NIPPON STEEL

Nippon Steel Integrated Report 2025

NIPPON STEEL CORPORATION

NET ZERO

NIPPON STEEL
Green Transformation
initiative

Executive Summary

We are pleased to present the Integrated Report 2025 to our stakeholders. In this report, we describe the Nippon Steel Group's approaches and measures for improving sustainable corporate value under its medium- to long-term management strategy. We have prepared this report to provide an understanding of our initiatives in so-called non-financial areas, including safety, the environment, and disaster prevention, which constitute the foundation of our business activities.

This report for FY2025 includes information updated from the previous edition, as well as expanded contents and improved readability.

Previously, we disclosed our data related to non-financial information through multiple media, such as integrated reports, company websites, and financial results reference materials. However, effective this fiscal year, we will disclose such pieces of information in a single booklet, the Nippon Steel Data Book. We hope you will take advantage of it as well. We hope all our stakeholders will find this Integrated Report useful and better understand Nippon Steel's activities.

We will continue to improve our Integrated Reports to make them more readable and informative. We would appreciate receiving your comments and requests.

What's New!

- **Newly posted message from Executive Vice President of Finance**
  Financial Strategy part
- **Newly posted roundtable discussion among outside directors**
  Governance part
- **Newly published Nippon Steel Data Book**
  Nippon Steel Data Book
- **Newly added summary**
  Descriptions of the points we would like you to understand at the beginning of each section
- **(Special Feature) About the U. S. Steel Merger**
  P.29

Structure of Integrated Report 2025

Introduction

Corporate Vision → Message from the President and COO → Introduction

In the first three chapters, we explain what Nippon Steel Group is and where it is headed.

Roadmap for growth

Strategy → Financial Strategy

We explain specific strategies for growing toward our Corporate Vision.

Foundations that support our growth

Sustainability → Corporate Governance

We explain our initiatives for sustainability and corporate governance, which are the foundations that support our sustainable growth.

Period covered

FY2024 (April 1, 2024 – March 31, 2025)
Part of our activity results in April 2025 or later is included in this period.

Organizations covered

Nippon Steel Corporation and Nippon Steel Group companies
529 companies as of March 31, 2025
(419 consolidated subsidiaries and 110 equity-method affiliates)

Publication date

November 2025

Contact

Please use the "Contact" function on the Nippon Steel website:
https://www.nipponsteel.com/en/contact/

Reference for guidelines

- The International Integrated Reporting Framework, The International Integrated Reporting Council (IIRC)
- The Guidance for Collaborative Value Creation, The Ministry of Economy, Trade and Industry
- The Environmental Reporting Guidelines 2018, The Ministry of the Environment
- The Task Force on Climate-Related Financial Disclosures (TCFD), The Financial Stability Board
- Global Reporting Initiative (GRI) Standards
- ISO26000
- Various ESG ratings and evaluations

History of publications

1998: Publication of the Environmental Report (former Nippon Steel Corporation)*1

2005: The Environmental Report was renamed as the Environmental and Social Report (former Nippon Steel Corporation)*2

2019: Publication of the Integrated Report*3
The Environmental and Social Report was renamed as the Sustainability Report

2024: The Sustainability Report was merged into the Integrated Report
Start of publication in web version only

2025: Publication of the Nippon Steel Data Book

*1 First publication in the domestic steel industry
*2 Significantly expanded social reporting
*3 Integration of financial and non-financial information based on annual reports

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1 Corporate Vision

4 Potential of Steel

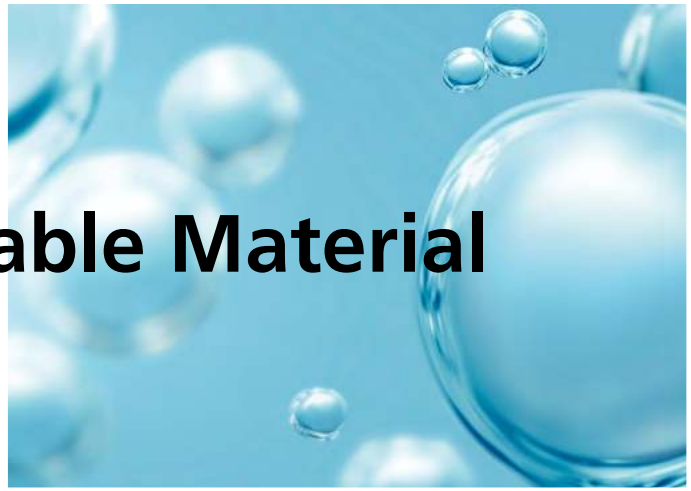
6 Nippon Steel's Efforts

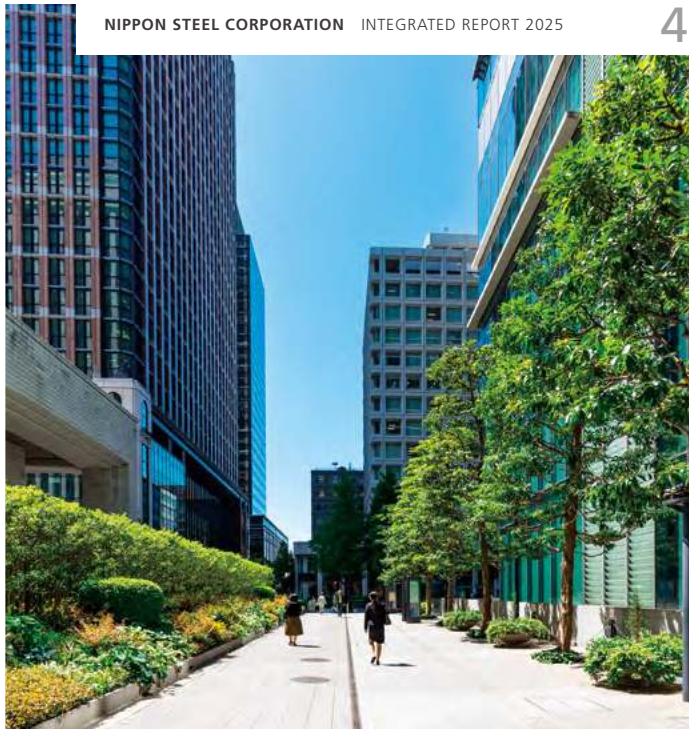
Potential of Steel 1

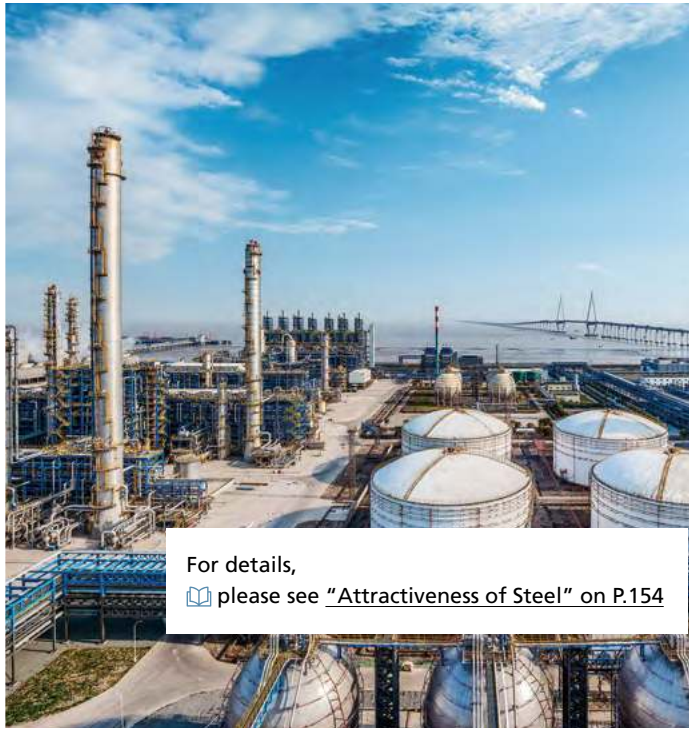
Steel as a Sustainable Material

An abundant material that can be endlessly reborn as any types of steel products

Steel is an essential material in our daily lives, thanks to its diverse 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.







For details,
please see "Attractiveness of Steel" on P.154

Potential of Steel 2

Growth Potential of Steel

Global steel demand driven by emerging countries and high-grade steel

Steel is accumulated in our society in a wide variety of forms, including buildings, bridges, automobiles, and household appliances, supporting our infrastructure and affluent lives. In the future, global steel demand will continue to increase, driven by economic growth and population growth in emerging countries.

In addition, "high-grade steel," which contributes to the resolution of social issues such as climate change by leveraging its inherent material capability, is becoming an increasingly important material worldwide, regardless of whether it is used in developed or emerging countries. We will unlock the limitless potential of steel and enhance its value as a material that supports a more sustainable future.

For details,
please see "Potential Risks and Opportunities in the Steel Market" on P.19

Nippon Steel's
Efforts
1

Aiming to become the best steelmaker with world-leading capabilities

Early realization of the 100 Million Tons, 1 Trillion Yen Vision by developing a robust business structure with vertical and horizontal expansion

We have drastically improved our break-even point by restructuring the domestic steelmaking business. To make it happen, we implemented this initiative ahead of the steel industry through structural measures for production facilities, increased margins from direct contract-based sales to customers, sophisticated order mix, and equipment modernization. From now on, while maintaining this direction in the domestic steelmaking business, we will drastically strengthen our competitiveness by streamlining operations across the entire group. Overseas, we will expand our integrated production capacity in the regions of demand in "areas where demand is surely expected to grow" and in "sectors in which our technological and product capabilities can be utilized." Our target is to realize early 100 million tons/year in global crude steel production capacity. As shown in the diagram, with the domestic steelmaking business at the origin, namely, as the core, we will expand our overseas business along the horizontal axis showing the width of overseas growth, and make upstream raw materials business and downstream distribution business our own business along the vertical axis showing the growing depth of business domains. We will thus evolve into a more robust business structure and strive to realize an earnings structure that can ensure a stable business profit of 1 trillion yen regardless of the external environment.

For details,
please see "The 100 Million Tons, 1 Trillion Yen Vision" on P.21

Nippon Steel's
Efforts
2

Towards carbon neutrality

Leading the global steel industry in realizing a carbon neutral society

Nippon Steel will achieve net-zero CO_2 emissions from its steel manufacturing process by 2050 by drastically changing the conventional process that relies on reducing iron ore with coal.

We are promoting a multi-track approach to develop innovative technologies, such as "high-grade steel production in large electric arc furnaces," "reduced iron production with hydrogen," and "hydrogen reduction in blast furnaces." We will combine the technologies obtained from demonstration tests using an experimental electric arc furnace and a reduction furnace newly installed at our laboratory in anticipation of commercial implementation.

Furthermore, we will lead the steel industry's efforts to achieve a carbon-neutral society.

(The following photos show the operation rooms for experimental shaft furnace (front) and the experimental shaft furnace (back))

For details,
please see "Carbon Neutral Vision" on P.36

2 Message from the President

9 A Message from the President and COO

A Message from the

President and COO

I am Tadashi Imai, President and COO of Nippon Steel.
We are currently facing a historically unprecedented and extremely challenging business environment. In addition, we stand on the verge of significant transformation. Looking ahead to our long-term growth, we have numerous strategic options available, some of which require substantial investment. We see this transformative period as an opportunity to execute initiatives that only Nippon Steel is uniquely positioned to achieve. In this integrated report, I would like to share our current strategic thinking and the options we are actively exploring.

Tadashi Imai
Representative Director, President and COO

1. Business Environment

Global steel demand was increasing steadily in the past; however, China, the world's largest steel demand country, saw its demand peak in 2020 and its demand has been declining since then. While the demand in India is growing steadily, global total demand for steel is leveling off at approximately 1.8 billion tons per year.

