also continue to enhance and activate deliberations by streamlining and reviewing the items to be deliberated. In addition, we will utilize other opportunities besides the Board of Directors and share a wide variety of information and exchange opinions on matters related to various environmental changes surrounding management, long-term important themes, and risk management.

Main matters deliberated in FY2022 Board of Directors

- Formulation of management policy and strategies
- Compensation for directors (excluding directors who are Audit & Supervisory Committee Members)
- Important matters regarding business strategies
- Verification of strategic shareholdings
- Initiatives on Safety, Environment, Disaster Prevention and Quality
- Analysis and evaluation of the effectiveness of the Board of Directors as a whole
- Respect for human rights, diversity & inclusion
- Maintenance and operation status of internal control system
- Policies on the nomination of director candidates and the appointment of Representative Director and senior management
- Opinion feedback from shareholders and investors

Training policy for Directors

Nippon Steel, via relevant officers, explains its corporate philosophy and the Group business lineups, among others, to each Outside Director individually once they assume their positions. In addition, after the assumption, Nippon Steel proactively provides opportunities for them to visit steelworks, research laboratories, and to have dialogue with the Chairman, the President, and the Vice Presidents. Nippon Steel also explains anew to Executive Directors and Directors who are Audit & Supervisory Committee Members, both of whom were employees of Nippon Steel, their responsibilities under important applicable laws and regulations such as the Companies Act, and Nippon Steel's rules, upon the assumption of their positions. Moreover, Nippon Steel provides opportunities for Directors to attend exchanges of opinions with outside experts and executives of other companies, as well as lectures and seminars.

Significance of having listed subsidiaries

Based on the Nippon Steel Group Corporate Philosophy, Nippon Steel aims to achieve a company that is trusted by society, while promoting sound and sustainable growth and improving medium- to long-term corporate value of the Nippon Steel Group. In addition, in order to comply with relevant laws and regulations and to ensure the reliability of financial reporting and the effectiveness and efficiency of operations, Nippon Steel has developed and is appropriately operating an internal control system suitable for the Group's business operations, and is making efforts to continuously improve it.

Based on this basic policy, Nippon Steel and its Group companies share business strategies and manage the Group as a whole, while taking into account the business characteristics of each Group company. With respect to control of the Group companies, Nippon Steel sets forth basic rules in the Rules for Control of Group Companies, and ensures their appropriate application, while each Group company builds and maintains its internal control system based on autonomous internal controls, and seeks to improve measures relating to internal controls based on support, guidance, and advice from Nippon Steel.

In order to ensure independent decision-making of listed subsidiaries, each of them has more than one-third of its Board members being represented by independent outside directors and Nippon Steel also recognizes that its listed subsidiaries carry out autonomous management.

Each listed subsidiary confirms that the terms and conditions of transactions between the parent company and the subsidiary are reasonably determined on the basis of general contract terms and conditions with other customers, market prices or other reasonable criteria and that the interests of the subsidiary are not harmed. Our subsidiaries listed on the Prime Market of the Tokyo Stock Exchange (a newly classified market for large companies from April 2022) have established a system to set up a special committee if a significant parent-subsidiary transaction or action occurs.

At present, Nippon Steel currently has five listed subsidiaries: NS Solutions Corporation, Sanyo Special Steel Co., Ltd., Krosaki Harima Corporation are listed on the Prime Market of the Tokyo Stock Exchange and Osaka Steel Co., Ltd. and Geostr Corporation are listed on the Standard Market of the Tokyo Stock Exchange (a new market for mid-sized companies). Significance of having the listed subsidiaries is stated in the Corporate Governance Report, "Chapter I. 5. Other Special Circumstances which may have Material Impact on Corporate Governance."

Strategic shareholdings

Policy on strategic shareholdings

Nippon Steel, from the standpoint of sustainable growth and improvement of its corporate value in the mid- to long-term, believes that it is extremely important to maintain and develop the relationships of trust and alliance with its extensive range of business partners and alliance partners both in Japan and overseas, which have been cultivated through its business activities over the years. Accordingly, Nippon Steel shall continue to hold strategic shareholdings which are judged to contribute to maintaining and strengthening its business foundation such as the business relationships and alliance relationships between Nippon Steel and the investees, enhancing the profitability of both parties, and thereby improving the corporate value of Nippon Steel and the Group. Regarding companies for which Nippon Steel confirms, after sufficient dialogues, to be able to achieve the objectives described above without holding their shares, the Company intends to proceed with the sale of shares in such companies.

Examination of the appropriateness of the strategic shareholdings

Nippon Steel confirms the appropriateness of its strategic shareholdings by specifically examining all shareholdings to determine, among others, whether the purpose of each shareholding is appropriate and whether the benefit and risk associated with each shareholding is commensurate with the cost of capital. The total market value of the shareholdings examined at the Board of Directors accounts for approximately 90% of the total market value of the strategic shareholdings held by Nippon Steel on a consolidated basis (as of March 31, 2023).

The number of stocks held as strategic shareholdings by Nippon Steel on a non-consolidated basis was 495, as of October 1, 2012, when Nippon Steel & Sumitomo Metal Corporation was founded, while 264 stocks were held as of March 31, 2023 (the total value on the balance sheet was ¥219.2 billion).

Basic policy on exercise of voting rights concerning strategic Shareholdings

Regarding the voting rights concerning each strategic shareholding, Nippon Steel exercises its voting rights upon comprehensively evaluating whether the agenda of the General Meeting of Shareholders of the investee company contributes to the improvement of the respective corporate values of Nippon Steel and the investee company. Specifically, Nippon Steel formulates criteria for the exercise of voting rights which set forth guidelines for judgment according to the type of agenda items such as the appropriation of surplus, the election of Directors and Audit & Supervisory Board Members, etc., and exercises its voting rights based on these criteria together with the results of the examination of the appropriateness of the strategic shareholdings mentioned above.

Policy for dialogues with shareholders and investors

With a view to achieving sustainable growth and improvement of Nippon Steel's corporate value in the mid- to long-term, Nippon Steel takes various measures to enhance constructive dialogues with the shareholders. The dialogues with the shareholders and investors are generally supervised by the Director responsible for General Administration and the Director responsible for Accounting and Finance, and the General Administration Division and the Accounting & Finance Division work in conjunction with other divisions of Nippon Steel to enhance the measures. Specifically, for shareholders, in addition to striving to actively provide information to the shareholders and sincerely responding to their questions and comments in the General Meeting of Shareholders, Nippon Steel holds management business briefings and plant tours, regularly in various locations, and issues Interim Reports. In addition, for institutional investors, through opportunities for dialogue such as explanation meetings, we are engaged in dialogue with people in appropriate fields according to the content of the explanation regarding our management strategy, business content, achievement, efforts to address sustainability issues, etc. Senior management including President and an officer in charge of IR attend these dialogues, as necessary. The opinions of shareholders and investors obtained through these initiatives are promptly shared by the management team and each inhouse sector and reported and fed back periodically to the Board of Directors.

Board of Directors (as of July 2023)

Director

Representative Director and Chairman

Kosei Shindo

Apr. 1973: Joined Nippon Steel Corporation (NSC)
Jun. 2005: Director (Member of the Board) and General Manager, Corporate Planning Division of NSC
Oct. 2012: Representative Director and Executive Vice President of the Company
Apr. 2014: Representative Director and President of the Company
Apr. 2019: Representative Director and Chairman of the Company

Representative Director and President

Eiji Hashimoto

Apr. 1979: Joined Nippon Steel Corporation (NSC)
Apr. 2009: Director (under the Executive Management System), Director, Plate Division and Director, Structural Division of NSC
Jul. 2015: Managing Executive Officer, Vice Head of Global Business Development and Project Leader, Usiminas Project, Global Business Development Sector of the Company
Jun. 2016: Representative Director, Executive Vice President and Head of Global Business Development of the Company
Apr. 2019: Representative Director and President of the Company

Representative Director and Executive Vice President

Naoki Sato

Apr. 1983: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Managing Executive Officer and Head of Works, Kashima Works of the Company
Apr. 2020: Executive Vice President and Head of Works, East Nippon Works of the Company
Jun. 2021: Representative Director and Executive Vice President, Project Leader, Next-Generation Hot Strip Mill Project, and Deputy Project Leader, India Iron and Steel Project, Global Business Development Sector of the Company
Apr. 2023: Representative Director and Executive Vice President, Project Leader, Next-Generation Hot Strip Mill Project, Project Leader, Ironmaking Operations Project, and Deputy Project Leader, India Project, Global Business Development Sector of the Company

Representative Director and Executive Vice President

Takahiro Mori

Apr. 1983: Joined Nippon Steel Corporation (NSC)
Jun. 2016: Vice President of Usiminas Siderúrgicas de Minas Gerais S.A.- USIMINAS
Apr. 2020: Managing Executive Officer, Head of Unit, Plate Unit, Head of Unit, Pipe & Tube Unit, Project Leader, VSB Project, Global Business Development Sector of the Company
Apr. 2021: Executive Vice President, Head of Global Business Development, and Project Leader, India Iron and Steel Project, Global Business Development Sector of the Company
Jun. 2021: Representative Director and Executive Vice President, Head of Global Business Development, and Project Leader, India Iron and Steel Project, Global Business Development Sector of the Company

Representative Director and Executive Vice President

Takashi Hirose

Apr. 1986: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Executive Officer, Director, Plate Division of the Company
Apr. 2019: Managing Executive Officer, Head of Unit, Plate Unit and Vice Head of Unit, Flat Products Unit of the Company
Apr. 2020: Managing Executive Officer, Head of Unit, Flat Products Unit, and Project Leader, Shanghai-Baoshan Cold-rolled & Coated Sheet Products Project, Global Business Development Sector of the Company
Jun. 2022: Representative Director and Executive Vice President, Head of Unit, Flat Products Unit, Deputy Project Leader, Next-Generation Hot Strip Mill Project of the Company

Representative Director and Executive Vice President

Kazuhisa Fukuda

Apr. 1986: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Managing Executive Officer and Head of Works, Hirohata Works of the Company
Apr. 2020: Managing Executive Officer and Head of Works, Setouchi Works of the Company
Apr. 2022: Executive Vice President and Head of R & D Laboratories of the Company
Jun. 2023: Representative Director and Executive Vice President, and Head of R & D Laboratories of the Company

Representative Director and Executive Vice President

Tadashi Imai

Apr. 1988: Joined Nippon Steel Corporation (NSC)
Apr. 2016: Executive Officer and Head of Works, Nagoya Works of the Company
Jun. 2020: Managing Director, Member of the Board of the Company
Feb. 2022: Managing Director, Member of the Board and Project Leader, Thail Steel Project, Global Business Development Sector; Deputy Project Leader, Zero-Carbon Steel Project; Deputy Project Leader, Next-Generation Hot Strip Mill Project of the Company
Apr. 2023: Representative Director and Executive Vice President, Head of Green Transformation Development, and Deputy Project Leader, Next Generation Hot Strip Mill Project of the Company

Representative Director and Executive Vice President

Hirofumi Funakoshi

Jul. 1987: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Executive Officer of the Company
Apr. 2019: Executive Officer and Head of Division, Corporate Planning Division of the Company
Apr. 2022: Managing Executive Officer, and Vice Head of Green Transformation Development of the Company
Jun. 2023: Representative Director and Executive Vice President of the Company

Director

Outside Director
Independent Director

Tetsuro Tomita

Apr. 1974: Joined Japanese National Railways
Jun. 2003: Executive Director and Deputy Director General of Corporate Planning Headquarters of East Japan Railway Company
Jun. 2008: Executive Vice President and Representative Director, Director General of Life-Style Business Development Headquarters of East Japan Railway Company
Jun. 2012: President and Representative Director of East Japan Railway Company
Apr. 2018: Chairman and Director of East Japan Railway Company
Jun. 2020: Director, Member of the Board (Outside Director) of the Company

Director

Outside Director
Independent Director

Kuniko Urano

Apr. 1979: Joined Komatsu Ltd.
Apr. 2011: Executive Officer, General Manager of Corporate Communications Department of Komatsu Ltd.
Apr. 2014: Executive Officer, General Manager of Human Resources Department of Komatsu Ltd.
Jun. 2018: Director and Senior Executive Officer of Komatsu Ltd.
Jun. 2021: Advisor of Komatsu Ltd.
Jun. 2022: Director, Member of the Board (Outside Director) of the Company

Directors who are Audit & Supervisory Committee Members

Director, Member of the Board
(Senior Audit & Supervisory Committee Member) (Full time)

Shozo Furumoto

Apr. 1985: Joined Nippon Steel Corporation (NSC)
Apr. 2016: Executive Officer and Head of Division, Legal Division of the Company
Apr. 2019: Managing Executive Officer of the Company
Apr. 2020: Executive Officer and Advisor to the President of the Company
Jun. 2020: Director, Member of the Board (Senior Audit & Supervisory Committee Member) (Full time) of the Company

Director, Member of the Board
(Audit & Supervisory Committee Member) (Full time)

Masayoshi Murase

Apr. 1984: Joined Nippon Steel Corporation (NSC)
Apr. 2016: Executive Counsellor, General Manager, Head of Division, Internal Control & Audit Division of the Company
Apr. 2021: Executive Officer, Head of Division, Internal Control & Audit Division of the Company
Apr. 2022: Executive Officer and Advisor to the President of the Company
Jun. 2022: Director, Member of the Board (Audit & Supervisory Committee Member) (full-time) of the Company

Director, Member of the Board
(Audit & Supervisory Committee Member)
Outside Director
Independent Director

Seiichiro Azuma

Dec. 1975: Joined Tohmatsu Awoki & Co. (current Deloitte Touche Tohmatsu LLC)
Jul. 1991: Partner of Tohmatsu & Co. (current Deloitte Touche Tohmatsu LLC)
Nov. 2013: Partner and Chairman of Management Council of Deloitte Touche Tohmatsu LLC
Jun. 2016: Audit & Supervisory Board Member (Outside Audit & Supervisory Board Member) of the Company
Jul. 2016: Certified Public Accountant, Seiichiro Azuma Certified Public Accountant Office
Jun. 2020: Director, Member of the Board, Audit & Supervisory Committee Member (Outside Director) of the Company

Director, Member of the Board
(Audit & Supervisory Committee Member)
Outside Director
Independent Director

Hiroshi Yoshikawa

Feb. 1993: Professor of Faculty of Economics, The University of Tokyo
Jun. 2016: Professor Emeritus of The University of Tokyo
Apr. 2019: President of Rissho University
Jun. 2019: Audit & Supervisory Board Member (Outside Audit & Supervisory Board Member) of the Company
Jun. 2020: Director, Member of the Board, Audit & Supervisory Committee Member (Outside Director) of the Company
Mar. 2022: Retired from the President of Rissho University

Director, Member of the Board
(Audit & Supervisory Committee Member)
Outside Director
Independent Director

Masato Kitera

Apr. 1976: Joined Ministry of Foreign Affairs of Japan
Nov. 2012: Ambassador of Japan to the People's Republic of China
Apr. 2016: Ambassador of Japan to the French Republic
Dec. 2019: Retired from Ambassador of Japan to the French Republic
Jun. 2020: Director, Member of the Board (Outside Director) of the Company
Jun. 2022: Director, Member of the Board, Audit & Supervisory Committee Member (Outside Director) of the Company

Skill Matrix of Directors

Nippon Steel believes that its Board of Directors, as a whole, must have the necessary skills and experience based on the Group's corporate philosophy and medium- to long-term management plan, etc. The main skills and experience possessed by each Director are as shown below.

Name	Position	Corporate Planning / Business strategy	Finance / Accounting, Monetary / Economy	Personnel / Labor affairs / HR Development	Governance / Risk Management / Legal / Compliance	Technology / R&D	Sales / Purchase / Marketing	Global	Environment / Sustainability	Public Administration / Public Policy
Directors (excluding Directors who are Audit & Supervisory Committee Members)										
Kosei Shindo	Representative Director and Chairman	●		●	●				●	●
Eiji Hashimoto	Representative Director and President	●			●		●	●	●	
Naoki Sato	Representative Director and Executive Vice President				●	●			●	
Takahiro Mori	Representative Director and Executive Vice President	●	●				●	●		
Takashi Hirose	Representative Director and Executive Vice President	●					●	●		
Kazuhisa Fukuda	Representative Director and Executive Vice President				●	●			●	
Tadashi Imai	Representative Director and Executive Vice President	●			●	●			●	
Hirofumi Funakoshi	Representative Director and Executive Vice President	●		●	●				●	
Tetsuro Tomita	Director (Outside Director)	●		●	●			●		
Kuniko Urano	Director (Outside Director)			●	●				●	
Directors who are Audit & Supervisory Committee Members										
Shozo Furumoto	Senior Audit & Supervisory Committee Member (full-time)				●			●		●
Masayoshi Murase	Audit & Supervisory Committee Member (full-time)		●	●	●					
Seiichiro Azuma	Audit & Supervisory Committee Member (Outside Director)		●		●			●		
Hiroshi Yoshikawa	Audit & Supervisory Committee Member (Outside Director)		●		●			●		●
Masato Kitera	Audit & Supervisory Committee Member (Outside Director)			●	●			●		●

* The check marks indicate the main skills and experience (up to four in principle) possessed by each Director, based on their career history and experience.

Message from Outside Directors

I will do my best to support the Company to overcome major turning points in the steel industry with innovation, and continue to contribute to society through steel and improve corporate value.

Director, Member of the Board
(Audit & Supervisory Committee Member)
Hiroshi Yoshikawa

I have been serving as an Outside Director and Audit & Supervisory Committee Member since 2020. In addition to audits related to internal control at headquarters and production sites, my job is to participate in the decisions of basic management policies at the Board of Directors. I have studied macroeconomics and the Japanese economy at university for many years, I am particularly interested in Nippon Steel's technological development in relation to the keyword "innovation." With that in mind, I speak at the Board of Directors meetings and in dialogues with the Representative Directors.

What moves companies/economy is technological innovation in a broad sense, including hardware and software, that is, innovation. Looking back on history, Germany, which lagged behind Britain in economic development, caught up with and overtook Britain in the latter half of the 19th century. The core of this was the steel industry, and there was a series of technological innovations starting with the Bessemer process (a steelmaking method using a converter) in 1855. As is known, the steel industry has played an important role in the process of modern economic growth in Japan since the Meiji period.

As nearly a quarter of the 21st century has passed, the steel industry is now at a major turning point, a once-in-a-century event. Since global warming is a threat to human existence itself, reducing carbon dioxide (CO_2) emissions is the largest challenge for the steel industry. Nippon Steel has announced "Nippon Steel Carbon Neutral Vision 2050."

There are various methods to reduce CO_2 emissions, but the most challenging one is the upstream process with a large amount of emissions, that is, reduction of CO_2 in the blast furnaces. Iron that naturally exist is oxidized iron ore, but since coal (carbon) is used to remove oxygen from it, it bonds with oxygen and emits CO_2. If reduction is performed using hydrogen (H) instead of carbon, water (H_2O) is discharged. Based on the world's top-level steelmaking technology accumulated over many years, Nippon Steel is working to hydrogen injection, a technological innovation of the century. We visited Kimitsu Area of East Nippon Works in May to see the results of a small pilot plant. The fused body obtained from the hydrogen reduction test furnace was actually exhibited at the G7 Summit venue held in Hiroshima in May, and caught the attention of many visitors from overseas. From FY2025, demonstration of Kimitsu No. 2 actual blast furnace will start.

Compared with carbon neutrality, the new possibility of an old material iron under the declining birthrates and population is less well known. In 2022, 770 thousand people were born, and the working-age population will continue to decline at an accelerated pace due to the declining birthrate. Even if the rising labor force participation rate of women and the elderly, and the influx of foreign workers are considered, it is inevitable that the labor force will decline rapidly in the future. Manpower reduction is the key to the serious labor shortage progress. Under such circumstances, the plasticity and durability of the material iron are expected to exert ability.

In the fields of civil engineering and construction where a serious labor shortage has become a reality already, the movement of widening the possibility of steel started. For example, for the temporary installation required at construction sites, a new construction method that uses steel pipe piles instead of conventional H-beams makes it possible to shorten the construction period and reduce manpower.

Concrete and wood are materials that compete with steel in the fields of civil engineering and construction, but both require manual labor. In contrast, steel can be made into modules and considered to be a material having an excellent advantage in progressing manpower reduction. Smart construction has already started such as construction of skyscrapers using robots. The needs for manpower reduction under declining population increases the new possibility of iron, and it is necessary to develop new steel products that answers the needs of each field. The sources of corporate value are diverse, and I think that accumulation of technologies cultivated over time is Nippon Steel's strong advantage. As an Outside Director and Audit & Supervisory Committee Member, I will do my best so that Nippon Steel can overcome major turning points in the steel industry with innovation, and continue to contribute to society through steel and improve corporate value.

The role of audit is important for the smooth progress of medium- to long-term corporate reforms, and I will contribute to increasing corporate value.

Director, Member of the Board
(Audit & Supervisory Committee Member)
Masato Kitera

I was appointed as Outside Director of Nippon Steel in June 2020. I served in the Ministry of Foreign Affairs for 44 years, the last seven of which were spent as Ambassador of Japan in China and France. Since I have experienced the economic crisis that began in Thailand in 1997, I believe that the cooperation of the public and private sectors is the most important thing for Japanese companies, and I have practiced public-private partnerships both at the Ministry and overseas. Based on my own experience, I have strived to respond to global issues and environment, society, and governance (ESG), and various stake holders, thinking that the development of the leading company in the steelmaking is indispensable for the future Japanese economy. I was very impressed by the high level of effectiveness of the Board of Directors from the very start, the high level of awareness of compliance throughout the company and the Group over the years, and the high level of awareness of safety at the production sites from the greeting “be safe.”Since I was appointed, there has been a lot of discussion about the importance of the role of outside directors, our responsibilities, and what we should be like. I feel that my responsibility is very significant.

Nippon Steel had a large impairment loss in the settlement of accounts in March 2020. While the company was working to improve the financial structure and make efforts to return the iron and steel business into the black, the business environment deteriorated due to the COVID-19 pandemic. Nevertheless, in March 2021, the company announced a medium- to long-term management plan with an aim to become “the best steelmaker with world-leading capabilities.” The plan consists of four pillars, which are (1) Restructuring of the domestic steelmaking business and strengthening of group management, (2) Promotion of global strategies to deepen and expand overseas steel business, (3) Challenge to carbon neutrality, and (4) Promotion of digital transformation strategy. In (1) and (2), the company aims to return the steelmaking business into the black and change the business model to achieve a combined production capacity of 100 million tons in Japan and overseas. In (3), the company positioned initiatives for climate change issues as the most important management issues and presented “Nippon Steel Carbon Neutral Vision 2050.” In (4), the company presented to produce a large effect of DX in production, customer service, and management. This plan means that Nippon Steel transforms into a completely new company over a medium- to long-term.

In June 2022, I was appointed as a director, an Audit & Supervisory Committee Member. I am very grateful for having been appointed for important audit work in progressing reforms and increasing the corporate value. After the COVID-19 pandemic passed the peak, I visited steelworks in various places for inspections, and was amazed that this “medium- to long-term management plan” is being steadily implemented. Examples are preparations for high-grade flat product production facilities in Nagoya, strengthening of high-grade electrical steel sheet production in Hirohata, and preparations for dismantling suspended facilities in Kure. In addition to preparing for future increases in demand for high-quality products, Nippon Steel has significantly lowered the break-even point in the steelmaking business and is making steady progress with reforms. Ukraine invasion by Russia has made the business management environment more difficult, and the outlook for the world economy has also become less than positive, but these reforms will continue without interruption. Yawata Works, which served as the core steelworks since its founding, has also begun full consideration of conversion to the EAF steelmaking process. In order to progress such a reform, the role of the audit is important. Environmental projects and the occurrence of accidents at manufacturing sites are matters that affect the reliability of the company, and it is necessary to strictly deal with them. I hope that the greeting “be safe” will not allow recurrence.

Diversity & Inclusion are important perspectives. At Nagoya Works, the number of female employees engaged in production has exceeded 100. If female employees of various jobs can work with peace of mind with the support of childcare centers at steelworks, and if male employees can actively take childcare leave, a mouth-to-mouth information that “Nippon Steel is a female-friendly workplace” spreads throughout the region, helping to secure human resources in the region. Steelworks are close local communities.