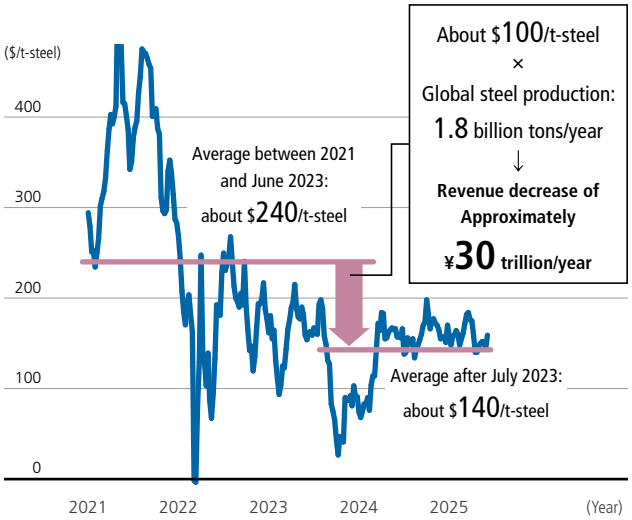
In China, despite the declining domestic steel demand, production remains at high levels, widening the supply-demand gap. As a result, a large volume of surplus steel is being exported, reaching 110 million tons annually in 2024. This is a structural issue, and early improvement is unlikely. This situation significantly affects the global steel market conditions, namely, the earnings of steelmakers worldwide. In fact, the spreads of main raw materials in Asia —the difference between hot-rolled coil prices and raw material prices converted on a steel-equivalent basis—has deteriorated by approximately $100 per ton of steel in recent years, which corresponds to an annual profit decline of about ¥30 trillion for steelmakers worldwide.

Under such circumstances, the global steel industry is currently facing unprecedentedly harsh business conditions. Moreover, the situation is becoming increasingly uncertain due to the impacts of recent trade policies and measures implemented by various countries.

On the other hand, in Japan, we expect domestic steel demand, including high-grade steel, to decline over the medium to long term, due to several reasons, including the long-term decline in population, a factor that influences steel demand, the downward trend in housing construction and automobile production, and concerns that our customers may accelerate shifting their manufacturing operations overseas to mitigate the impacts of the trade-related measures of other countries. It should be noted that domestic steel demand peaked at 90 million tons or more in 1990 and has almost halved to a current level of 50 million tons. We expect the demand to continue to decrease further from this point onward.

Despite the extremely challenging business environment we are facing both in Japan and overseas, we are working hard to implement our initiatives for further growth by establishing a revenue structure that enables us to maintain stable, high-level profits even under these circumstances.

[Asia/hot coils – Changes in spreads of main raw materials]



Decline in spreads of main raw materials → **A potential revenue decrease of approximately ¥30 trillion for all global steelmakers combined**

2. Overview of Recent Business Results

In the current Medium- to Long-term Management Plan formulated in 2021, we are striving for a revenue structure that ensures an underlying consolidated business profit of ¥600 billion or more on a stable basis, regardless of external environment. In FY2024, despite the significant deterioration in our business environment, we achieved a profit of ¥793.7 billion.

The global steel industry is facing an unprecedented and deepening crisis primarily due to the widening supply-demand gap in China. In addition, risks have emerged from the global impact of U.S. tariff policies and the growing pressure of steel exports from China to other countries. Amid this challenging environment, we are incorporating these risks into our business outlook while steadily implementing profit improvement measures, with a focus on cost reduction. As a result, for fiscal year 2025, we project to secure an underlying business profit of ¥650 billion, excluding the impact of the U. S. Steel merger.

Furthermore, following the merger with U. S. Steel completed on June 18, 2025, we will consolidate nine months' worth of U. S. Steel's earnings (from July 2025 to March 2026), amounting to ¥80 billion. Although the impact of U.S. trade policy remains uncertain, we expect a combined underlying business profit of ¥730 billion in FY2025. We will continue working to maximize profits by executing further profit improvement measures.

Regarding the dividend for FY2025, the final fiscal year of the current Medium- to Long-term Management Plan, we plan to pay ¥120 per share (before the stock split), based on a cumulative payout ratio of 30% over the five fiscal years starting from FY2021. This figure excludes one-time costs and losses related to the U. S. Steel merger.

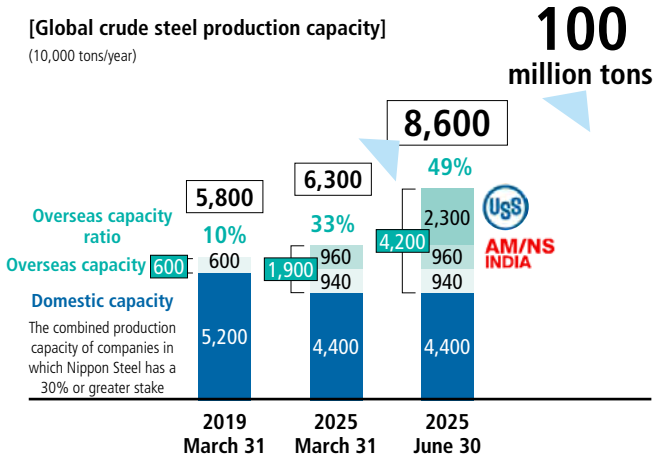
When comparing our profits per ton of crude steel with those of our global competitors, it is evident that while they are experiencing a decline in earnings amid the deteriorating business environment, we are maintaining relatively stable profits. According to the FY2024 performance results, we outperformed China Baowu Group, POSCO, ArcelorMittal, and other steelmakers in terms of earning power, ranking alongside Nucor at the top of the industry.

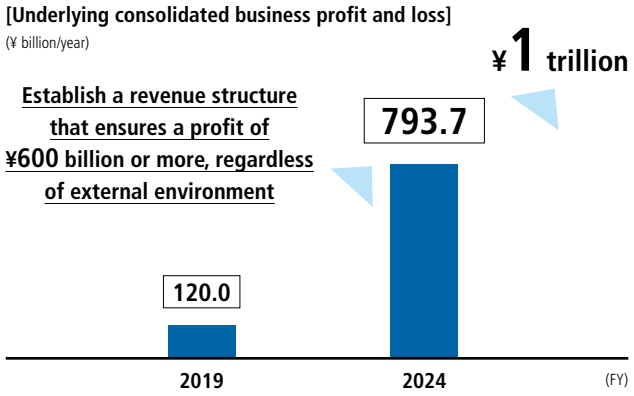
3. Business Strategy

(1) Overall picture of growth strategy and initiatives already underway

We have been pursuing a more vertically and horizontally integrated business structure through global growth by rebuilding the domestic steel business and deepening, expanding, and improving the overseas business, as well as by streamlining the entire supply chain from raw materials all the way to distribution into an integrated business domain. We will continue to implement the basic strategy of achieving stable earnings power like this in the next Medium- to Long-term Management Plan.

Early achievement of the 100 Million Tons, 1 Trillion Yen Vision





We are currently in the process of formulating our next Medium- to Long-term Management Plan, aiming at the early achievement of the 100 Million Tons, 1 Trillion Yen Vision as our business growth strategy.

The facility structural measures we have been implementing in the current Medium- to Long-term Management Plan were mostly completed by the end of FY2024. These measures included 1) the order mix sophistication through production capacity expansion for electrical steel sheets and the installation of the next-generation hot rolling line, and 2) the production capacity expansion in India. We will begin to see the effects of these measures during the period under the next Medium- to Long-term Management Plan.

Furthermore, many of the additional measures that were formulated after we had announced the current Medium- to Long-term Management Plan will contribute to our revenue growth during the period under the next Medium- to Long-term Management Plan. These added measures include group-enhancing measures in Japan, such as the restructuring of domestic ERW pipes and tubes business, the integration of the stainless steel businesses, and the full subsidiarization of Sanyo Special Steel, the merger with U. S. Steel in the overseas business, and the investment in mines in Canada and Australia and the subsidiarization of NS Trading in the raw materials and distribution fields.

(2) Strategies for each business sector

1) Domestic steel business

Regarding the domestic steel business, we have implemented production facility structural measures ahead of the industry, including the shutdown of five blast furnaces, in anticipation of declining domestic steel demand. We achieved a cost reduction of ¥150 billion by reducing our production capacity by 20% to reduce fixed costs. By combining this cost reduction with an improvement of margins on steel products, we succeeded in lowering our break-even point by 40%. We believe these measures have played a central role in optimizing our domestic production framework.

In the next Medium- to Long-term Management Plan, we will strengthen our competitiveness tailored to each steel market by leveraging this optimized production framework. First, we will further promote order mix sophistication in the high-grade steel sector, where we excel most. On the other hand, regarding the commodity steel sector, we will thoroughly enhance our cost competitiveness so we can compete even with low-cost players both in Japan and overseas, through a fundamental review of our operations, including further promotion of streamlining and standardization. Furthermore, while strengthening our group companies in parallel, we will strive to become a dominant presence in every steel market.

2) Overseas steel business and raw materials business

To achieve the Global 100 Million Tons Vision, we will continue our policy of focusing on areas within our overseas steel business where demand growth is reliably expected and where we can fully leverage our technological and product strengths, while expanding integrated steel production from ironmaking through steelmaking. In particular, we will promote business deepening and expansion of our business through strategic investments, including M&A and brownfield acquisitions, in our priority regions, 1) the U.S. and Europe, which are high-grade steel markets, and India, a growing market —all of which are relatively insulated from China's influence; and 2) ASEAN, our home market. In the raw material business as well, we will consider investing only in high-quality projects that contribute to strengthening our competitiveness.

We are expanding our production capacity in India, where demand for steel products is growing steadily. AM/NS India has completed the acquisition of land in Rajayyapeta in southern India. We are currently considering plans for an integrated steelworks with an annual capacity of 7 million tons.

Meanwhile, we completed the merger with U. S. Steel in the United States. We engaged in extremely tough negotiations with

the U.S. government over the conditions for approving the merger. The conditions we committed to, in the interest of securing management flexibility and investment profitability, posed no actual disadvantage to us, and we consider the outcome to be fully satisfactory.

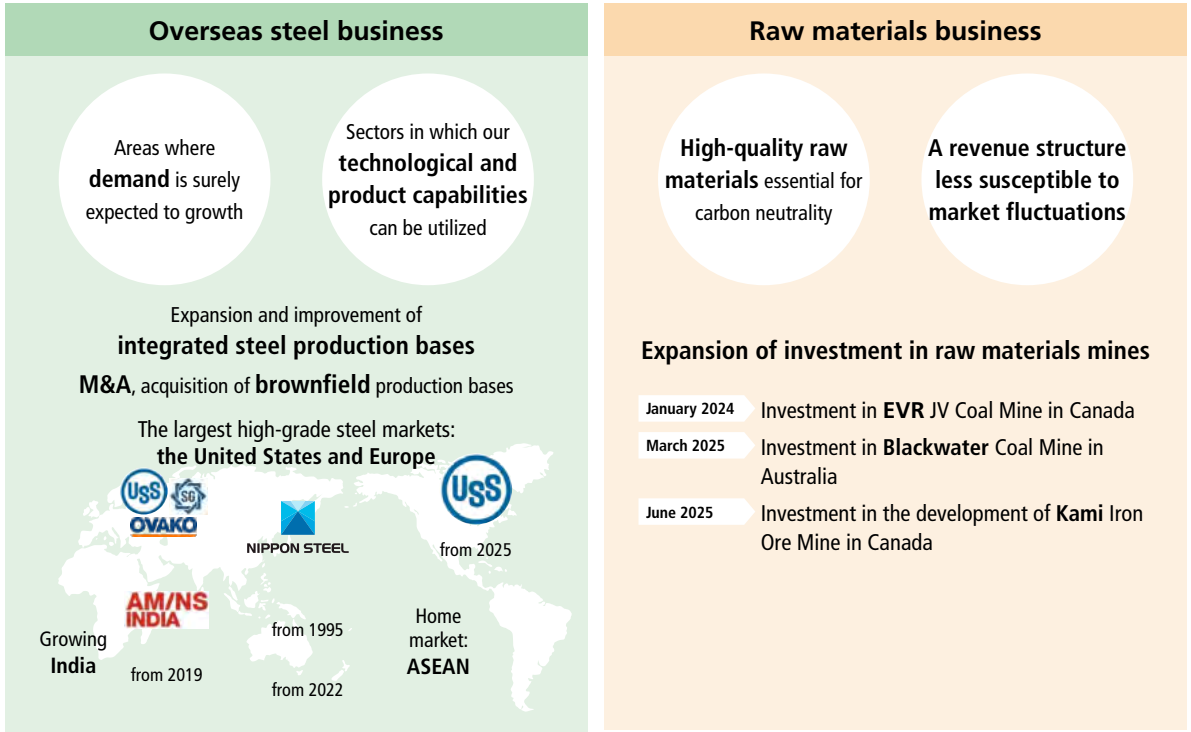
The U. S. steel market is the largest among developed nations, with domestic demand exceeding 90 million tons, roughly twice that of Japan. However, its steel self-sufficiency ratio is reportedly only 70%. In other words, this market is structured to rely on 30% of its demand from imports. However, when we consider the addition of imported steel in the form of end products, such as automobiles and finished components, the country's total steel demand amounts to approximately 150 million tons. This means that only 55% of its total steel demand is domestically produced, making it a significantly large market with substantial growth potential in the future. Furthermore, it is also a steel market where high-grade steel, in which we can leverage our technological capabilities, holds significant weight.

The capital investments we will implement in such a massive market in the future require vast amounts of money. However, any one of them is deemed necessary and effective to enhance U. S. steel's corporate value, making us confident that there are no issues whatsoever with its profitability. By introducing our operational and equipment technologies to reduce costs, and by launching strategic products that U. S. Steel was previously unable to manufacture, we aim to enhance the added value of U. S. Steel.

Furthermore, this merger allowed us to own a new production base in Slovakia, namely U. S. steel Košice. This steelmaking facility is the first integrated steelworks for steel sheet products that Nippon Steel has acquired in Europe and has a vast amount of land as well. We will delve further into how to utilize the land.

As described above, Nippon Steel will make its utmost efforts to grow in the high-grade steel market bs of the United States and Europe.

[Overseas steel business and raw materials business]



3) Initiatives toward achieving carbon neutrality

For Nippon Steel, climate change countermeasures are one of its top-priority management issues. Achieving carbon neutrality in the steel industry would require us to overcome four major challenges. To this end, we will aggressively promote initiatives aimed at addressing these challenges.

The first challenge is the innovation of production processes through technological development. Currently, we are promoting the development and commercial-scale implementation of innovative technologies through a multi-track approach, utilizing the Green Innovation Fund. Toward 2030, we will make large-scale investments to expand the production of high-grade steel using electric arc furnaces at Yawata, Hirohata, and Shunan. Regarding hydrogen-based ironmaking, we will establish commercial-scale implementation technology by 2040, while conducting development tests using both testing and real equipment simultaneously with the above-mentioned investments. Then, by combining hydrogen-based ironmaking with CCUS, we aim to achieve carbon-neutral production processes by 2050.

The second challenge is to ensure the predictability of investment returns from the massive investment required to develop decarbonization technology and install commercial-scale equipment, as well as the increased operational costs. It is not easy to make investment decisions without the prospect of recovering these huge investments. Therefore, it is crucial to establish a market for GX Steel, which passes on the costs required for decarbonization in steel production to its sales prices as a "CO_2 emissions reduction value." The government is proactively discussing the importance of establishing a GX Steel market, working on the substantiation of various measures to promote the procurement of GX products by national and local governments, and private companies through prioritized procurement of GX Steel and support for the demand side. Despite many challenges remaining unresolved to create a GX Steel market, we will continue to implement our initiatives to ensure the predictability of investment returns.

The third challenge is rulemaking and standardization. Establishing the GX Steel market mentioned above requires the creation of international rules that accurately assess the value of CO_2 emissions reduction and the standardization of such regulations. Nippon Steel and the Japan Iron and Steel Federation will actively engage with the World Steel Association (worldsteel) to promote the adoption of this rule, and will also work to ensure that it is incorporated into international standards such as ISO and the GHG Protocol, thereby

promoting its global standardization.

The fourth challenge is infrastructure development. In order to achieve carbon-neutral steel manufacturing processes, it is necessary to develop large amounts of green hydrogen and ammonia, green power, and CCUS as industrial infrastructures. To accelerate these initiatives, we are currently participating in a study on developing such infrastructures in collaboration with the government, relevant companies, and other organizations.

(3) Financial strategy supporting business strategy

Implementing these various strategies requires our continual investment in the future. We make all such investments only after verifying their economic viability to ensure satisfactory capital efficiency levels. However, at present, investment expenditures inevitably precede returns. We consider these initiatives to be the right course of action and are carrying them out accordingly. However, we understand that ensuring our sound financial structure is equally crucial.

We have implemented asset compression worth approximately ¥2 trillion for more than 10 years, particularly including an 80% reduction in strategic shareholdings at the current market value. Furthermore, we have generated operating cash flow that exceeds the target of the current Medium- to Long-term Management Plan, contributing to our improved financial soundness.

Currently, we aim to maintain a D/E ratio of 0.7 or lower. The merger with U. S. steel would have temporarily worsened our D/E ratio to 0.9. However, we managed to maintain it at around 0.8 by utilizing hybrid financing and other financial measures. Furthermore, we plan to return it to the 0.7 range by the end of this fiscal year.

Meanwhile, we intend to implement these financial strategies after thorough internal discussions, reflecting the voices of capital markets and other stakeholders, and incorporating the perspective of capital efficiency improvement.

4. Initiatives for Sustainability Issues

Amid the initiatives for Sustainable Development Goals (SDGs) advancing around the world, we will conduct our business activities to proactively contribute to creating sustainable communities, not only through the climate change measures described above, but also through the creation of a recycling-based society, integrated solutions to issues related to biodiversity conservation and "Nature Positive," and the maintenance and improvement of a favorable living environment.

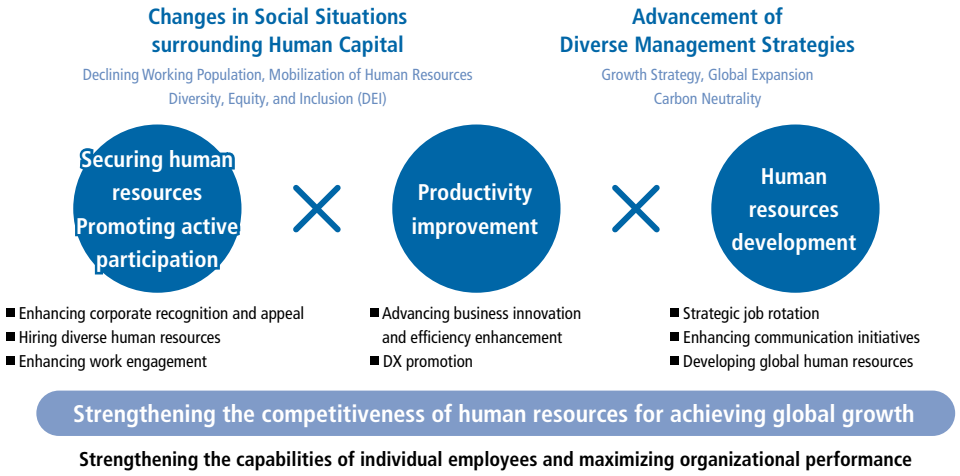
Nippon Steel will pursue world-leading technologies and manufacturing capabilities and contribute to society by providing excellent products and services. We want to remain a company that actively contributes to solving diverse social issues through our business activities. To earn the ongoing trust of all stakeholders, we place safety, environment, and disaster prevention as our top priorities, while actively fulfilling our corporate social responsibility through quality and production initiatives, respect for human rights, diversity and inclusion, social contribution through culture, the arts, and sports, as well as community-based educational support.

At present, Nippon Steel is facing unprecedentedly diverse and challenging management issues. Overcoming and resolving various challenges hinge on the power of our human resources.

Amidst drastically changing social situations surrounding human capital, we will implement initiatives centered on three pillars: "securing human resources and promoting active participation of human resources," "productivity enhancement," which includes promoting digital transformation, and "human resources development," which can help support our global growth. When confronting management issues, including ones related to the expansion of new overseas operations, the human resources we have cultivated will continue to grow by managing various risks and persistently tackling new challenges. We will continue to work tirelessly to strengthen the competitiveness of our human resources.

Nippon Steel will continue to strive to sustainably improve corporate value, realizing our vision of becoming a company with the world's best capabilities.

[Enhancing the competitiveness of our human resources]



3 Introduction

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16 Value Creation Process

17 Six Types of Capital

Nippon Steel Group's Values

Nippon Steel Group's 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 as a group continue to value trust 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 our employees and bring out the best in them to make our Group rich with energy and enthusiasm.

"The Nippon Steel Group's Corporate Philosophy" is our group's raison d'être, and consists of "Basic Principles," which represent our most precious values, and "Management Principles," which represent the attitude and policy we emphasize in realizing the Basic Principles.

"Steel" is one of the most familiar materials of which things are made and is indispensable for our daily lives. 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 growth. Steel is so close to us that we cannot live without steel products.

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 increase. 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 a material as well as considerations to the environment and society.

We have 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 capabilities, by means such as 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 the sustainable development of society – our commitment as a steelmaker.

Value Creation Process

Inputs

Manufacturing capital
Mother mills in Japan that cultivate high levels of technology

Overseas production bases that capture growth

Natural capital
Efficient use of resources and energy

Intellectual capital
R&D resources boasting of the world's largest scale

Human capital
Human resources development and diversity & inclusion

Financial capital
Robust financial base

Social capital
Relationship of trust and cooperation with communities and customers

Business Activities

Domestic steel business

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

Overseas steel business

A global production system in "regions poised for demand growth" and in "segments where our technological and production capabilities can be utilized," based on the strengths we cultivated at our mother mills in Japan

Raw materials business

Transition from raw materials interests for stable procurement to our "business"

Other group companies

Contribution to value enhancement by supporting the domestic steel business from upstream to downstream of the value chain. Incorporating distribution into our own business domain

Three non-steel segments

Companies derived from steelmaking business generate synergies and realize top-class profitability in their respective fields

R&D activities

Strategic R&D aimed at sustainable growth of the Nippon Steel Group

Intellectual property activities

Positioned as one of the important factors for obtaining business revenue now and in the future

Digital transformation strategies

Innovative evolution of manufacturing capabilities and strengthening of customer responsiveness

Outputs

Wealth of steel products and solution proposals for diverse applications

Steel sheets
Construction products
Plates
Railway, automotive and machinery parts

Materials
Design
Processing methods

Pipes & tubes
Bars and 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
- A 99% recycling rate of by-products
- Atmosphere, water, and 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 solutions, modernization

Outcomes

Contribution to SDGs in society

SUSTAINABLE DEVELOPMENT GOALS

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

Creation of economic value ⇄ Creation of social value

- Employment and regional revitalization
- Safe and reliable daily life
- Energy conservation, reduction of environmental burdens, environmental preservation, creation of a recycling-oriented society
- Disaster prevention and reduction, National Resilience
- Building infrastructure in emerging countries and rebuilding in developed countries
- Products and technological solutions in growth areas
- Education for employees and communities

Carbon Neutral Vision 2050

Realizing a carbon neutral steel production process
- Development of decarbonization technologies through a multi-track approach
- Securing decarbonized energy and raw materials

GX Steel market creation
- Promotion and standardization of GX Steel
- Ensured predictability of investment returns

NSCarbolex™ Neutral
NSCarbolex™ Solution

2050 Realization of a carbon neutral society

Six Types of Capital

As the global economy has evolved, we have built a distinctive, outstanding capital base that includes diverse human resources filled with pride and fulfillment, research resources and intellectual property that rank among the world's best steelmakers, a production structure that enables global supply, and robust customer relationships built on a foundation of trust.
We are creating economic and social value through our business activities by organically integrating these capitals.