I would like to make a contribution so that Nippon Steel can steadily move toward the realization of “Nippon Steel Carbon Neutral Vision 2050,” further promote reforms to increase corporate value, and become “the best steelmaker with world-leading capabilities.”

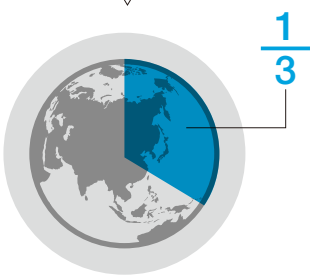
Attractiveness of Steel

Steel is one of the most familiar materials and is indispensable for our daily lives. Thanks to its diverse properties and infinite potential, steel will continually contribute to a sustainable society.

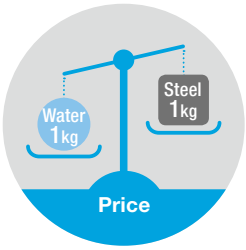
Steel for all of us and the Earth

Steel is an abundant, sustainable material that can be reborn endlessly

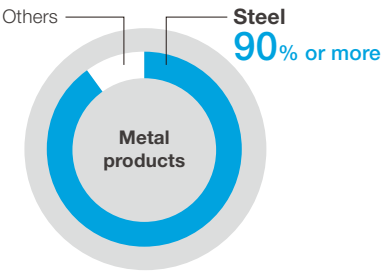
Iron is believed to constitute **one-third** of the Earth's weight.



Steel is an **affordable material** and is cheaper than water in a plastic bottle (in comparing price per unit weight).

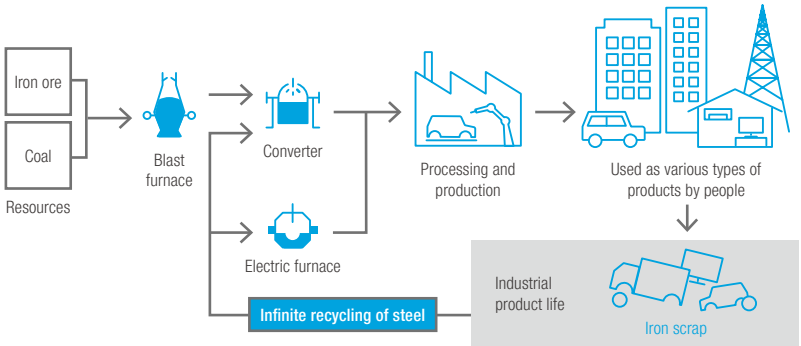


Steel represents **90% or more** of metal products, as steel being abundant, cheap, and having good workability, and has a wide range of applications.



Steel is a sustainable material to be reborn in new steel products endlessly

Steel is easily sorted from a mixture with other materials and can be endlessly recycled without causing deterioration in quality — quite a unique characteristic. Steel is a perfect material for recycling as it can be recycled endlessly into all kinds of steel products after the end of its product life.



Diverse properties and a wide range of applications

Due to diverse advantages such as strength and easiness to work, steel has been used in a wide range of applications and deserves recognition as the most outstanding material for the infrastructure of society, a material that supports people's lives and overall economic development.

Steel is close to us and we cannot live without steel products. Steel is for here for all of us now and will be with us in the future.

Diverse properties that support a wide range of applications

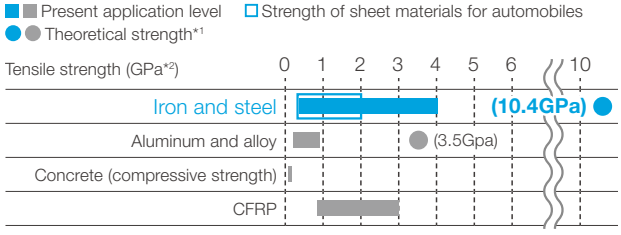
Strength	Weldability	Heat resistance
Toughness	Paintability	Cold resistance
Robustness	Magnetism	
Workability	Corrosion resistance	Weather resistance

Infinite potential

Steel is a material with great potential due, in part, to its having a much higher theoretical strength than other materials.

In addition to the adjustment of carbon and other components, the combination of temperature and rolling in the manufacturing stage and the addition of alloys enable steel to be a unique material whose properties can be greatly diversified. Further development and mastery of its optimal use will allow us to pursue new steel possibilities.

Potential capacity and present application level of material strength

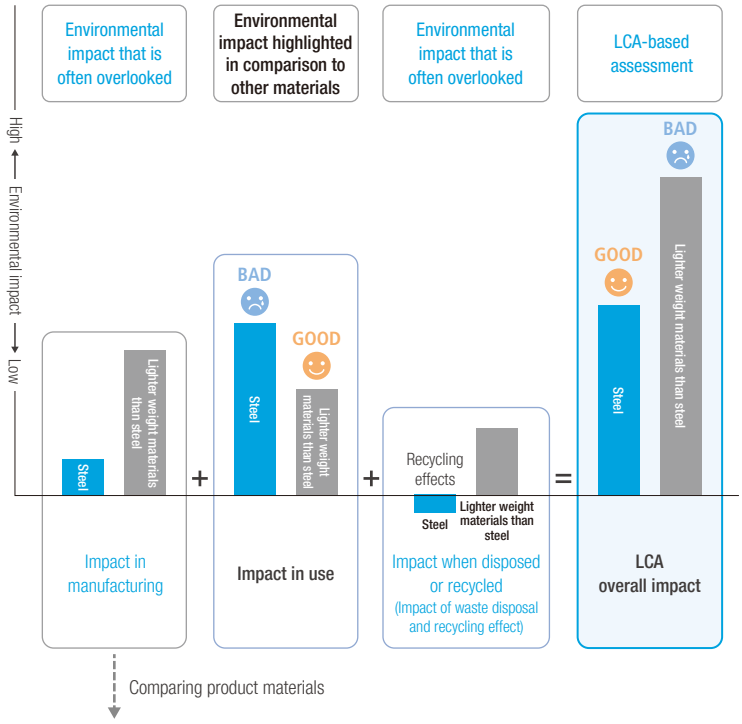


*1 Theoretical strength is said to be 1/5 to 1/7.5 of the modulus of rigidity. The above data uses 1/7.5.
*2 Gigapascal (GPa) is a unit to measure tensile strength. Giga denotes a factor of one billion (10^9)

Steel is an outstanding material from the Life Cycle Assessment (LCA) perspective

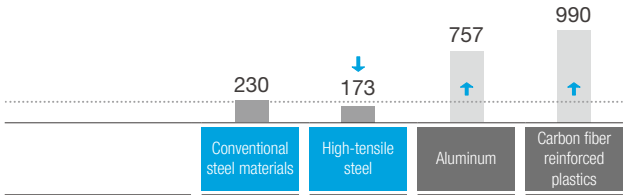
— The Life Cycle Assessment (LCA) is therefore important. —

Some materials have low environmental impact in use
but may have high environmental impact in the overall life cycle.



Comparing product materials

Comparison of CO_2 emission in producing an automotive part that has the same strength as conventional steel (kg-CO_2e)



	Conventional steel materials	High-tensile steel	Aluminum	Carbon fiber reinforced plastics
Functional equivalent weight (kg)	100	75	67	45
CO_2 emissions per unit (kg, CO_2e/kg)	2.3	2.3	11.3	22.0

Based on the public data of WorldAutoSteel

Steel's environmental impact in production is extremely lower than other materials,
some of which are lighter than steel.

* Moreover, high-tensile steel is about 25% lighter than conventional steel and has a lower environmental impact.

Going forward, with the aim to further reduce environmental impact on climate change, Nippon Steel will make development toward carbon neutrality in steelmaking process.

Let's consider the overall life cycle

The Life Cycle Assessment method (LCA) is a way of thinking to evaluate environmental impact of a product over its entire life cycle. While many aspects of environmental impact cannot be seen, the LCA is an attempt to visualize the impact over the life cycle of a product, from production of its raw material to use, disposal and recycling of the end product.

From the LCA perspective, steel's environmental impact can be said to be very low relative to other materials. In order to continue to supply steel as a sustainable material, while taking advantage of its excellent LCA characteristics, we aim to realize carbon-neutral steel production process.

Environmental impacts of steel made via the BF and EAF routes, using an LCA approach

The blast furnace (BF) route to reduce iron ore to make steel may appear to generate a higher environmental impact than the method that melts steel scrap in an electric arc furnace (EAF) to make steel. However, the BF route creates steel products that generate scrap that, through recycling, has an effect of CO_2 emission reduction. As that scrap recycling effect offsets the CO_2 emissions in the BF process, environmental impacts of the BF and EAF routes in total terms are the same as steel is repeatedly recycled.

This approach is recognized in the ISO 20915 and the JIS Q 20915 and is becoming a global standard.

Acquisition of the "Eco-Leaf" environmental label

Nippon Steel has obtained the "Eco-Leaf" — an ecolabel certified by the Sustainable Management Promotion Organization (SuMPO), in compliance with the ISO 14025 international standards, for 47 products, representing more than 80% of our products.

The Eco-Leaf is an EPD* certification program in use in Japan to disclose quantitative environmental information about the entire life cycle of a product, from resource mining and manufacturing to disposal and recycling. This allows customers to assess the environmental impact of the products they use.

* EPD (Environment Product Declaration): The type III environmental label specified in the ISO 14025 international standard, which is designed to disclose quantitative environmental data certified by a third-party organization.

Contribution to SDGs

Steel has diverse properties and infinite potential.
The Nippon Steel Group plays an important role in realizing the value of steel and widely supporting the foundations of society through steelmaking.

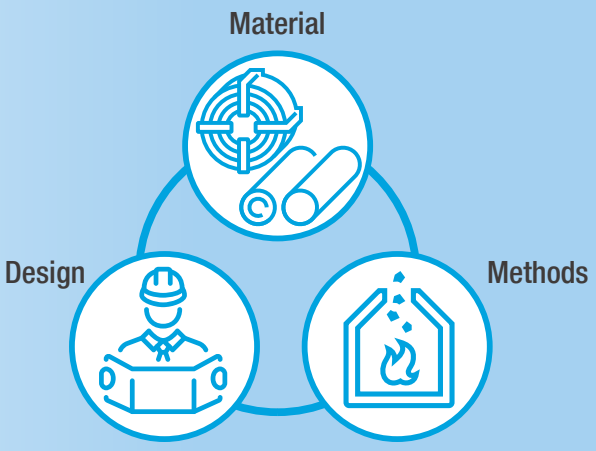
Diverse properties and infinite potential of steel

Strength	Magnetism
Toughness	Corrosion resistance
Robustness	Heat resistance
Workability	Cold resistance
Weldability	
Paintability	Weather resistance

etc.