Manufacturing capital

Global crude steel production capacity (2025.6E)

Approx. 86 million tons/year (consol.)

(domestic 44 million tons + overseas 42 million tons)

Property, plant and equipment

3.6 trillion yen (consol.)

Financial capital

Equity attributable to owners of parent

5.3 trillion yen (consol.)

Interest-bearing debt

2.5 trillion yen (consol.)

D/E ratio

0.35 (consol.)

Natural capital

Iron ore

51.71 mil. tons/year (non-consol.)

Coking coal

25.79 mil. tons/year (non-consol.)

Industrial water

Approx. 600 mil. m^3/year (non-consol.)

Rate of water recycling: 90%

Social capital

Trusted and cooperative relationships with customers

Approx. 6,000 customers in Japan (non-consol.)

Coexisting with local communities

Approx. 90,000 visitors hosted for plant tours (non-consol.)

Intellectual capital

R&D expenses

Approx. 80.7 bn. yen/year (consol.)

Number of R&D personnel

Approx. 800 (non-consol.)

Number of patents we hold

Approx. 16,000 in Japan (non-consol.)

Approx. 19,000 overseas (non-consol.)

Human capital

Number of employees

113,845 (consol.) 28,652 (non-consol.)

Number of female employees in management positions

91 (non-consol.)

Number of education and training hours

0.94 mil. hours/year (non-consol.)

4 Strategy

19 Potential Risks and Opportunities in the Steel Market

21 100 Million Tons, 1 Trillion Yen Vision

29 Special Feature: Partnership with U. S. Steel Corporation

36 Carbon Neutral Vision

50 Infrastructures that Support the Strategies

Key Takeaways from This Section

Toward realizing the 100 Million Tons, 1 Trillion Yen Vision

Through "horizontal" and "vertical" business expansions, we will achieve a global crude steel production capacity of 100 million tons and establish a revenue structure that can secure a stable business profit of ¥1 trillion regardless of external conditions.

"Horizontal" business expansion – Horizontal development of our expertise in steelmaking

- Domestic steelmaking business: We will enhance the capabilities of domestic steelmaking operations as mother mills by strategically selecting key products and equipment to maintain, and by establishing an optimal production system to produce high-grade steel efficiently.
- Overseas steelmaking business: As the trend of local production and local consumption continues to accelerate, we will establish a system to capture growth in local demand in "regions where demand growth is assured" and in "segments where our technological and product capabilities can be effectively utilized" through the expansion of integrated steel production bases. We have completed the merger with U. S. Steel and added it to our global network as a 100% subsidiary.

"Vertical" business expansion – "Upstream" and "downstream" of the steelmaking supply chain

- Upstream direction: Shifting raw materials procurement to active management participation
- Downstream direction: Integrating steel distribution into our business portfolio

Toward achieving the Nippon Steel Carbon Neutral Vision

We will promote reducing CO_2 emissions in our supply chain by offering two types of value: "high-performance steel products and solutions that contribute to reducing CO_2 emissions across society as a whole" and "GX Steel produced in the decarbonized steelmaking process."

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

- Under the NSCarbolex™ Solution brand, we develop and provide high-performance steel products and solutions that contribute both to reducing CO_2 emissions during processing and product use, and to advancing the energy transition in society.

Provision of GX Steel produced through decarbonized steelmaking process

We will tackle the following challenges.

- Development and implementation of decarbonization technologies through a multi-track approach
- Securing decarbonized energy and raw materials
- Promotion and standardization of GX Steel
- Ensuring predictability of investment returns

Potential Risks and Opportunities in the Steel Market

While domestic steel demand is expected to decline due to a shrinking population, global demand – particularly in emerging economies – is projected to grow. In particular, demand for high-grade steel that contributes to solving social issues is expected to rise.

Point 1

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

Steel products are incorporated in society in the form of end products, such as buildings, bridges, factories, ships, automobiles, and household appliances. At present, the total global stock of steel products is estimated at approximately 30 billion tons, which accounts for about 4 tons per capita globally and about 8 to 12 tons per capita in developed countries. The amount is projected to reach 10 tons per capita in China by the end of the first half of this century and in India by the end of this century.

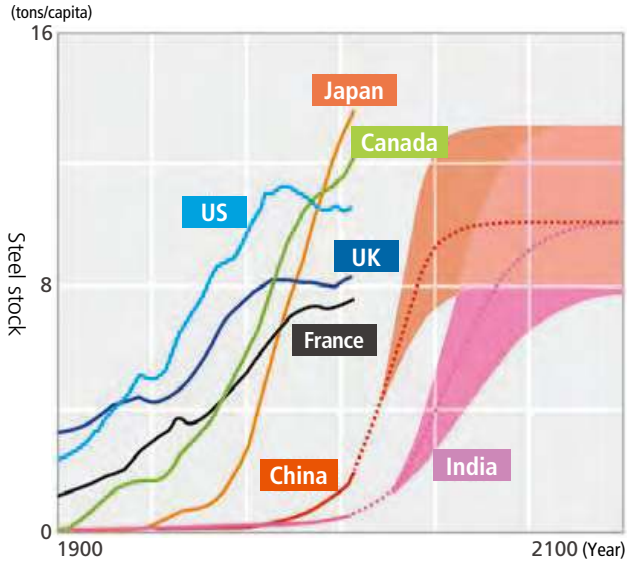
Although the economy is currently stagnant, the amount of incorporated steel products will eventually grow again due to economic growth in emerging countries and SDG initiatives in many countries. Assuming the global per-capita incorporation of steel products reaches 7 tons in 2050, the total amount would come to 70 billion tons, considering population growth.

To meet this level of steel demand, we must increase the global crude steel production to approximately 2.7 billion tons/year by 2050.

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

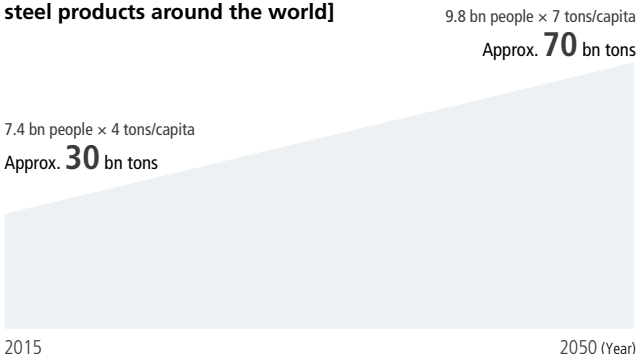
Therefore, even in 2050, there will still be considerable need for pig iron production through iron ore reduction at a similar scale to the present.

[Amounts of accumulated steel products per capita]

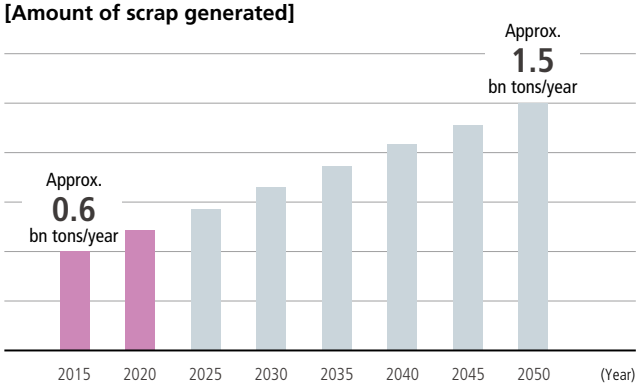


Source: "Sustainable steel: at the core of a green economy," World Steel Association, 2012

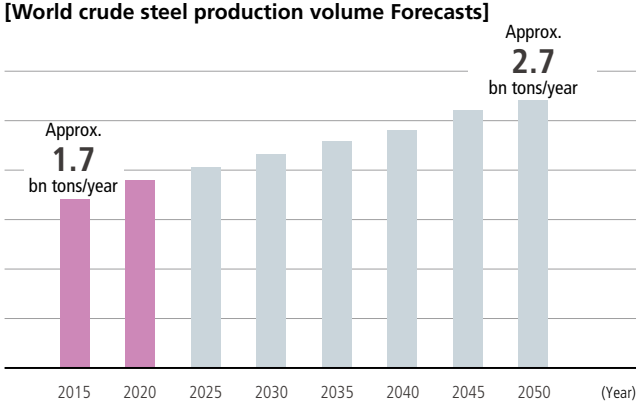
[Projected changes in the amount of accumulated steel products around the world]



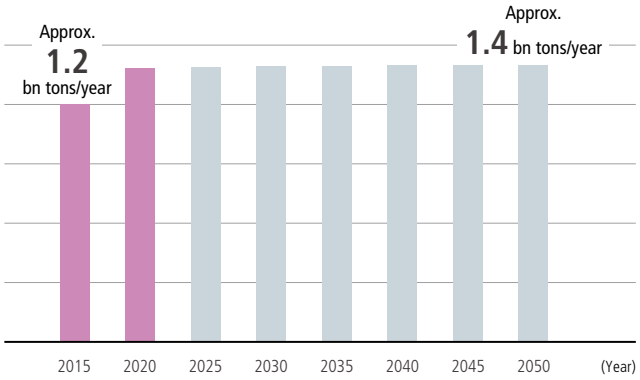
[Amount of scrap generated]



[World crude steel production volume Forecasts]



[New production from iron ore (pig iron production]



Point 2

Japan's steel market anticipates a gradual decline

Gradual decline in domestic demand

Domestic steel demand peaked at 94 million tons in 1990, during Japan's economic bubble, and has since been on a downward trend due to a decline in demand for civil engineering and construction, the relocation of manufacturing overseas, and other factors. The Japanese steel industry has managed to maintain domestic production levels by offsetting reduced domestic demand with increased exports.

Japan's declining and aging population is expected to further reduce steel demand from both the domestic manufacturing sector and the civil engineering and construction sector.

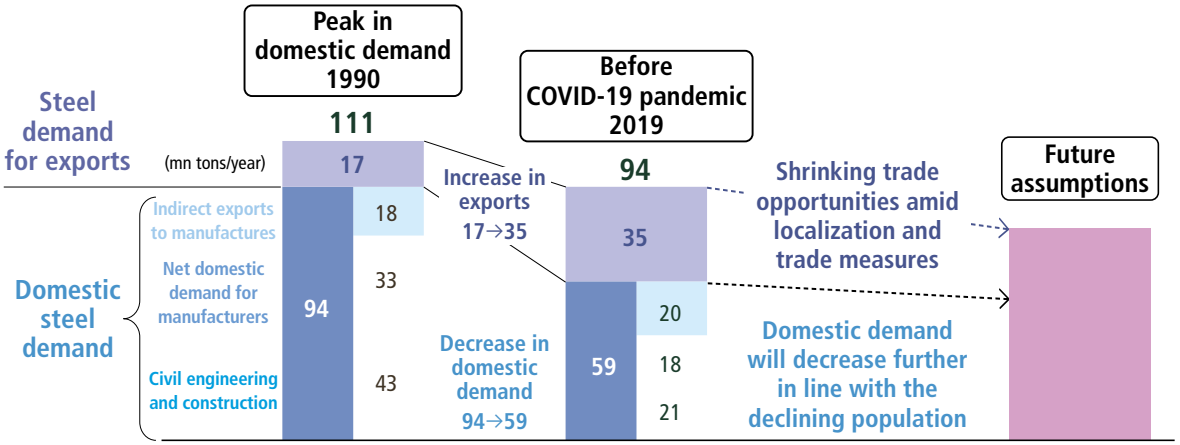
Increasing difficulties in exporting from Japan due to the rise of local steel mills overseas

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.