Abundant resources	Mass production

Solution provision



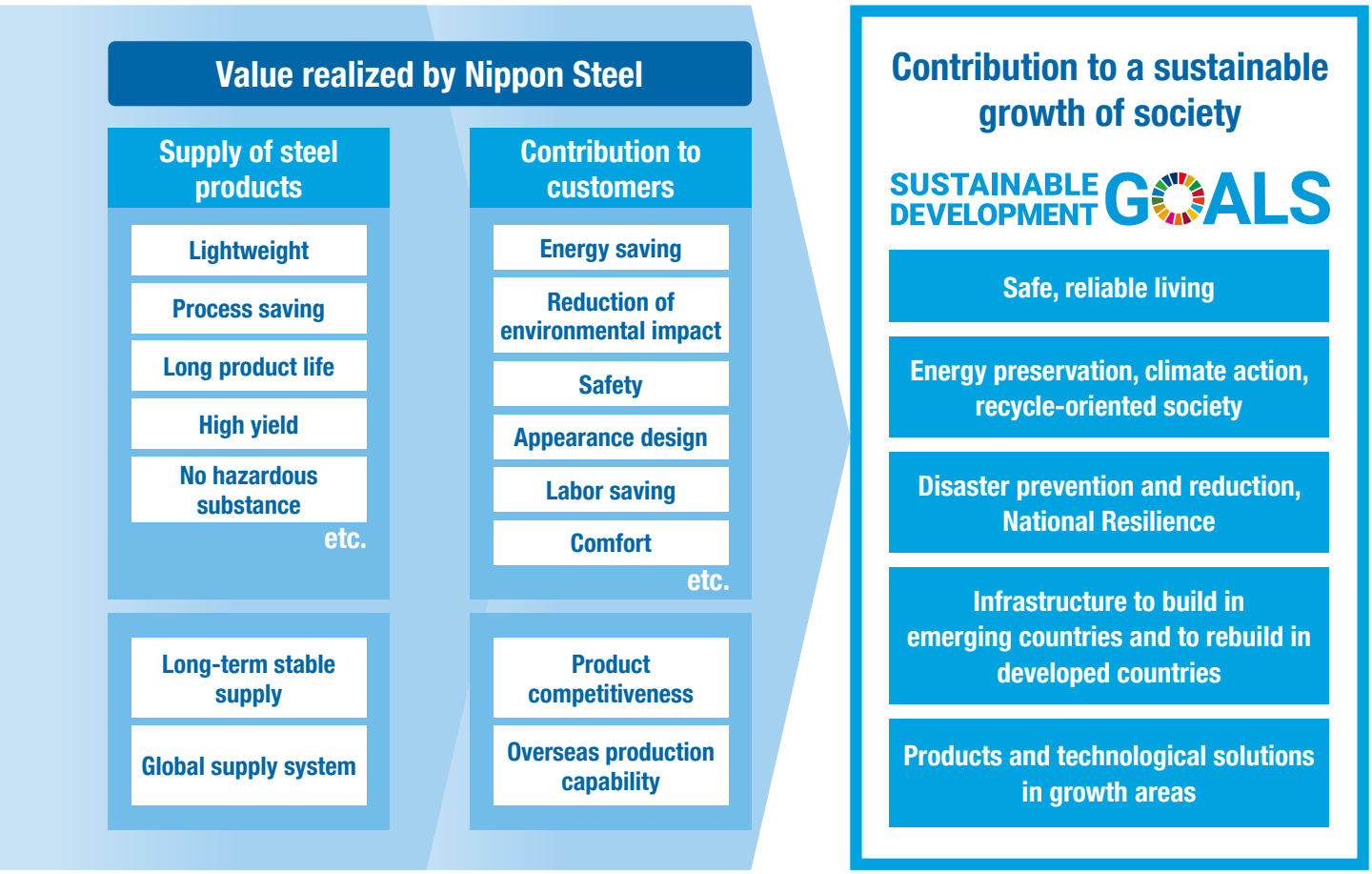
Secondary processed steel products

Strategic establishment of brand raising corporate value

We take a strategy to use NIPPON STEEL as a master brand to strengthen and disseminate our group identity, and to endorse our domain brand and product brand for the enhancement of the reliability and value of our products. Concerning the Nippon Steel Carbon Neutral Vision 2050 initiatives, we established an activity logo NIPPON STEEL Green Transformation Initiative in order to demonstrate our aggressive efforts for the realization of a carbon neutral society.

We are also strategically building domain brands that express the value (products and solutions) presented in our business domains, as well as product lines and brands that showcase the characteristics and value of our product lines and products. The aim is to enable our customers to better identify the technological advances and environmental value of our products and solutions.

We firmly believe that contributing to the sustainable development of society through our group's initiatives will also work for achievement of the United Nations' 2030 Agenda for Sustainable Development, featuring Sustainable Development Goals (SDGs).



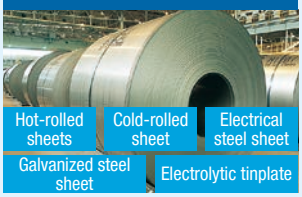
Products and Applications

The Nippon Steel Group manufactures almost all types of steel products manufactured in the world and has a comprehensive supply system, which includes secondary processed products.
Applications also extend to the manufacturing, resources and energy, civil engineering and construction and all other industry sectors.

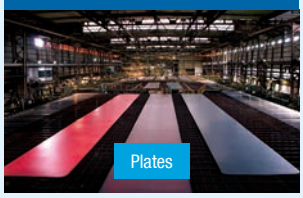
Wealth of product groups

Product types

Steel sheets

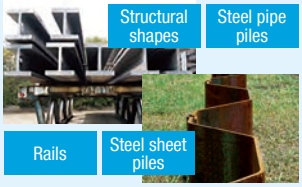


Flat products



Bars & wire rods

Construction products



Major applications and product examples

Automotive

High-tensile steel sheetas

High strength | Workability | Lightweight

Electrical appliances, office equipment

VIEWKOTE™
(pre-painted steel sheets)

Corrosion resistance | Process saving | Appearance design

Containers

CANSUPER™ (tin-free steel)

Corrosion resistance | Printability | Lacquer adherence

Energy

Grain-oriented electrical steel sheets

Low iron loss | Energy saving

Civil engineering and construction

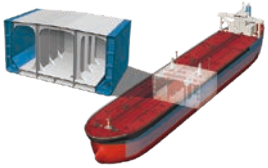
ZEXEED™

Corrosion resistance | Process saving | High-corrosion resistance in the plane and end surfaces

Shipbuilding

Nsafe™-Hull
(highly ductile steel plates)

Absorbing collision energy | Preventing oil spill



Industrial machinery

ABREX™
(abrasion resistant steel plates)

Abrasion resistance | Workability | Weldability

Energy

7% nickel steel

Energy saving | Ultra-low-temperature strength and toughness

Civil engineering and construction

CORSPACE™

Rationalizing of painting | Reduction in frequency to paint

Automotive

Steel cords for tires

Ultra-lightweight | High strength | Durability

Steel for high-strength suspension springs

High strength | Durability | Lightweight

Industrial machinery

Steel for high-function bearings

Corrosion resistance | Abrasion resistance | Rolling fatigue strength

Civil engineering and construction

Steel for high-tension bolts

High strength | Durability | Lightweight

Railway

150-meter rails

No need of welding | Reduction in rail maintenance

Enhanced passenger comfort

Civil engineering and construction

NSHyper Beam™

Uniform depth and width within a same size series | Design simplification | Enhanced processing

Hat-type sheet piles

Space saving | Workability | Reduction in construction time

NM segment

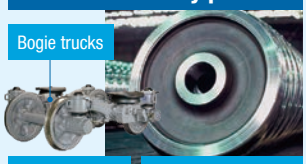
Structural reliability | Reduction in construction time | Reduction in waste soil

Steadily, globally, and over a long time we have been providing products and services that respond to customers' needs, contributing to their value creation and to sustainable growth of society. What we offer includes materials that bring out diverse properties and infinite potential of steel, solutions such as for customer-specified component design and production method, and diverse secondary products.

Pipes and tubes

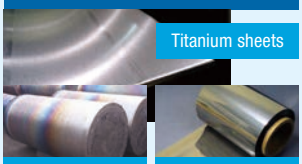
Welded pipes and tubes | Seamless pipes and tubes

Railway, automotive and machinery parts



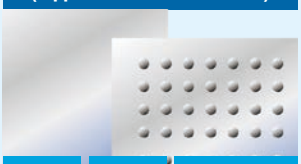
Bogie trucks | Railway wheels | Crankshafts

Titanium



Titanium sheets | Titanium ingots | Titanium foil

Stainless steel (Nippon Steel Stainless Steel)



Sheets | Plates | Bars and rods

Automotive

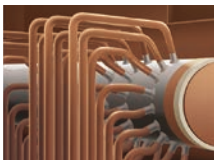
Pipes and tubes for hydroforming
(Pipes and tubes for suspensions)

Closed-section structure | High strength | Lightweight

Energy

Pipes & tubes for power generation

High-temperature strength | High-temperature corrosion resistance



OCTG, line pipes

High-strength | High toughness | Corrosion resistance

Civil engineering and construction

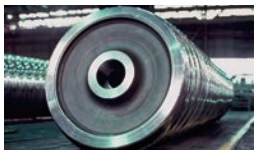
Pipes and tubes for structures

High strength | Corrosion resistance | Appearance design

Railways and aircraft

Railway wheels

High strength | Sound insulation | Brake heat resistance



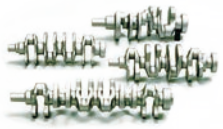
Bogie trucks

Durability | Comfortable rides | Less maintenance

Automotive

Crankshafts

High strength | Durability | Safety



Industrial machinery

Permanent magnet retarder

Energy saving | Lightweight | Safety

Automotive

Titanium alloys for mufflers

Corrosion resistance | Lightweight | High strength | Workability

Aircraft

Titanium alloys for aircraft

Lightweight | High-specific strength | Corrosion resistance

Construction

TranTixxii™

Appearance design | Corrosion resistance | Lightweight | Workability

Civil engineering

TP method and Titanium foil method

Corrosion resistance | Workability | Maintenance free

Automotive

Stainless cold-rolled sheets

Corrosion resistance | Lightweight | High-temperature resistance

Electrical appliances, office equipment

Stainless cold-rolled sheets

Corrosion resistance | Appearance design | Workability

Energy

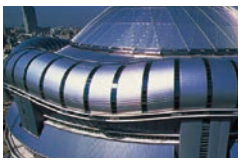
Stainless plates

Corrosion resistance | High strength

Civil engineering and construction

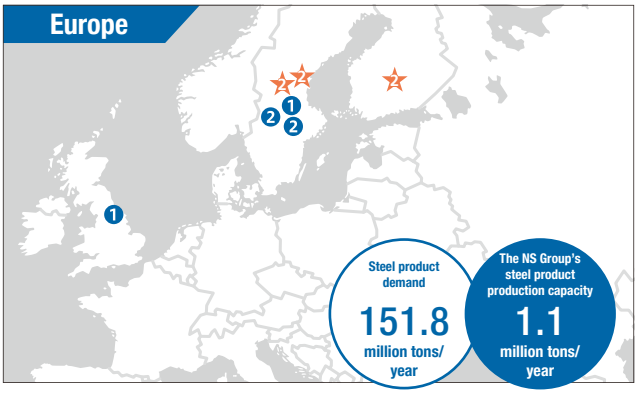
Stainless cold-rolled sheets

Corrosion resistance | Lightweight | Appearance design



Global Production System (Steel Production Bases)

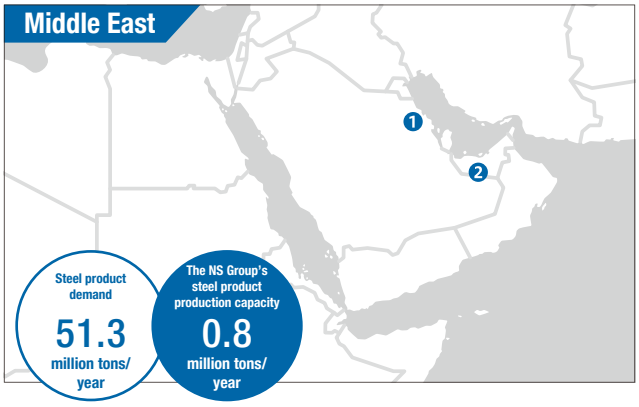
Europe



Establishment		Company	Product	Steel production capacity (10,000 tons/year)	Investment ratio; partner (%)
1	2009	Suzuki Garphyttan*	Bars & wire rods	3	100
2	2018	Ovako	Bars & wire rods	110	100

* Suzuki Garphyttan includes KTS Wire.

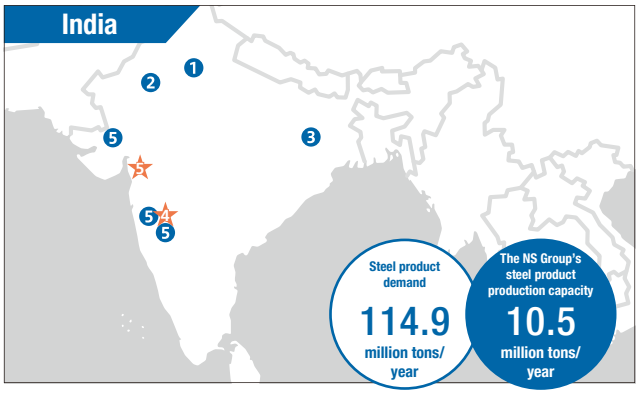
Middle East



Establishment		Company	Country	Product	Steel production capacity (10,000 tons/year)	Investment ratio; partner (%)
1	1978	NPC	Saudi Arabia	Pipes & tubes	43	35
2	2005	AGIS*	UAE	Flat products	40	20

* A company to which Nippon Steel plays an important role in supply of semi-finished products is added in the Group's worldsteel-based steel product production capacity.