Decreasing direct and indirect export from Japan due to trade measures taken by many countries

Recently, many countries around the world are increasingly considering and implementing trade measures. Given this situation, not only is the direct export of steel products decreasing, but domestic manufacturers are also beginning to shift their production overseas, leading to a decline in indirect exports as well. As a result, we are concerned that the pace of declining domestic demand will accelerate, particularly for high-grade steel.

[Shifts in Japanese Steel Industry's product destinations]



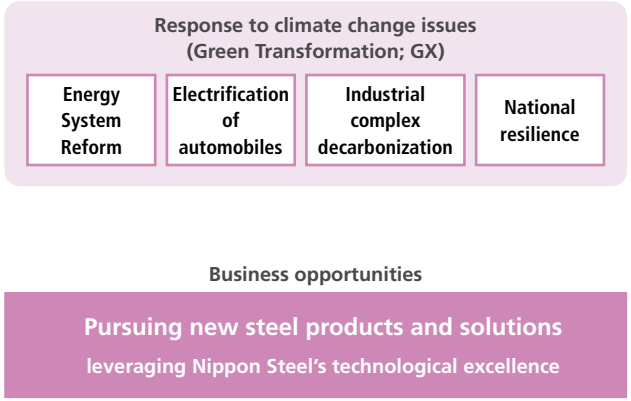
Point 3

Prospects for quantitative and qualitative growth in the high-grade steel market

High-grade steel refers to steel products that harness the diverse properties and vast potential of steel, are engineered to meet specific customer requirements, exhibit outstanding performance in use, and contribute to enhancing the value of end products. Our wide range of high-grade steel products includes the ultra-high-tensile steel sheets that help reduce vehicle weight, electrical steel sheets that improve energy efficiency in motors and transformers, and Prostruct™, a construction solution brand that supports the development of safe, resilient, and disaster-resistant infrastructure. These high-grade steel products contribute to solving various societal challenges.

As global initiatives for carbon-neutrality and Sustainable Development Goals (SDGs) advance, demand for high-grade steel is expected to grow both in volume and in performance requirements.

[New business opportunities arising from social transformation]



100 Million Tons, 1 Trillion Yen Vision

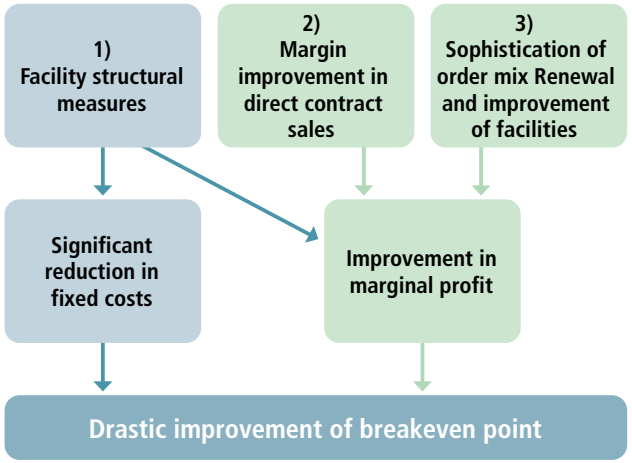
1 Rebuilding of domestic steel business

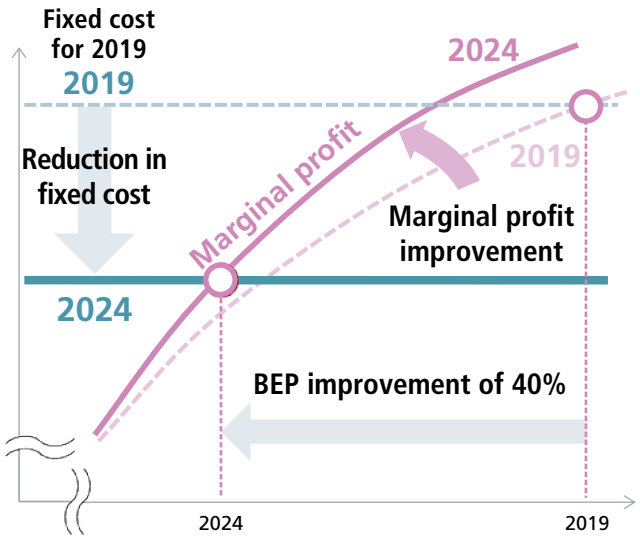
Our mother mills play a vital role in reinforcing the structure of our domestic steelmaking business and serve as the cornerstone of our global strategy, by establishing an optimal production system capable of efficiently producing high-grade products. We are building a profit base that is not solely reliant on volume by drastically improving the breakeven point. This will be done by improving marginal profit per ton through margin optimization and order mix sophistication, and by reducing fixed costs through production facility restructuring and consolidation. To establish an optimal production framework, we will continue to monitor and analyze demand trends accurately and in a timely manner, engaging in ongoing evaluation review and deliberation. We will also formulate and implement necessary measures as appropriate. In addition, by advancing business innovation and efficiency enhancement, we will pursue a thorough strengthening of our corporate structure.

Drastic improvement in BEP

By promoting our strategy based on the "facility structural measures," "margin improvement in direct contract-based sales," and "sophistication of order mix," we have reduced fixed costs, significantly enhanced marginal profit per unit, and consequently improved the breakeven point by 40% since FY 2019. 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 is now resilient enough to remain profitable even if the production declines to as low as 70 million tons. Although we expect depreciation expenses to increase as a result of capital investments in strategic products, we aim to absorb the expenses through further pursuit of an optimized production framework across the Group, enabling us to sustain a low fixed cost structure.

[Drastic improvement of breakeven point]





1) Facility structural measures

Nippon Steel's production facility structural measures focus on concentrating production in competitive facilities and shutting down less-competitive ones, thereby streamlining and enhancing the efficiency of our production system and optimizing the scale of production capacity and fixed costs. Most of the measures outlined in our Medium- to Long-term Management Plan have already been implemented by the end of March 2025, resulting in a significant reduction in fixed costs.

Structural measures for production facilities in the Medium- to Long-term Management Plan

Product manufacturing process

- Shutdown of some production lines and consolidation of production to more competitive or demand-nearby lines for business strengthening and production system optimization and efficiency.
- Withdrawal from certain products based on medium -to long-term demand trends.

Upstream steelmaking process

- Shut down all facilities at the Setouchi Works Kure Area and the No. 1 blast furnace and related facilities at the Kansai Works Wakayama Area, based on a comprehensive assessment of each steelworks' competitiveness — including integrated production and shipment capacity, cost efficiency, and product capabilities — with the aim of enhancing competitiveness in integrated steelmaking.
- Shut down the No. 1 continuous casting machine at the Kimitsu Area of the East Nippon Works and the No. 3 blast furnace and related facilities at the East Nippon Works Kashima Area, based on a comprehensive assessment of the company-wide upstream steelmaking balance, as well as the integrated production and shipment capacity and cost competitiveness of the areas where other manufacturing lines were shut down.

[Facility structural measures]

[Cost reduction impact of the structural measures]

(billion yen)

[Structural measures for production facilities: Changes in the number of main target lines]

(Released in March 2021)

		Closure	Before → After
	BF	-5 units	15 → 10 units
	Continuous caster	-8 units	32 → 24 units
	Steel plate mill	-2 lines	4 → 2 lines
	Large shape mill	-2 lines	4 → 2 lines
	Seamless pipe mill	-1 line	3 → 2 lines
	UO pipe mill	-2 lines	2 → 0 line
	Hot rolling mill	-1 line	7 → 6 lines
	Cold rolling mill	-2 lines	17 → 15 lines
	Plating lines	-3 lines	19 → 16 lines
	Special stainless steel cold rolling mill	-2 lines	4 → 2 lines
	Titanium raw material plant	-1 line	1 → 0 line
	Special equipment for titanium round bar manufacturing	-1 line	1 → 0 line
	Titanium welded pipe production line	-1 line	1 → 0 line
	Nippon Steel Stainless Steel's cold rolling mill	-4 lines	13 → 9 lines
	Nippon Steel Stainless Steel's electric arc furnace	-1 unit	4 → 3 units

2) Margin improvement in direct contract sales

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' understandings 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, production, and shipment before. We then made a proposal for the pre-fixed pricing system to customers to advance the timing of negotiations and raise the efficiency of 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., considering 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.

[Nippon Steel's types of contracts for sales of steel products]

	Direct contract Order-based production tied to satisfy customers' requirements Direct negotiation with customers to determine pricing	Spot sales contract Sales to a distributor or a trading company without end users being specified
Domestic sales	Domestic direct contract-based sales	Domestic spot market sales
Exports	Export direct contract-based sales	Export spot market sales

[Spread Shifts in Direct Contract-based Sales]

1 Trend of direct contract-based spread level

Until 2H 2021

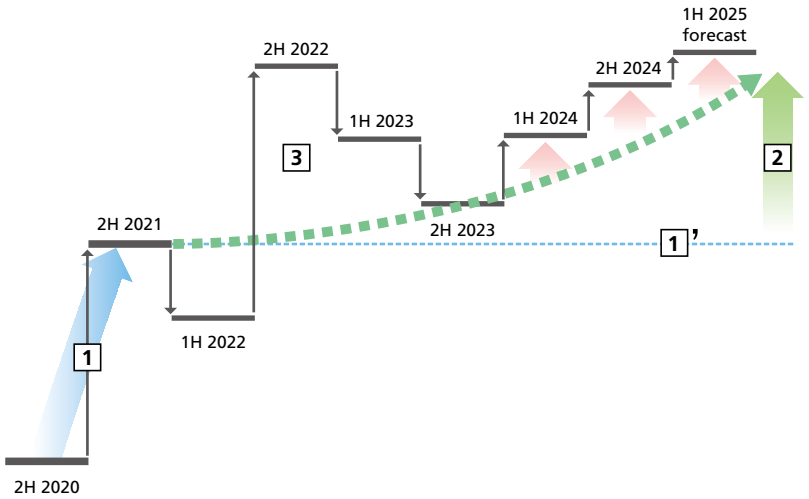
We provide our customers with clear explanations as follows:

- proportionate sharing of fluctuating external costs across the entire supply chain
- appropriate pricing based on the value of products, solutions, and the supply chain.

Significantly improved our spread.