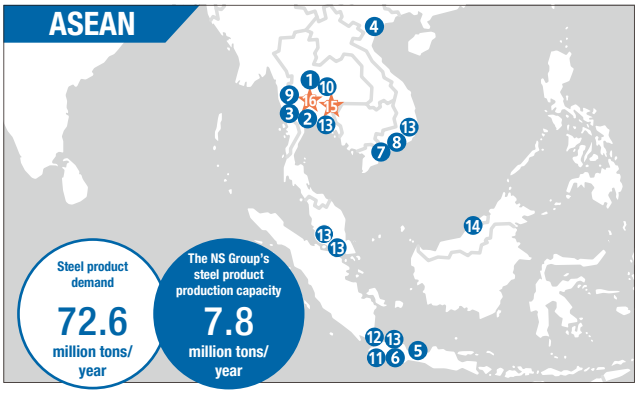
India



Establishment		Company	Product	Steel production capacity (10,000 tons/year)	Investment ratio; partner (%)
1	2010	SMAC	Crankshafts	2.2 mn units	40
2	2010	NSPI	Pipes & tubes	2	86
3	2012	JCAPCPL	Flat products	60	49 Tata Steel
4	2012	SSMI	Bars & wire rods	24	57*1
5	2019	ArcelorMittal Nippon Steel India	Flat products Plates Pipes & tubes	960	40*2 ArcelorMittal

*1 Ownership after the acquisition of equity interest from Mahindra & Mahindra Limited in April 2023: 80%
*2 Investment ratio in AM/NS Lux (holding company)

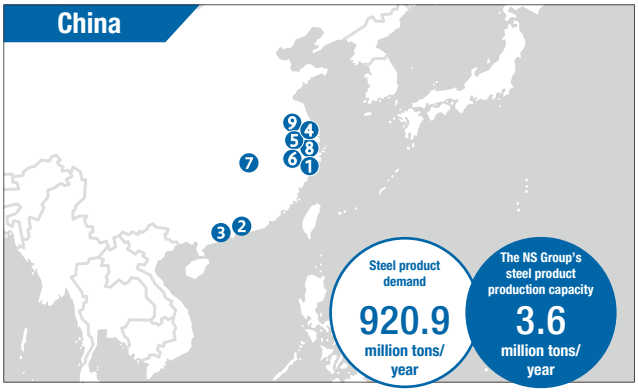
ASEAN



Establishment		Company	Product	Steel production capacity (10,000 tons/year)	Investment ratio; partner (%)
1	1963	NSPT	Pipes & tubes	16	58
2	1995*1	NS-SUS	Flat products Tinplates	100	95
3	1997	NSSPT	Bars & wire rods	10	65
4	1997	VNSP	Pipes & tubes	5	60
5	2005	INSP	Pipes & tubes	4	60
6	2006	LATINUSA	Tinplates	16	37 Krakatau
7	2009	CSVC	Flat products	120	32 CSC
8	2010	NPV	Pipes & tubes	6	78
9	2011	TSW	Bars & wire rods	2	51
10	2012	TPP	Bars & wire rods	1	80
11	2012	KNSS	Flat products	48	85*2 Krakatau
12	2012	KOS	Structural shapes Concrete steel bars	50	86*2 Krakatau
13	2013	NSBS	Flat products	96	50 BlueScope
14	2015	VAM®BRN	Pipes & tubes		60 Vallourec
15	2022	G Steel	Flat products	158	60
16	2022	GJ Steel	Flat products	150	58

*1 Former STP was established in 1988.
*2 Economic equity including preferred stock (equity ratio with voting right of KNSS: 80%, KOS: 80%)

China

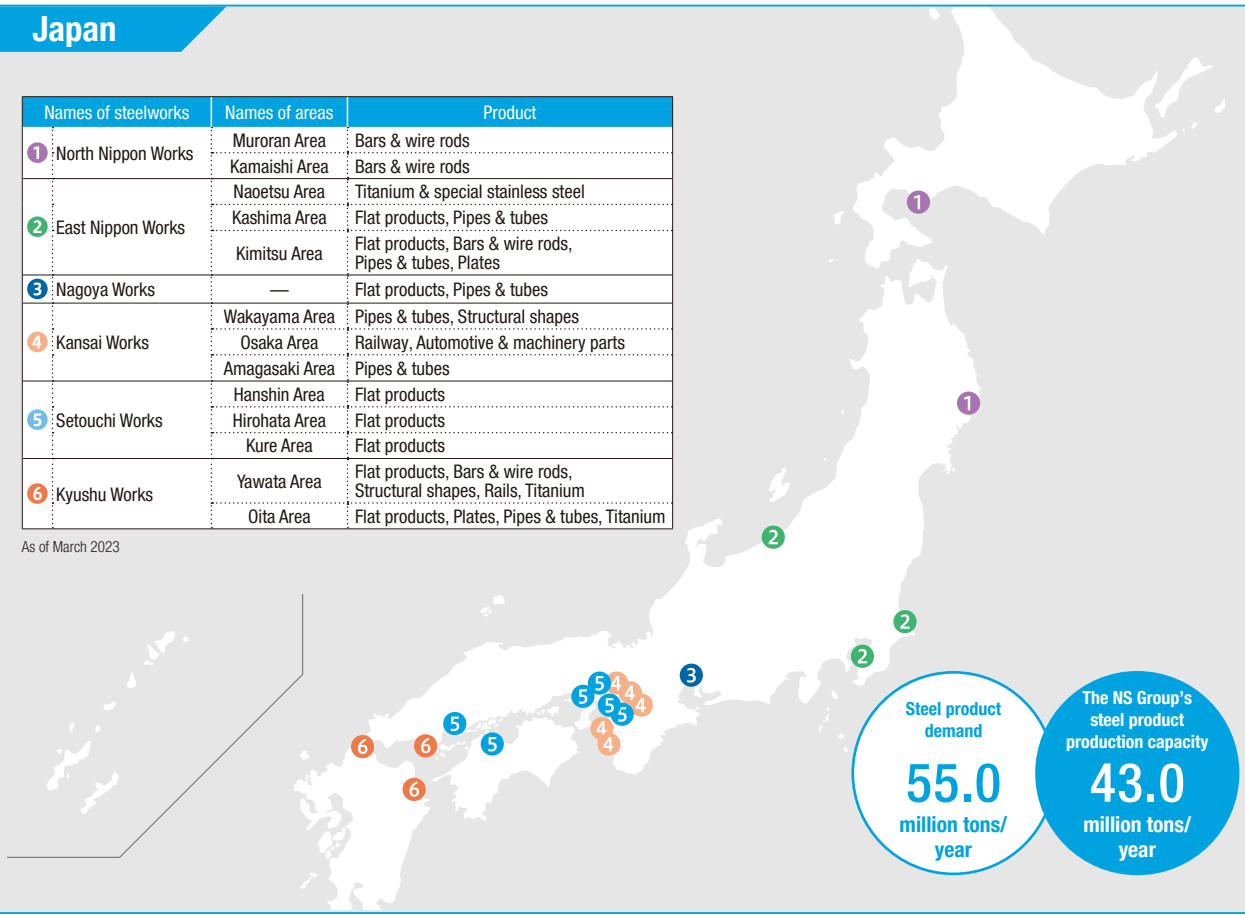


Establishment		Company	Product	Steel production capacity (10,000 tons/year)	Investment ratio; partner (%)
1	2001	Ningbo Sanyo Special Steel Products Co., Ltd.	Bars & wire rods	3	89
2	2003	Huizhou Nippon Steel Forging	Crankshafts	2.1 mn units	60
3	2003	Nippon Steel Pipe Guangzhou	Pipes & tubes	2	66
4	2004	BNA	Flat products	262	50 Baoshan Iron & Steel Co., Ltd.
5	2004	Nippon Steel Pipe Wuxi	Pipes & tubes	2	75
6	2006	Suzuki Garphyttan	Bars & wire rods	1	100
7	2011	WINSteel	Tinplates	80	50 Wuhan Iron and Steel (Group) Corp.
8	2013	NSCh	Bars & wire rods	4	47
9	2013	Nippon Steel Nisshin (Nantong) High-Tech Sheet Co., Ltd.	Flat products	1	90

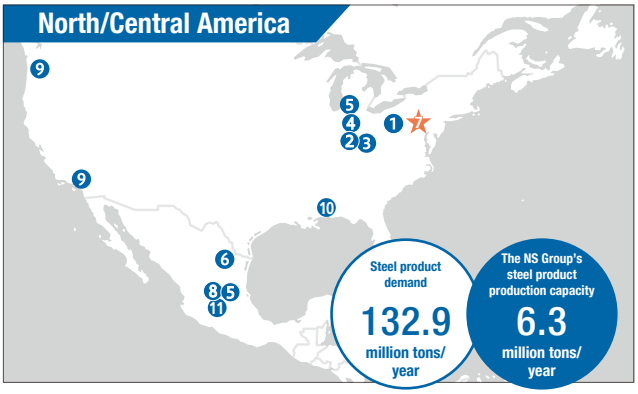
Japan

Names of steelworks	Names of areas	Product
① North Nippon Works	Muroran Area	Bars & wire rods
	Kamaishi Area	Bars & wire rods
② East Nippon Works	Naoetsu Area	Titanium & special stainless steel
	Kashima Area	Flat products, Pipes & tubes
	Kimitsu Area	Flat products, Bars & wire rods, Pipes & tubes, Plates
③ Nagoya Works	—	Flat products, Pipes & tubes
④ Kansai Works	Wakayama Area	Pipes & tubes, Structural shapes
	Osaka Area	Railway, Automotive & machinery parts
	Amagasaki Area	Pipes & tubes
⑤ Setouchi Works	Hanshin Area	Flat products
	Hirohata Area	Flat products
	Kure Area	Flat products
⑥ Kyushu Works	Yawata Area	Flat products, Bars & wire rods, Structural shapes, Rails, Titanium
	Oita Area	Flat products, Plates, Pipes & tubes, Titanium

As of March 2023



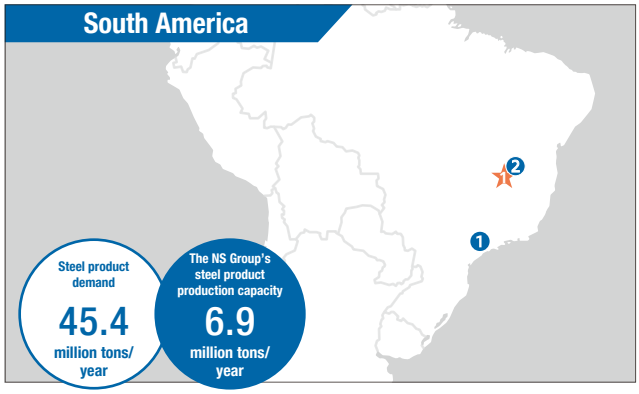
North/Central America



Establishment		Company	Product	Steel production capacity (10,000 tons/year)	Investment ratio; partner (%)
①	1984	Wheeling-Nippon Steel	Flat products	60	100
②	1989	NSPA	Pipes & tubes	8	80
③	1996	ICI	Crankshafts	4.0 mn units	80
④	2008	IPF	Bars & wire rods	4	100
⑤	2010	Suzuki Garphyttan	Bars & wire rods	2	100
⑥	2011	Tenigal	Flat products	40	49 Ternium
☆	2012	Standard Steel	Car wheels Car axle	20	65*1
⑧	2013	MNSP	Pipes & tubes	2	74
⑨	2014	NSBS	Flat products	44	50 NS BlueScope
⑩	2015	AM/NS Calvert	Flat products	440*2	50 ArcelorMittal
⑪	2013	SMM	Bars & wire rods	2	91

*1 Investment ratio in Standard Steel Holdings
*2 For stainless steel, the steel production capacity, including outsourced rolling process, is 5.3 million tons/year.