1' Maintaining adequate spread

To structurally secure appropriate margin level by reflecting cost change in materials and energy on steel prices



2 Order mix sophistication

Appropriate margin level per ton elevated through sophistication of order mix and reflection of high value-added product qualities

Measures to improve the capacity and quality of electrical steel sheets

Yawata and Hirohata Step 1 and 2: Full operation in 1H FY2023
Hirohata Step 3: Full operation in 1H FY2024
Yawata Step 3 and Hanshin (Sakai): Full operation in 1H FY2027
Construction a next-generation hot strip mill in Nagoya:
Full operation in 1Q FY2026

3 Difference between the external costs assumed in the price negotiation and the actual external costs

Steel margin temporarily fluctuated due to difference between the external costs assumed in the price negotiation and the actual external costs

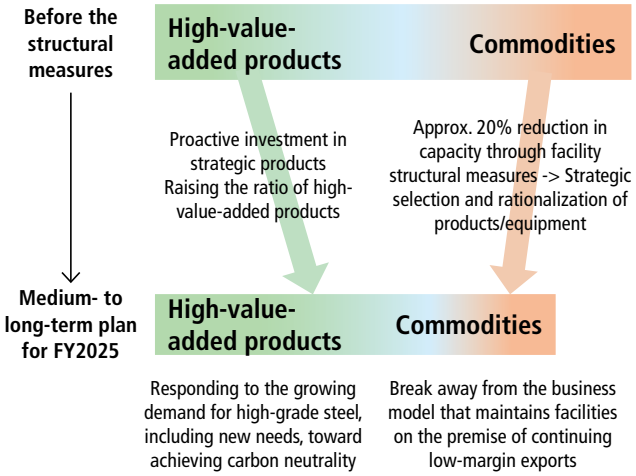
Neutral in the long term as it will be adjusted in the following period

	1H 2022	2H 2022	1H 2023	2H 2023	1H 2024	2H 2024	1H 2025 forecast
Actual external costs compared to the price determination premise	High	Low	Low	Almost unchanged	Low	Low	Low
Difference from appropriate level of spread	Smaller	Larger	Larger	Almost unchanged	Larger	Larger	Larger

3) Shift to a more sophisticated order mix, and undertake renewal and improvement of facilities

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 sophisticate our 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 to our improving average marginal profit.

[More sophisticated order mix]



We are selectively investing in competitive facilities, including investment 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 tightening and where collision safety standards are becoming more stringent, demand for ultra-high-tensile steel sheets 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.

We will 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. In addition, we are now constructing a next-generation hot strip mill with the world's largest load-bearing rolling machine, which will give us dramatically improved rolling and temperature control. This all results from combining years of knowledge and experience of the technology development department, where the potential of steel materials is thoroughly pursued.

[Investing in a next-generation hot strip mill]

Time to decide	Investing steelworks	Investment Amount	High-temperature test operation	Production capacity
May 2022	Nagoya Works	Approx. 270.0 Bn. JPY	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 Amount	Start of operation	Capacity expansion
(1) 2019.8-2020.5	Setouchi Works Hirohata Area Kyushu Works Yawata Area	¥105 bn	Full operation in 1H 2023	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	Full operation in 1H 2024	
(3) 2023.5	Setouchi Works Hanshin Area (Sakai) Kyushu Works Yawata Area	¥90 bn	Full operation in 1H 2027	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
Non-oriented electrical steel sheets
⇒ For motors

GO
Grain-oriented electrical steel sheets
⇒ For transformers

4) Business reorganization involving Group companies

The Company has thus far advanced facility structural measures on a stand-alone basis, and these measures are now nearing completion. We will now proceed with business reorganization involving Group companies.

Reorganization of domestic ERW Steel Pipe Business (Released in Aug. 2024)

On April 1, 2025, the four companies, Nippon Steel and its wholly owned subsidiaries, namely, Nippon Steel Metal Products, Nippon Steel Pipe, and Nippon Steel Coated Steel Pipe (a wholly owned subsidiary of Nippon Steel Metal Products), implemented a business reorganization. The objective was to transform the domestic ERW steel pipe business into a more efficient structure and to further strengthen competitiveness.

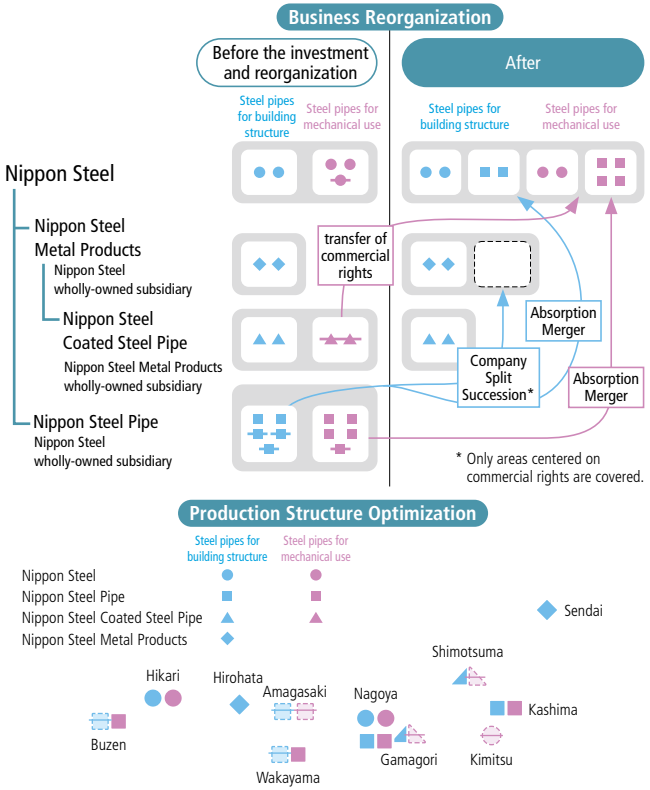
Specifically, the reorganization involves the consolidation of Nippon Steel Pipe's steel pipe business for building structure into Nippon Steel Metal Products and its mechanical steel pipe* business into Nippon Steel Corporation. Concurrently, we will optimize the production structure, including the suspension of certain production lines, with the aim of achieving a more efficient business framework and enhancing our competitive edge.

The domestic ERW steel pipe business is expected to face increasingly severe conditions, given not only the prolonged stagnation of current domestic steel demand but also structural changes in the external environment, including domestic labor

shortages, the electrification of automobiles, and the globalization of both customer needs and competitive landscapes. Under these circumstances, we have determined that transforming the business structure into a more efficient model and further strengthening competitiveness are imperative to ensure sustainable growth.

* Mechanical Steel Pipe: Steel pipes used in automotive and other machinery components

[Overview of reorganization of domestic ERW steel pipe business and production structure optimization]



Base closed: 1 location (NSPC/Amagasaki works)
Production lines closed: 7 lines (Including Amagasaki, where the base is closed.)

- Reorganization and transfer of commercial rights implemented on Apr. 1, 2025
- The closure of bases and production lines are scheduled to be completed by Apr. 1, 2028, with the consent of customers.

Integration of stainless steel business (Announced in November 2024)

NS Stainless Steel has established a solid business foundation by leveraging its scale as a company specializing in stainless steel sheet products. Under a swift and efficient organizational and operational structure, it has built a streamlined yet robust production system.

On the other hand, the business environment is expected to become increasingly challenging, with domestic demand declining due to population decrease and automotive electrification, prolonged overcapacity in Asian markets, and structural changes in society and industry associated with decarbonization. To achieve sustainable growth in the stainless steel business under these circumstances, we must address the management challenges becoming increasingly complex and diversifying. In particular, for emerging energy sectors such as hydrogen and ammonia, where demand is expected to increase, it is indispensable to establish a framework that accelerates the development of new strategic products by leveraging expertise gained through research and development. Equally important is the establishment of a structure for sales activities that maximizes the ability to propose and deliver solutions to our customers.

Considering these challenges, Nippon Steel and NS Stainless Steel merged on April 1, 2025. This integration will strengthen and optimize human resources from a Group-wide perspective and establish a structure that enables both companies to fully leverage their respective management resources.

Wholly owned subsidiarization of Sanyo Special Steel and production consolidation of steel products and open die forgings (Announced in January and May 2025)

Domestic demand for special steel is on a declining trend, driven by factors such as shrinking demand in major end-use sectors due to population decline, excess production capacity and export aggression in China, and the medium- to long-term trend toward automobile electrification. As a result, competition in the domestic market is expected to intensify further. Conversely, demand for special steel is expected to grow in markets such as North America and India, adding complexity to the global operating environment.

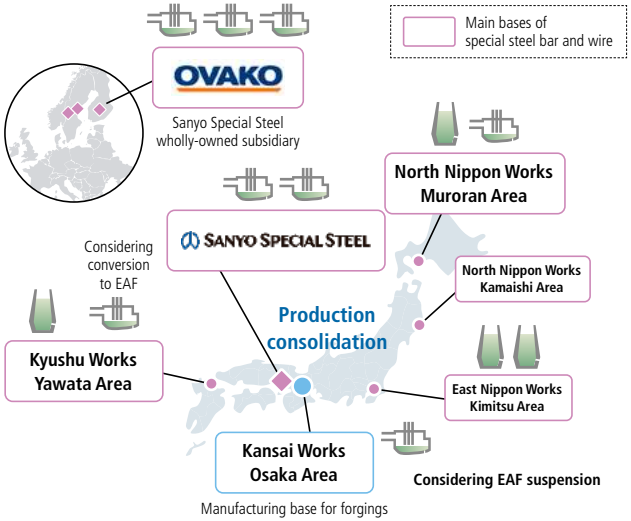
To respond swiftly and effectively to these environmental changes based on the current situation, to prevail at competitions under challenging business conditions, and to enhance the medium- to long-term corporate value of both companies, it is essential to continuously pursue optimal production on a Group-wide basis. This includes strengthening personnel exchanges across the Group, pooling management resources, and promoting deeper integration and optimization to strengthen competitiveness. Equally important is ensuring that our Group captures revenue opportunities in regions where special steel demand is expected to expand, such as North America and India.

As a publicly listed company, Sanyo Special Steel has an inherent structure of potential conflicts of interest between Nippon Steel and its general shareholders. This has created certain constraints on information sharing, complementarity and mutual utilization of management resources, and other areas of collaboration. To move beyond such constraints and to further advance collaboration in a way that contributes to enhancing the corporate value of both companies, we have decided to make Sanyo Special Steel a wholly owned subsidiary.

As part of the synergies to be realized through full ownership, we have initiated a consideration in full swing for consolidating the production of steel products and open die forgings—currently carried out at both companies—from Nippon Steel's Kansai Works Osaka Area into Sanyo Special Steel, while suspending the corresponding facilities in the Osaka Area.

Beyond this consolidation, we will continue to work with Sanyo Special Steel to pursue synergies in multiple areas: optimizing production frameworks for other products, expanding sales through enhanced commercial collaboration, strengthening technological and solution capabilities through joint R&D, deepening and expanding global strategies, and advancing raw material procurement initiatives, including scrap steel sourcing. Through these efforts, we aim to further enhance corporate value across the entire Group.

[Overview of special steel production bases and production consolidation between Nippon Steel and Sanyo Special Steel]



■ **Overview of current production consolidation**

Facilities to be considered	: EAF - Ingot casting facilities, Free-Forming facilities, Specialized dissolution facilities
Products subject to consolidation	: Steel products (ingots <steel ingots>) Open die forgings (plastic molding dies, rolling rolls, etc.)
Completion of consolidation	: Targeted by the end of FY2028

2 Deepen and expand overseas 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.

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 steel demand is expected to continue to grow at a moderate pace.

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 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. In doing so, 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 worldwide 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.

In addition, in June 2025, we completed the merger with U. S. Steel, a leading producer of high-grade steel in the United States and Europe. Including U. S. Steel, our overseas crude steel production capacity now totals 42 million tons per year, and our global crude steel production capacity, including domestic production, reaches 86 million tons per year.

On top of that, we plan to expand the capacity of AM/NS India, and explore 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.