South America



Establishment		Company	Product	Steel production capacity (10,000 tons/year)	Investment ratio; partner (%)
☆①	1958	USIMINAS	Flat products Plates	690	17*1 Ternium
②	1999	UNIGAL*2	Flat products	103	30 Usiminas

*1 Economic equity including preferred stock (shareholding ratio with voting right is 31%)
After partial equity transfer to Ternium group in July 2023: 12% (shareholding ratio with voting right is 22%)
*2 Excluding UNIGAL's capacity from the regional total due to semi-finished products being supplied by USIMINAS

Legends of world map ★ Integrated steel mill ● Downstream process As of March 2023

The steel product demand for each region is assumed using results for 2022 announced by the World Steel Association as of April 2023.
As for indirect equity through subsidiaries, their investment ratios stated here do not take into account the parent company's investment ratio of these subsidiaries unless otherwise stated.

FY2022 Operating Results and FY2023 Forecast

While the external environment has deteriorated significantly since FY2021, when the highest profit was earned, the underlying consolidated business profit and net profit for FY2022 hit record highs for two consecutive periods.

Financial summary

(¥ billion/year)	FY2021	Variance	FY2022	Variance	FY2023 forecast
Underlying business profit excluding one-off factors* (inventory valuation differences, etc.)	690.0	+44.0	734.0	+106.0	840.0 Record-high profit
Inventory valuation , etc.	248.1	-65.7	182.4	-332.4	-150.0
Consol. business profit	938.1 Record-high profit	-21.7	916.4	-226.4	690.0
ROS	13.8%	-2.3%	11.5%	-3.8%	7.7%
Additional line item	-97.2	+64.4	-32.8	-42.2	-75.0
Profit attributable to owners of the parent	637.3	+56.7	694.0 Record-high profit	-294.0	400.0

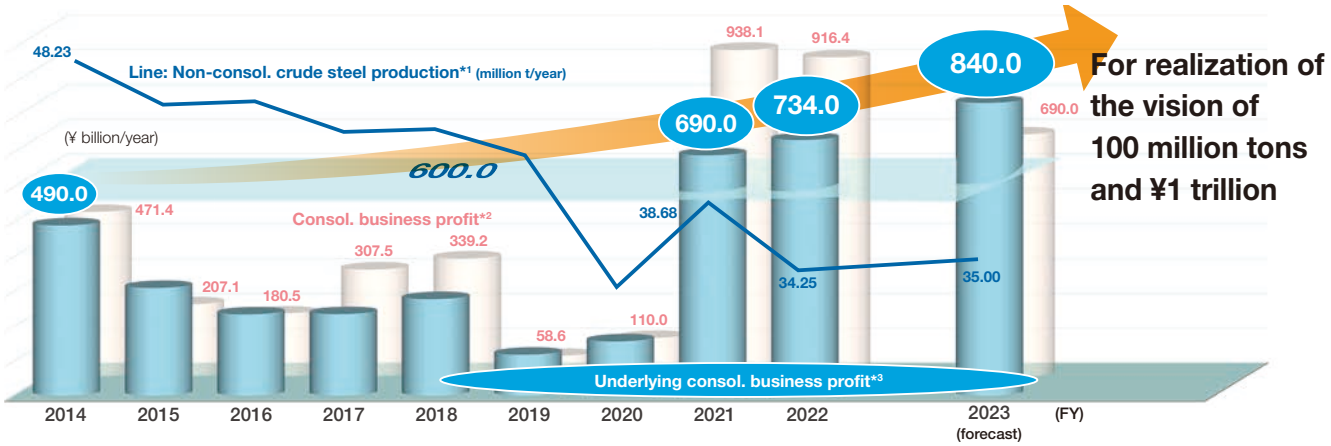
* The underlying consolidated business profit is a profit index indicating the performance of the Nippon Steel Group deducted the inventory valuation , etc. from the consolidated business profit.

In FY2022, we were in a significantly harsh business environment in which the domestic and global demands for steel fell below the previous year level, as the pace and amplitude of changes in the business environment increased rapidly, including US and European economic tightening due to increasing inflation caused by the situation in Ukraine, global manpower shortage and rapid exchange rate fluctuation.

Under such a harsh business environment, with respect to the past record-high profit of ¥690 billion in FY2021, our underlying consolidated business profit reached a record high by covering the quantity decrease due to environmental deterioration (-¥135 billion) and overseas business profit decrease (-¥40 billion) with margin improvement (+¥60 billion), cost improvement (+¥50 billion), increased profits in the raw material business (+¥23 billion), and increased profits of other group companies including Nippon Steel Stainless and electric furnace companies (+¥76 billion). Thus, we posted a profit of +¥734 billion, an increase of +¥44 billion from the previous fiscal year (consolidated business profit including inventory valuation profit was ¥916.4 billion).

Our previous record-high profit was ¥471.4 billion in FY2014, which was ¥490 billion on underlying business profit. The crude steel production in FY2022 is 34.25 million tons, which is a 30% decrease from 48.23 million tons in FY2014. However, the underlying consolidated business profit greatly exceeded FY2014. We can say that this is the outcome of our efforts for the last 3 years to establish a profit structure that ensure ¥600 billion in underlying consolidated business profit regardless of the external environment. Regarding the structural measures against the production facilities that integrate 15 blast furnaces into 10 blast furnaces and reduce the crude steel production capacity by 20%, 4 blast furnaces and 14% of crude steel capacity were reduced. This significantly reduced the fixed costs. We are also working on improving margins in direct contact sales, and by the second half of FY2021, we significantly improved the prices and margins that had fallen internationally. From FY2022, we are also reviewing and optimizing the price negotiation method and improving the margins in direct contact sales by optimizing it. We are steadily responding to the growing demand for products with high added value, and a more sophisticated order mix is also progressing, significantly improving the marginal profit per ton. In addition, further sophistication is expected in the future by the effect of investment for equipment. As a result, the breakeven point was drastically improved by about 40%, and we are changing to a structure that can make a profit even with a small quantity.

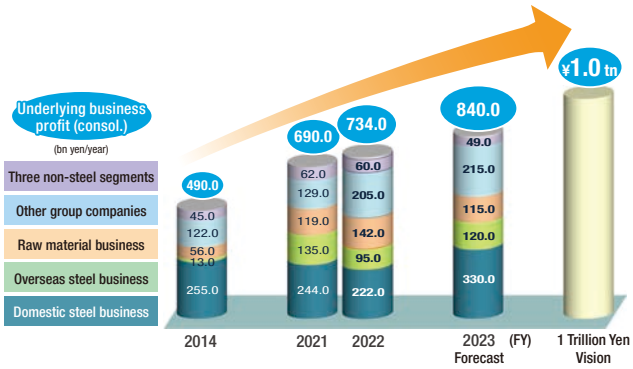
Underlying consolidated business profit and non-consolidated crude steel production



*1 2014 to 2018: former NSSMC + former Nisshin Steel Kure Steelworks, 2019: Nippon Steel + former Nisshin Steel Kure Steelworks
*2 Up to FY2016: Simple sum of consolidated ordinary profit (JGAAP) of former NSSMC and former Nisshin Steel, from FY2017: consolidated business profit (IFRS)
*3 Excluding impairment losses, etc. for FY2019

The underlying consolidated business profit can be classified into five components. The group structure consists of various fields including (1) core domestic steel business, and (2) overseas steel business that is expanding into growth markets, and (3) other group companies, (4) raw material business, and (5) three non-steel segments, which support the steelmaking business. We have created a business structure that is resilient to changes in the business environment by having a wide variety of source of revenue.

Five components of underlying consolidated business profit



In particular, the profit from overseas steel business, which was only ¥13 billion in FY2014, increased more than 10 times in FY2021. In addition, although raw material prices remaining high is a negative factor for domestic steel business, it is a positive factor for raw material business. The profit, which was ¥56 billion in FY2014 increased to ¥142 billion in FY2022. Other group companies have supported domestic steel business from upstream to downstream in the value chain of domestic steel business. As with Nippon Steel, the group has strengthened the structure by restructuring and integration, consolidation of facilities, and improvement of margins. It has been making a stable profit as a whole to further enhance the earning power. Sales of stainless steel and electric furnaces were especially satisfactory in FY2022. Three non-steel segments are also improving their earning power, including the system solutions business, which has been increasing the sales and profits for more than 10 years, excluding FY2020 due to the COVID-19 pandemic.

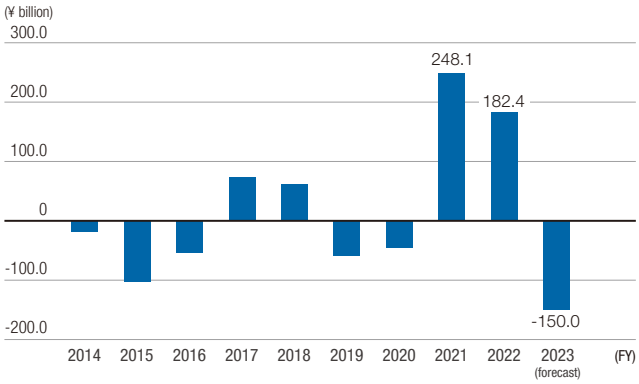
As a result, we were able to achieve profit that greatly exceeded the underlying consolidated business profit of ¥600 billion for two consecutive years in FY2021 and FY2022, and we are making steady progress in building a stable profit structure. In the future, we will be entering a new stage for the next vision of “global crude steel 100 million tons/underlying consolidated business profit of ¥1 trillion.”

In FY2023, there is a low possibility of a recovery in quantity or an improvement in the spread between raw materials and product prices, but it is expected to achieve ¥840 billion or more in underlying consolidated business profit, which will be the highest profit for the third consecutive period. From “the construction of a profit structure that stably ensures ¥600 billion regardless of external environment” to a new stage of “global crude steel of 100 million tons/underlying consolidated business profit of ¥1 trillion.”

Global steel demand in FY2023 is still not expected to improve from current levels. Under such circumstances, we are expecting to achieve ¥840 billion or more in underlying consolidated business profit, which will be the highest profit for the third consecutive period. We assume that production and shipment quantity will only increase slightly from FY2022, and the margins will remain sluggish in the export market. Due to factors such as cost improvement through continuous improvement of operational capabilities and stabilization of facilities, profit increase in India and other overseas steel businesses, increase in contribution to profits due to subsidiary acquisition of NIPPON STEEL TRADING CORPORATION, it is expected to exceed FY2022 by ¥106 billion.

On the other hand, in FY2023, it is expected that the surge of raw material prices that has continued for two years and the sharp depreciation of the yen will be adjusted. As a result, the underlying business profit will increase, while there will be a large fluctuation in the valuation gain/losses such as inventory valuation. Thus, consolidated business profit (¥690 billion) and net profit (¥400 billion), including this, are expected to remain lower than actual figures.

Transition of inventory valuation, etc.



Looking back on the past, the absolute value of valuation gains/losses, such as inventory valuation, was at a low level, even though there were fluctuations between gains and losses. However, after FY2021, raw material prices and exchange rates fluctuated greatly due to the situation in Russia and Ukraine, the trend towards carbon neutrality, resource inflation, etc., and fluctuations in inventory valuation also became large. From a profit of ¥182.4 billion in FY2022, we expect a loss of ¥150 billion in FY2023, which will result in a decrease in profit of approximately ¥330 billion.

In addition, additional line items such as loss on termination and demolition of equipment associated with structural measures are expected to increase from ¥32.8 billion in FY2022 to ¥75.0 billion in FY2023 due to the closure of Hanshin Area (Osaka) and downstream processes in Kure Area of Setouchi Works in FY2023.

As a result, the net profit is expected to decrease significantly from the record-high profit of ¥694.0 billion in FY2022 to ¥400.0 billion in FY2023.

Nippon Steel will speedily implement various measures to realize Carbon Neutral Vision 2050, and promote various personnel and public relations measures as one of the most important management issues for securing human resources and promoting active participation. Improving the revenue system will be the base for realizing these measures, and it is important to continuously increase the underlying consolidated business profit and improve corporate value. We will overcome the current harsh business environment, achieve consolidated business profit excluding one-off factors of ¥840 billion or more in FY2023, and move forward to a new stage of “100 million tons and ¥1 trillion.”