[Expansion strategy of overseas steel business]

Markets where steel demand growth is promising

Areas where our technology and product capacity can be utilized

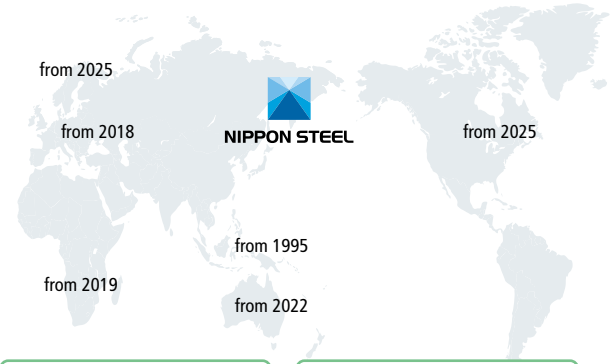
Expand integrated steelmaking facilities capable of consistently creating added value from upstream processes

Acquire brownfield production bases through M&A

Priority regions: Expansion of integrated steel production in the United States and Europe, India, and ASEAN

The United States and Europe, the largest markets for high-grade steel

Strengthen product adaptability and expand market share / Construct new steelworks



Growing **India**

Hazira integrated capacity expansion, Construction of a new steel mill in Eastern India

Home market: **ASEAN**

Expansion of market share in the Thai steel sheets market from 30% to 50% etc.

[Global crude steel production capacity]

(million t/year)

	2014	2023	After the merger with U. S. Steel	Long-term Vision
Domestic	52	47	44	
Overseas	**6**	**19**	**42**	**> 60**
Global* crude steel production capacity	**58**	**66**	**86**	**> 100**

* Fully including nominal capacity of companies subject to the crude steel production standard of the World Steel Association

Efforts to expand capacity at AM/NS India

Growth potential of India's steel market

India has become the world's most populous country with its population that surpassed China to more than 1.4 billion and is expected to continue to grow. India's steel consumption per capita is currently about 100 kg per person per year, which is low compared to industrialized countries such as Japan, China, the U.S. and Europe, as well as compared to Mexico and Brazil*. In India, demand for steel products is expected to steadily increase over 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. Moreover, the Indian government has set a target of increasing crude steel production capacity to 300 million tons by 2030, and is taking various measures.

* Per capita consumption by country (kg/person/year; round figures): Japan-420, China-600, EU-290, US-260, Mexico-210, Brazil-120

Capacity expansion of AM/NS India

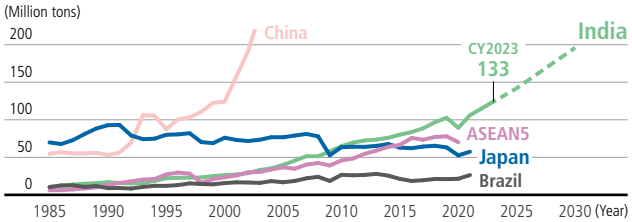
India's government, under its "Make in India" policy, is resolutely protecting India's steel industry as a key industry. The market has a remarkably high ratio of local production, with domestic steelmakers supplying approximately 90% of the demand. Against this backdrop, major steel producers in India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

In this Indian steel market, made attractive by market growth prospects and the local production policy, Nippon Steel acquired Essar Steel jointly with ArcelorMittal in December 2019, and began operating it as AM/NS India, based on an equal partnership of Nippon Steel and ArcelorMittal.

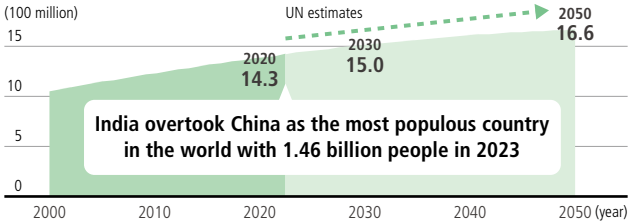
To capture the growth of the Indian steel market, we plan to grow with capacity expansion at AM/NS India leading the way. We have decided to invest in increasing the capacity of the Hazira Works, located on the western coast of India. For this capacity expansion, we will utilize unused owned land, which frees us from land acquisition issues that can be the biggest cause of obstacles in India. Also, aiming for quick and reliable start-up of facilities, we will adopt the already-established blast furnace-converter process to capture growth in demand early and reliably. This investment project plans to introduce energy-saving equipment and environment control equipment (for dust, odor, water quality, and noise control) that we have developed in Japan, and to incorporate a provision for applying carbon-neutral technology that uses blast furnace equipment, which is under development by us and ArcelorMittal. Also, we have started construction for expanding state-of-the-art flat steel production facilities (for pickling, cold rolling, and steel plate plating) to capitalize on the anticipated growth of 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 December 2023, one plating facility for construction materials commenced production. The facilities for automotive-grade pickling, cold rolling, and plating are also scheduled to commence production sequentially within fiscal year 2025.

In addition, to further expand capacity, we acquired a site from the state government of Andhra Pradesh in southern India in April 2025 for the construction of an integrated steel production works. We are currently considering the construction of the works and the production capacity is expected to be approximately 7 million tons/year.

[Demand for steel products]

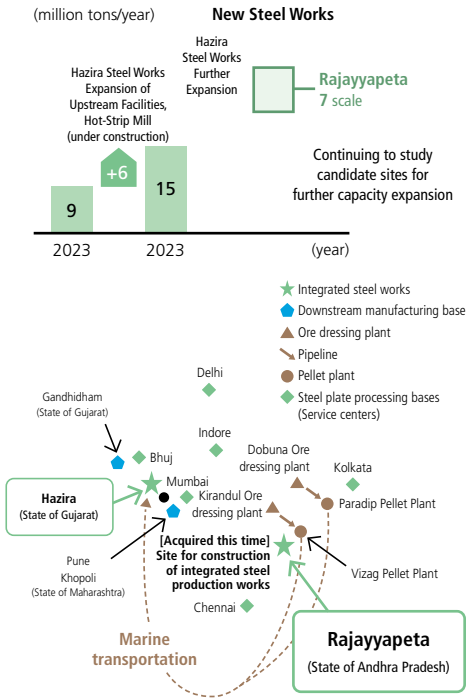


[India's population]



	Action	Facility	Investment Amount	Start of operation
Decided in Sep. 2022	Installation and expansion of iron resources and hot strip mills at Hazira Works	Blast furnace: 2 units (4,500 m³ × 2 units; 7.0 Mt/y) Pellet plant: 1 unit (approx. 3.0 Mt/y) Sintering: 2 units (approx. 6.0 Mt/y) Coke oven: 2 batteries (1.4 Mt/y) Converter: 3 units (350 t/ch × 3; crude steel production capacity 6.0 Mt/y) Degassing equipment Continuous casting facility: 2 units (2 strands/unit × 2 units) Hot strip mill: 1 unit (5.5 Mt/y, largest scale in India)	INR410 billion (Approx. ¥730 billion)	The First Phase (from FY2026 onward): #2 blast furnace and related facilities, new oxygen converters and continuous casters, and a new hot strip mill The Second Phase (from FY2026 onward): #3 blast furnace and related facilities
Decided in Apr. 2022	Expansion of steel sheets facilities at the Hazira Works	Pickling and cold rolling equipment: 1 unit (2.0 Mt/y) Hot-dip galvanizing equipment: 2 units (1.0 Mt/y) Cold-rolling and aluminum-plating equipment: 1 unit (1.0 Mt/y)	INR85 billion (Approx. ¥140 billion)	For building materials: Dec. 2023 For automobiles: From FY2025 onward
Acquisition in Nov. 2022	Acquisition of AM/NS Khopoli	Acquired the former Uttam Galva Steels Established AM/NS Khopoli Pickling and cold rolling equipment (1.0 Mt/y) Hot-dip galvanizing equipment (0.75 Mt/y) Collar steel plate (0.28 Mt/y) Hammer welded pipe (0.05 Mt/y)	Approx. INR37 billion (Approx. ¥67 billion)	
Acquisition in May 2023	Acquisition of AM/NS Gandhidham	Acquired former Indian Steel Corporation Established AM/NS Gandhidham Pickling and cold rolling equipment (0.60 Mt/y) Hot-dip galvanizing equipment (0.37 Mt/y) Collar steel plate (0.12 Mt/y)		
Acquisition in Apr. 2025	Acquisition of site for construction of a mill for integrated steel production	Acquired a site from the state government of Andhra Pradesh in southern India for the construction of an integrated steel production works, with plans for a facility with an annual capacity of approximately 7 million tons/year.		

[AM/NS India Production Capacity]



Our business development in Thailand: NS-SUS, G/GJ Steel

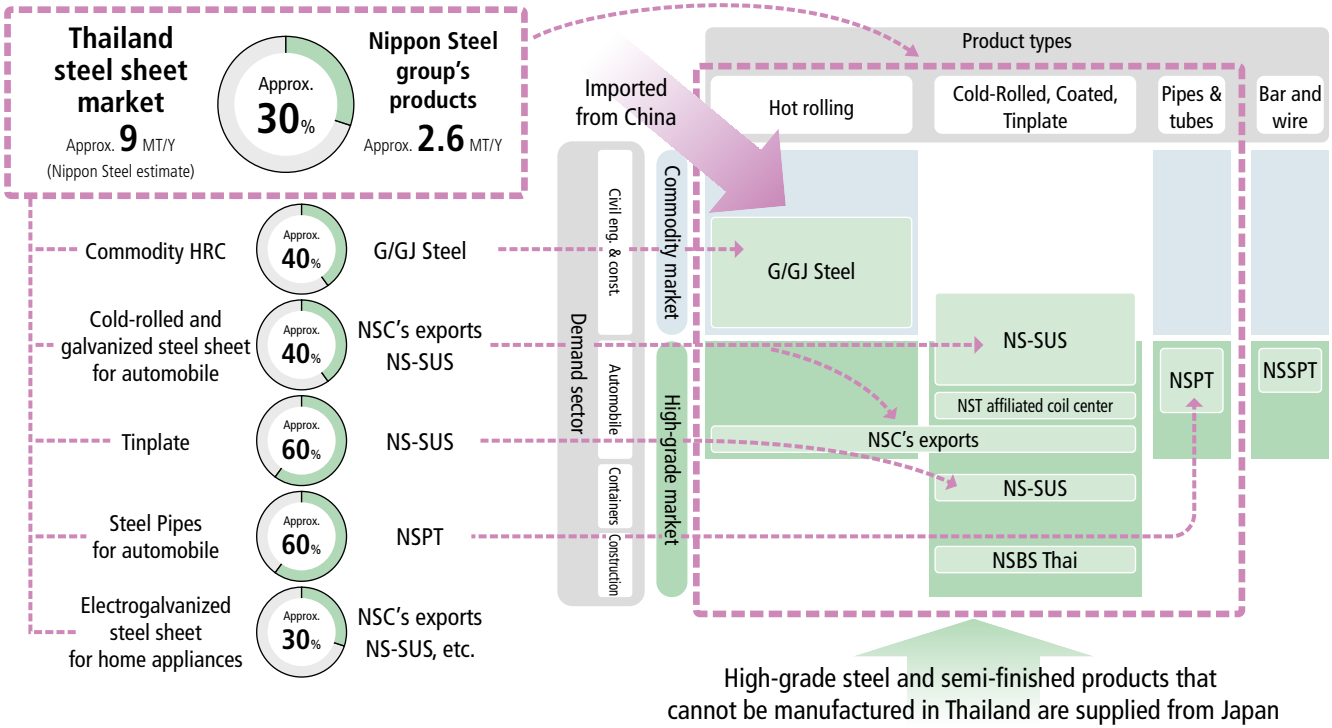
Among the ASEAN countries, Thailand has been an essential market for us, where we have established processing facilities since 1963. Today, we operate approximately 30 group companies, both directly and indirectly, creating employment for around 8,000 people in total. To meet demand for high-grade steel 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 such as NS-SUS and supplied them as final products for local manufacturing companies. We have contributed to establishing an extensive supply chain in Thailand, from steel production to end-users.