Financial information

Consolidated Statements of Financial Position

(Millions of yen)	March 31, 2022	March 31, 2023
ASSETS		
Current assets		
Cash and cash equivalents	551,049	**670,410**
Trade and other receivables	939,406	**1,062,384**
Inventories	1,756,589	**2,085,971**
Other financial assets	41,357	**28,176**
Other current assets	226,253	**223,575**
Total current assets	3,514,655	**4,070,518**
Non-current assets		
Property, plant and equipment	3,052,640	**3,183,638**
Right-of-use assets	78,162	**83,935**
Goodwill	61,741	**65,062**
Intangible assets	130,497	**157,444**
Investments accounted for using the equity method	1,079,068	**1,210,542**
Other financial assets	548,283	**528,794**
Defined benefit assets	123,563	**124,628**
Deferred tax assets	158,031	**136,349**
Other non-current assets	5,701	**6,185**
Total non-current assets	5,237,691	**5,496,581**
Total assets	8,752,346	**9,567,099**
LIABILITIES AND EQUITY		
Liabilities		
Current liabilities		
Trade and other payables	1,526,719	**1,592,137**
Bonds, borrowings and lease liabilities	344,056	**403,028**
Other financial liabilities	1,042	**5,878**
Income taxes payable	109,958	**51,917**
Other current liabilities	36,852	**40,839**
Total current liabilities	2,018,630	**2,093,802**
Non-current liabilities		
Bonds, borrowings and lease liabilities	2,309,339	**2,296,322**
Other financial liabilities	1,207	**323**
Defined benefit liabilities	188,350	**185,441**
Deferred tax liabilities	39,805	**37,685**
Other non-current liabilities	298,005	**307,105**
Total non-current liabilities	2,836,707	**2,826,879**
Total liabilities	4,855,337	**4,920,682**
Equity		
Common Stock	419,524	**419,524**
Capital surplus	393,547	**399,366**
Retained earnings	2,514,775	**3,079,144**
Treasury stock	(57,977)	**(58,054)**
Other components of equity	196,928	**341,173**
Total equity attributable to owners of the parent	3,466,799	**4,181,155**
Non-controlling interests	430,209	**465,261**
Total equity	3,897,008	**4,646,417**
Total liabilities and equity	8,752,346	**9,567,099**

Consolidated Statements of Profit or Loss

(Millions of yen)	Fiscal 2021	Fiscal 2022
Revenue	6,808,890	**7,975,586**
Cost of sales	(5,587,331)	**(6,682,028)**
Gross profit	1,221,559	**1,293,557**
Selling, general and administrative expenses	(544,725)	**(579,411)**
Share of profit in investments accounted for using the equity method	214,480	**102,915**
Other operating income	128,417	**181,497**
Other operating expenses	(81,601)	**(82,102)**
Business profit (loss)	938,130	**916,456**
Losses on reorganization	(97,229)	**(32,810)**
Operating profit (loss)	840,901	**883,646**
Finance income	1,928	**8,091**
Finance costs	(26,245)	**(24,888)**
Profit (loss) before income taxes	816,583	**866,849**
Income tax expense	(149,052)	**(128,117)**
Profit (loss) for the year	667,530	**738,732**
Profit (loss) for the year attributable to		
Owners of the parent	637,321	**694,016**
Non-controlling interests	30,209	**44,715**
Profit (loss) for the year	667,530	**738,732**
Earnings (loss) per share		
Basic earnings (loss) per share (Yen)	692.16	**753.66**
Diluted earnings per share (Yen)	657.48	**671.89**

Consolidated Statements of Comprehensive Income or Loss

(Millions of yen)	Fiscal 2021	Fiscal 2022
Profit (loss) for the year	667,530	**738,732**
Other comprehensive income		
Items that cannot be reclassified to profit or loss		
Changes in fair value of financial assets measured at fair value through other comprehensive income	(7,962)	**32,577**
Remeasurements of defined benefit plans	14,324	**16,567**
Share of other comprehensive income of investments accounted for using the equity method	5,293	**1,355**
Subtotal	11,655	**50,500**
Items that might be reclassified to profit or loss		
Changes in fair value of cash flow hedges	11,995	**(7,779)**
Foreign exchange differences on translation of foreign operations	56,497	**88,768**
Share of other comprehensive income of investments accounted for using the equity method	68,663	**56,700**
Subtotal	137,156	**137,688**
Total other comprehensive income, net of tax	148,811	**188,188**
Total comprehensive income for the year	816,342	**926,920**
Comprehensive income for the year attributable to:		
Owners of the parent	779,815	**874,564**
Non-controlling interests	36,526	**52,356**
Total comprehensive income for the year	816,342	**926,920**

11-Year Financial Performance

		JGAAP					
FY		2011	2012*1	2013	2014	2015	2016
Operating Results (End of fiscal year) <Millions of yen>							
Net sales	Nippon Steel*2	4,090,936	4,389,922	5,516,180	5,610,030	4,907,429	4,632,890
	Sumitomo Metals	1,473,367	693,601	—	—	—	—
Ordinary profit (loss)	Nippon Steel	143,006	76,931	361,097	451,747	200,929	174,531
	Sumitomo Metals	60,803	10,815	—	—	—	—
Profit (loss) before income taxes	Nippon Steel	120,053	(136,970)	399,147	376,188	230,778	181,692
	Sumitomo Metals	(51,251)	(134,831)	—	—	—	—
Profit (loss) attributable to owners of parent	Nippon Steel	58,471	(124,567)	242,753	214,293	145,419	130,946
	Sumitomo Metals	(53,799)	(133,849)	—	—	—	—
Capital expenditure*3	Nippon Steel	281,748	355,873	257,019	304,389	304,643	351,038
	Sumitomo Metals	115,797	N.A.	—	—	—	—
Depreciation and amortization*4	Nippon Steel	280,940	288,770	331,801	320,046	308,276	304,751
	Sumitomo Metals	122,937	49,757	—	—	—	—
Research and development costs	Nippon Steel	48,175	60,071	64,437	62,966	68,493	69,110
	Sumitomo Metals	22,842	N.A.	—	—	—	—
Financial Position (End of fiscal year) <Millions of yen>							
Total assets	Nippon Steel	4,924,711	7,089,498	7,082,288	7,157,929	6,425,043	7,261,923
	Sumitomo Metals	2,386,158	—	—	—	—	—
Shareholders' equity*5	Nippon Steel	1,828,902	2,394,069	2,683,659	2,978,696	2,773,822	2,948,232
	Sumitomo Metals	709,315	—	—	—	—	—
Total net assets*5	Nippon Steel	2,347,343	2,938,283	3,237,995	3,547,059	3,009,075	3,291,015
	Sumitomo Metals	761,484	—	—	—	—	—
Interest-bearing debt*6	Nippon Steel	1,334,512	2,543,061	2,296,326	1,976,591	2,008,263	2,104,842
	Sumitomo Metals	1,172,120	—	—	—	—	—
Cash Flows (End of Fiscal year) <Millions of yen>							
Cash flows from operating activities	Nippon Steel	237,414	313,317	574,767	710,998	562,956	484,288
	Sumitomo Metals	88,065	N.A.	—	—	—	—
Cash flows from investing activities	Nippon Steel	(226,096)	(327,336)	(196,856)	(263,667)	(242,204)	(343,738)
	Sumitomo Metals	(120,110)	N.A.	—	—	—	—
Cash flows from financing activities	Nippon Steel	(31,785)	33,332	(367,115)	(451,843)	(337,555)	(135,054)
	Sumitomo Metals	(32,714)	N.A.	—	—	—	—
Amounts per Share of Common Stock*7 <yen>							
Profit (loss) attributable to owners of parent per share	Nippon Steel	9.29	(16.23)	26.67	23.48	158.71*8	147.96
	Sumitomo Metals	(11.61)	—	—	—	—	—
Cash dividends per share	Nippon Steel	2.5	1.0	5.0	5.5	45.0*9	45
	Sumitomo Metals	2.0	—	—	—	—	—

*1 The amounts stated for "Nippon Steel" for fiscal 2012 are the sum of Nippon Steel's amounts for the first half (April 1 to September 30) of fiscal 2012 and NSSMC's amounts for the second half (October 1 to March 31) of fiscal 2012.
The amounts stated for "Sumitomo Metals" for fiscal 2012 are Sumitomo Metals' amounts for the first half (April 1 to September 30) of fiscal 2012.
*2 Up to September 2012 for Nippon Steel; October 2012 to March 2019 for Nippon Steel & Sumitomo Metal (NSSMC); from April 2019 for Nippon Steel.
*3 Only for "Tangible fixed assets," construction base.
*4 The amounts stated for "Sumitomo Metals" for fiscal 2011 and before are only for "Tangible fixed assets." The amounts stated for "Nippon Steel" and the amounts for "Sumitomo Metals" for the first half of fiscal 2012 (April 1 to September 30) include "Intangible fixed assets" excluding "Goodwill."
*5 "Shareholders' equity" stated here is the sum of "Shareholders' equity" as stated in the balance sheet and "Accumulated other comprehensive income." The difference between "Shareholders' equity" and "Total net assets" is "Non-controlling interests in consolidated subsidiaries."
*6 The amounts of "Outstanding borrowings" (the sum of "Borrowings," "Corporate bonds," and "Commercial paper") are stated.

		IFRS				
	2017	2018	2019	2020	2021	**2022**
Operating Results (End of fiscal year) <Millions of yen>						
	5,668,663	Revenue	6,177,947	5,921,525	4,829,272	6,808,890	**7,975,586**
	—						
	297,541	Business profit	336,941	(284,417)	110,046	938,130	**916,456**
	—						
	289,860	Profit before income tax	248,769	(423,572)	(8,656)	816,583	**866,849**
	—						
	195,061	Profit for the year attributable to owners of parent	251,169	(431,513)	(32,432)	637,321	**694,016**
	—						
	411,930	Capital expenditure	440,830	481,310	474,489	407,448	**437,622**
	—						
	340,719	Depreciation and amortization	408,616	417,339	290,863	330,611	**340,171**
	—						
	73,083	Research and development costs	72,043	77,691	65,336	66,431	**70,555**
	—						
Financial Position (End of fiscal year) <Millions of yen>						
	7,592,413	Total assets	8,049,528	7,444,965	7,573,946	8,752,346	**9,567,099**
	—						
	3,145,450	Total equity attributable to owners of parent	3,230,788	2,641,618	2,759,996	3,466,799	**4,181,155**
	—						
	3,515,501	Total equity	3,607,367	2,996,631	3,131,387	3,897,008	**4,646,417**
	—						
	2,068,996	Interest-bearing debt	2,369,231	2,488,741	2,559,232	2,653,396	**2,699,351**
	—						
Cash Flows (End of Fiscal year) <Millions of yen>						
	458,846	Cash flows from operating activities	452,341	494,330	403,185	615,635	**661,274**
	—						
	(353,419)	Cash flows from investing activities	(381,805)	(345,627)	(389,035)	(378,866)	**(366,580)**
	—						
	(89,190)	Cash flows from financing activities	(42,900)	(14,582)	52,694	(61,304)	**(197,655)**
	—						
Amounts per Share of Common Stock <yen>						
	221.00	Basic earnings per share	281.77	(468.74)	(35.22)	692.16	**753.66**
	—						
	70	Cash dividends per share	80	10	10	160	**180**
	—						

*7 On October 1, 2015, NSSMC performed a 1-for-10 share consolidation.
*8 Profit attributable to owners of parent per share for fiscal 2015 is calculated assuming the 1-for-10 share consolidation was performed at the beginning of the year
*9 The interim dividend for fiscal 2015 would be converted into ¥30 based on this share consolidation, and after adding the fiscal 2015 year-end dividend of ¥15 the annual dividend for fiscal 2015 works out to be ¥45 per share.
Figures in parentheses indicate negative figures.

Data related to Nippon Steel

		JGAAP						
	FY	2011	2012*1	2013	2014	2015	2016	
Financial Indices								
Return on sales ((Ordinary profit / Net sales) × 100) <%>	Nippon Steel*2	3.5%	1.8%	6.5%	8.1%	4.1%	3.8%	
	Sumitomo Metals	4.1%	—	—	—	—	—	
Return on equity ((Profit attributable to owners of parent / Shareholders' equity [average for the period]) × 100) <%>	Nippon Steel	3.2%	(5.9%)	9.6%	7.6%	5.1%	4.6%	
	Sumitomo Metals	(7.3%)	—	—	—	—	—	
Shareholders' equity ratio ((Shareholders'equity / Total assets) × 100) <%>	Nippon Steel	37.1%	33.8%	37.9%	41.6%	43.2%	40.6%	
	Sumitomo Metals	29.7%	—	—	—	—	—	
Number of shares issued as of end of period*3 <In thousands>	Nippon Steel	6,806,980	9,503,214	9,503,214	9,503,214	950,321	950,321	
	Sumitomo Metals	4,805,974	—	—	—	—	—	
Share price at end of period*3 <Yen>	Nippon Steel	227.0	235.0	282.0	302.5	2,162.0	2,565.0	
	Sumitomo Metals	167.0	—	—	—	—	—	
Net Sales by Industry Segment*4 <Millions of yen>								
Steelmaking and steel fabrication		3,476,855	3,790,450	4,877,909	4,939,239	4,283,923	4,052,261	
Engineering and construction		248,934	303,002	314,174	348,699	315,727	267,545	
Urban development		80,419	—	—	—	—	—	
Chemicals		197,669	195,719	230,130	212,777	181,823	174,227	
New materials		54,245	42,211	37,241	36,449	36,280	34,519	
System solutions		161,582	171,980	179,856	206,032	218,941	232,512	
Elimination of inter-segment transactions		(128,769)	(113,442)	(123,132)	(133,168)	(129,267)	(128,175)	
Segment Profit (Loss)*4 <Millions of yen>								
Steelmaking and steel fabrication		98,846	41,522	321,287	401,987	160,088	138,017	
Engineering and construction		12,775	18,189	17,702	18,758	12,163	6,838	
Urban development		9,371	—	—	—	—	—	
Chemicals		13,598	9,778	10,057	6,898	1,093	4,518	
New materials		607	984	1,391	2,482	3,073	1,786	
System solutions		11,215	11,673	12,760	16,565	19,493	22,113	
Elimination of inter-segment transactions		(3,408)	(5,217)	(2,101)	5,053	5,017	1,256	
Non-Financial Performance								
Crude steel production <Ten thousands of tons>	Nippon Steel (Consolidated)	3,244	4,603	4,816	4,732	4,453	4,517	
	Nippon Steel (Non-consolidated)*5	3,020	4,355	4,567	4,496	4,217	4,262	
	Sumitomo Metals (Non-consolidated)*6	1,272	—	—	—	—	—	
Steel products shipments (Non-consolidated) <Ten thousands of tons>	Nippon Steel	2,909	4,097	4,202	4,188	3,962	3,978	
	Sumitomo Metals*7	1,124	—	—	—	—	—	
Average steel selling price (Non-consolidated) <Thousands of yen per ton>	Nippon Steel	86.2	80.1	86.0	87.2	77.1	72.6	
	Sumitomo Metals*7	103.5	—	—	—	—	—	
Export ratio (Value basis, non-consolidated)*8 <%>	Nippon Steel	39%	44%	46%	47%	45%	42%	
	Sumitomo Metals*7	41%	—	—	—	—	—	
Number of employees (Consolidated)	Nippon Steel	60,508	83,187	84,361	84,447	84,837	92,309	
	Sumitomo Metals	23,007	—	—	—	—	—	

*1 The amounts of "Sales," "Ordinary profit," and "Net income" used to calculate "Return on sales (ROS)" and "Return on equity (ROE)" are the sum of Nippon Steel's amounts for the first half (April 1 to September 30) of fiscal 2012 and NSSMC's amounts for the second half (October 1 to March 31) of fiscal 2012. "Crude steel production" and "Steel products shipments" for fiscal 2012 are the sum of Nippon Steel's amount for the first half, Sumitomo Metals' amount for the first half, and NSSMC's amount for the second half. At the first half of fiscal 2012, NSSMC's "Average steel selling price" and "Export ratio" are the weighted average of Nippon Steel and Sumitomo Metals.

*2 Up to September 2012 for Nippon Steel; October 2012 to March 2019 for Nippon Steel & Sumitomo Metal (NSSMC); from April 2019 for Nippon Steel.

*3 On October 1, 2015, NSSMC performed a 1-for-10 share consolidation.

*4 Figures for fiscal 2012 and earlier are for Nippon Steel. Figures in parentheses indicate either negative figures or elimination.
Following the business integration of Nippon Steel City Produce, Inc. and Kowa Real Estate Co., Ltd. on October 1, 2012, the business segment classification has been changed to include the results for "Urban development" in "Elimination of inter-segment transactions" for "Net sales by segment" and "Profit (loss) by segment" from fiscal 2012.

			IFRS				
	2017		2018	2019	2020	2021	**2022**
		Financial Indices					
	5.2%	Return on sales ((Business profit / Revenue) × 100)	5.5%	(4.8%)	2.3%	13.8%	**11.5%**
	6.4%	Return on equity	7.9%	(14.7%)	(1.2%)	20.5%	**18.1%**
	41.4%	Ratio of total equity attributable to owners of parent	40.1%	35.5%	36.4%	39.6%	**43.7%**
	950,321	Number of shares issued as of end of period	950,321	950,321	950,321	950,321	**950,321**
	2,336.5	Share price at end of period	1,954.0	925.4	1,886.5	2,171.0	**3,120.0**
		Segment revenue <Millions of yen>					
	5,017,245	Steelmaking and steel fabrication	5,454,536	5,257,344	4,228,449	6,153,632	**7,245,547**
	294,268	Engineering and construction	356,707	340,404	324,468	279,260	**352,231**
	—	Chemicals	247,067	215,733	178,678	249,816	**274,586**
	200,767	System solutions	267,503	273,294	252,476	271,325	**292,513**
	37,050	Elimination of inter-segment transactions	(147,867)	(165,251)	(154,799)	(145,144)	**(189,292)**
	244,200						
	(124,868)						
		Segment profit <Millions of yen>					
	245,708	Steelmaking and steel fabrication	274,672	(325,341)	63,522	871,051	**861,443**
	9,110	Engineering and construction	9,474	10,717	17,708	6,302	**11,674**
	—	Chemicals	25,095	18,477	7,631	25,377	**16,170**
	15,480	System solutions	26,576	26,162	23,948	30,859	**32,111**
	1,919	Elimination of inter-segment transactions	1,122	(14,433)	(2,764)	4,539	**(4,944)**
	23,292						
	2,030						
		Non-Financial Performance					
	4,682	Crude steel production (Consolidated)	4,784	4,705	3,765	4,446	**4,032**
	4,067	Crude steel production (Non-consolidated)	4,100	3,954	3,300	3,868	**3,425**
	—	Steel products shipments (Non-consolidated)	3,797	3,631	3,122	3,556	**3,147**
	3,779	Average steel selling price (Non-consolidated)	89.9	87.3	86.1	117.7	**148.9**
	—	Export ratio (Value basis, non-consolidated)	40%	40%	36%	42%	**43%**
	84.7	Number of employees (Consolidated)	105,796	106,599	106,226	106,528	**106,068**
	—						
	41%						
	—						
	93,557						
	—						

*5 "Crude steel production" of Nippon Steel from October 2012 to March 2018 includes that of Nippon Steel & Sumikin Koutetsu Wakayama Corporation.
*6 "Crude steel production" of Sumitomo Metals includes those of Sumitomo Metals (Kokura), Ltd. (merged with Sumitomo Metals on January 1, 2012) and of Sumikin Iron & Steel Corporation.
*7 "Steel products shipments," "Average steel selling price," and "Export ratio" of Sumitomo Metals include those of Sumitomo Metals (Kokura), Ltd. (merged with Sumitomo Metals on January 1, 2012),Sumitomo Metals (Naoetsu), Ltd. (merged with Sumitomo Metals on January 1, 2012), and Sumikin Iron & Steel Corporation.
*8 "Export ratio" of Nippon Steel indicates the ratios of exports to total steel sales. "Export ratio" of Sumitomo Metals indicates the ratios of exports to total net sales.
Figures in parentheses indicate negative figures.

Total Shareholder Return, Stock Price and Market Cap, and Strategic Shareholdings

FY	2018	2019	2020	2021	2022
Total shareholder return (TSR) <Unit: %>*1	87.1	43.5	85.0	104.0	152.4
(Comparative indicator: Dividend-included TOPIX) <Unit: %>	(95.0)	(85.9)	(122.1)	(124.6)	(131.8)
Highest share price <Unit: ¥>*2	2,527.0	2,081.0	1,954.0	2,381.0	3,294.0
Lowest share price <Unit: ¥>*2	1,794.0	857.0	798.1	1,690.5	1,838.0
Market capitalization (fiscal year end) <Unit: ¥ billion>	1,856.9	879.4	1,792.8	2,063.1	2,965.0
Amount reported on the balance sheet <Unit: ¥ billion>	464.8	237.8	262.6	255.9	219.2
(Ref) Nikkei Stock Average (fiscal year end) <Unit: ¥>	21,205.81	18,917.01	29,178.80	27,821.43	28,041.48

*1 Total shareholder return is obtained by dividing return (dividend and capital gains) from stock investment by the invested amount (stock price). Calculated based on Cabinet Office Order on Disclosure of Corporate Affairs.
TSR = (Share price at end of each fiscal year + Cumulative per-share dividends paid since FY2018)/ Price at the end of FY2017
*2 TOPIX tracks all domestic companies of the Tokyo Stock Exchange Prime market division.

Investor Information (As of March 31, 2023)

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Inception
April 1, 1950

Common Stock
¥419,524 million

Stock Code
5401

Common Shares (Issued)
950,321,402 shares

Common Shares (Authorized)
2,000,000,000 shares

Number of Shareholders
541,138

Listings
Tokyo Stock Exchange Prime Market
Nagoya Stock Exchange Premier Market
Fukuoka Stock Exchange
Sapporo Securities Exchange

ADR Information
Type: Sponsored Level-1 ADR program
Trading market: OTC (Over-the-counter)
ADR ratio: 3 ADR:1 Share of common stock
Ticker symbol: NPSCY
CUSIP number: 65461T101
Depositary Bank: The Bank of New York Mellon
Contact for inquiries regarding our ADR program:
BNYMellon Shareowner Services
P.O. Box 43006, Providence, RI 02940, USA
U.S. toll Free : 888-BNY-ADRS (888-269-2377)
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+81-3-3323-7111 (Outside Japan)

Number of Shares per Trading Unit
100 shares

Share Ownership by Category
Ratio of shares held to the total number of common shares (issued)

Principal Shareholders

Name	Shares owned (Thousands)	Shareholding ratio (%)*
The Master Trust Bank of Japan, Ltd. (Trust Account)	138,369	15.0
Custody Bank of Japan, Ltd. (Trust Account)	39,799	4.3
Nippon Life Insurance Company	19,625	2.1
STATE STREET BANK WEST CLIENT - TREATY 505234	15,435	1.7
Meiji Yasuda Life Insurance Company	13,712	1.5
Nippon Steel Group Employee Shareholding Association	12,246	1.3
Mizuho Bank, Ltd.	12,199	1.3
Sumitomo Mitsui Banking Corporation	10,252	1.1
MUFG Bank, Ltd.	9,558	1.0
JP MORGAN CHASE BANK 385781	8,903	1.0

* The shareholding ratio is calculated after treasury stock owned by Nippon Steel Corporation is excluded from the number of common shares (issued).

Overview of corporate communication tools

Corporate Website

The website comprehensively describes the nature of company operations, general aspects of the company, IR information, hiring information, and ESG information.
https://www.nipponsteel.com/en/index.html

Integrated Report

This report conveys overall business and management information to investors.
https://www.nipponsteel.com/en/ir/library/annual_report.html

Sustainability Report

This report describes Nippon Steel's Environmental, Social, and Governance initiatives.
https://www.nipponsteel.com/en/csr/report/

Various reports for investors

- Basic Facts About Nippon Steel
- Financial Results Summary
- Annual Securities Report
- Corporate Governance Report
- Documents related to the General Meeting of Shareholders, etc.

Disclaimer regarding the Integrated Report 2023

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