The steel sheet market in Thailand has reached a scale of approximately 9 million tons, and steady growth is expected to continue, including in the commodity-grade steel segment, which accounts for about two-thirds of the market. It is important to position ourselves as a deeply rooted insider in the local market to capture the demand for 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. The two companies hold an approximately 40% share in 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, the Nippon Steel Group now commands about a 30% share of steel sheets market in Thailand. This establishes a "robust market presence" outside our home country that is rare on a global scale. Under a business structure centered on NS-SUS and G/GJ Steel, we will further deepen collaboration within the Group in the future. Leveraging our strengths as an insider, we aim to expand our share in the Thai steel sheets market—our top-priority market in ASEAN—to 50%.

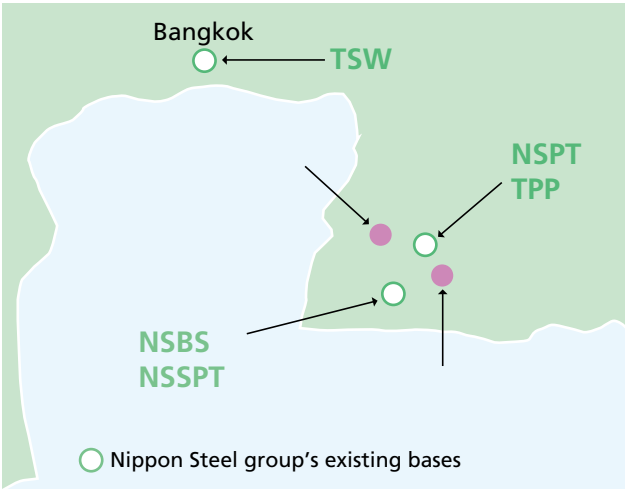
For NS-SUS, supported by strong demand for high-grade steel in automotive, home appliances, and steel can applications, the performance has remained solid. To prepare for the expansion of tinplate steel sales for steel can applications, we decided in April 2025 to invest approximately THB 2.0 billion (around JPY 8.9 billion) to increase production capacity from 280,000 tons to 350,000 tons, with completion scheduled for March 2027.

For G Steel and GJ Steel, we are strengthening the management framework by unifying the positions of the Managing Executive Officer supervising Thailand operations, the Presidents of NS-SUS and G/GJ Steel. In addition, we are reinforcing the earning base through measures that enhance intra-Group collaboration, such as consolidating the sales and technical service departments of NS-SUS and G/GJ Steel, and promoting the effective use of scrap within the Group. To further improve quality responsiveness and cost competitiveness, we also resolved in August 2024 to invest approximately THB 1.5 billion (approx. JPY 6.0 billion) for the installation of new temper rolling facilities at G Steel and for upgrading its scrap yard, with completion scheduled for April 2026.

[Steel Market and Business Development in Thailand]



[Manufacturing bases in Thailand]



United States Steel

Special Feature: Partnership with U. S. Steel Corporation

The United States is the world's largest consumer of high-grade steel and one of the few developed countries experiencing population growth, with steady economic expansion expected in the years ahead. In light of this background, this partnership with U. S. Steel Corporation perfectly aligns with our global strategy, which focuses on "regions where demand growth is assured" and "fields where our technological and product strengths can be fully leveraged." Having long sought an opportunity to enter the U.S. market, we were presented with the chance to form this partnership with U. S. Steel in the summer of 2023. Recognizing this as a once-in-a-lifetime opportunity, we committed ourselves fully to the challenge. After a thorough process, in June 2025, U. S. Steel joined our group as a wholly owned subsidiary and became an integral part of our global network.

For this initiative, we plan to invest a total of approximately JPY 3.6 trillion, including capital contributions and subsequent facility investments aimed at business growth. This represents a significant leap toward becoming the world's most comprehensive steelmaker and is a critically important project for our future growth. It is essential that all employees unite and dedicate their efforts to strengthen U. S. Steel's business foundation and to maximize synergies across the Group going forward.

Overview of U. S. Steel

U. S. Steel is one of the leading integrated steelmakers in the United States, operating both blast furnace and electric arc furnace facilities, producing and selling steel sheets for automobiles, home appliances, and building materials, as well as steel pipes for the energy sector, both in the United States and Europe (Slovakia). With a crude steel production capacity of approximately 23 million tons, the company owns valuable assets, including competitive integrated blast furnace steelworks, advanced electric furnace mini-mills capable of producing high-grade steel, and iron ore mines that supply iron ore to its North American production sites. Furthermore, U. S. Steel is making growth investments that contribute to carbon neutrality, such as expanding the capacity of the electric arc furnace mini mills and installing new facilities for producing direct reduced iron pellets, a raw material for electric arc furnaces.

[Overview of U. S. Steel]

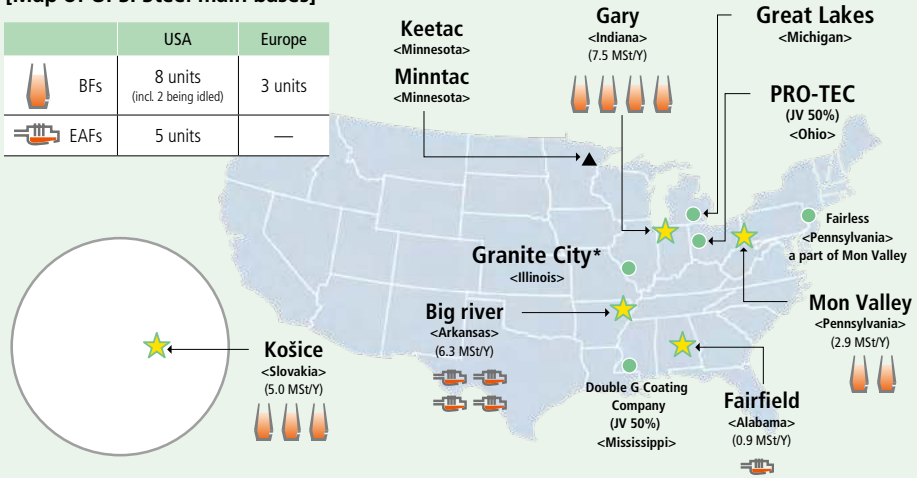
(t: metric ton, st: short ton)

	USA	Europe	Total
Headquarters	Pittsburgh, Pennsylvania, USA (remain unchanged after acquisition)		
Manufacturing bases	<Steel sheets> Gary (Indiana), Mon Valley (Pennsylvania), Great Lakes (Michigan), PRO-TEC (Ohio) <Mini-Mill> Big River Steel (Arkansas) <Pipes & tubes> Fairfield (Alabama)	Košice (Slovakia)	
Product types	Steel sheets (Hot-rolled sheets, Cold-rolled sheets, Galvanized Sheets, Tin plate, Electrical steel sheets), Pipes and tubes (Seamless pipes)		
Crude steel production capacity	18.5 Mt/Y (20.4 MSt/Y) 8 BFs (Including 2 BFs idle) 5 EAFs	4.5 Mt/Y (5.0 MSt/Y)	23.0 Mt/Y (25.4 MSt/Y)
Crude steel production volume*1	10.7 Mt/Y (11.8 MSt/Y, incl. EAFs of 2.8 Mt/Y, 18%*) * As a percentage of total incl. Europe	3.5 Mt/Y (3.8 MSt/Y)	14.2 Mt/Y (15.6 MSt/Y)
Shipment volume of steel products*1	9.6 Mt/Y (10.6 MSt/Y)	3.2 Mt/Y (3.6MSt/Y)	12.9 Mt/Y (14.2 MSt/Y)
Iron ore mines owned	Minntac, Keetac (Minnesota)		
Pellet Production	20.2 Mt/Y (22.2 Mst/Y) All iron ore used in the U.S. is procured from in-house mined pellets.		
Net sales*1	12,657 M$/Y	2,983 M$/Y	15,640 M$/Y
Earnings before income taxes*1	438 M$/Y		
Net earnings*1	384 M$/Y		
Number of employees*2	14,341	7,712	22,053

*1 CY2024 results, *2 At the end of CY2024

[Map of U. S. Steel main bases]

	USA	Europe
BFs	8 units (incl. 2 being idled)	3 units
EAFs	5 units	—

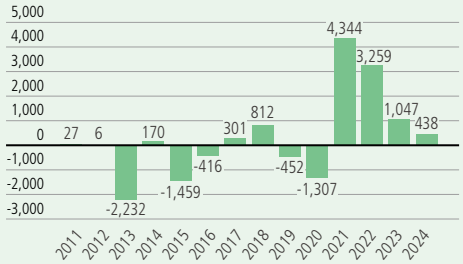


Legend ★ Iron resources integrated steel production works (crude steel production capacity) ● Downstream process bases ▲ Iron ore mines

* 2BFs being idled

U. S. Steel's financial status

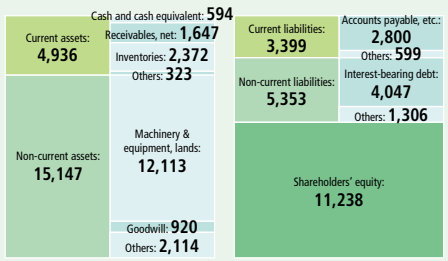
[Earnings before income taxes (US dollars in millions)]



[Balance sheet (as of March 31, 2024) (US dollars in millions)]

Total assets: 20,083

Liabilities: 8,752 Shareholders' equity: 11,238 Non-controlling interests: 93



Overview of the Partnership and Our Perspective

National Security Agreement (NSA) and Golden Share

We concluded a National Security Agreement (NSA) with the U.S. Government, and, pursuant to the NSA and through the ownership of the Golden Share, the U.S. Government will have certain rights, including the following. By making these commitments and granting such rights, we were able to establish U. S. Steel as a wholly owned subsidiary through 100% ownership of its common shares.

Key Commitments under the NSA	
Investment	● Nippon Steel will make approximately US$11 billion in new investments in U. S. Steel by 2028, which includes an initial investment in a greenfield project that will be completed after 2028.
U.S. Headquarters	● U. S. Steel will remain a U.S.-incorporated entity and will maintain its headquarters in Pittsburgh, Pennsylvania.
U.S. Board	● A majority of the members of U. S. Steel's board of directors will be U.S. citizens. **Note: Nippon Steel will appoint a majority of directors.** (Among the three independent directors, one will be appointed by the U.S. government, and the other two require approval by the U.S. Government.)
U.S. Management	● U. S. Steel's key management personnel, including its CEO, will be U.S. citizens.
U.S. Production	● U. S. Steel will maintain capacity to produce and supply steel from its U.S. production locations to meet market demand in the U.S..
U. S. Steel Autonomous Trade	● Nippon Steel will not prevent, prohibit, or otherwise interfere with U. S. Steel's ability to pursue trade action under U.S. law.

Key rights held by the U.S. government under the NSA and through the golden share

Appointment of one independent director

U.S. government consent is required for the following matters

- Reductions in the committed capital investments under the NSA
- Changing U. S. Steel's name and headquarters
- Redomiciling U. S. Steel outside of the United States
- Transfer of production or jobs outside the United States
- Material acquisitions of other competing businesses in the United States
- Certain decisions on closure or idling of U. S. Steel's existing U.S. manufacturing facilities (except ordinary course, temporary idling), and matters related to trade, labor, and sourcing outside of the United States, etc.

From our perspective, these arrangements are not expected to hinder U. S. Steel's management. We believe they satisfy the essential prerequisites for conducting any business—securing both managerial flexibility and profitability.

This is because the U.S. government itself seeks the revitalization of U. S. Steel. Given Nippon Steel's deep expertise in the steel industry, we expect little divergence in management decisions between the two parties, and we believe the division of roles with the U.S. government will be a reasonable one. For example, while the agreement stipulates that three of U. S. Steel's nine directors are to be appointed or approved by the U.S. government, these three directors have been selected and approved exactly as requested by us.

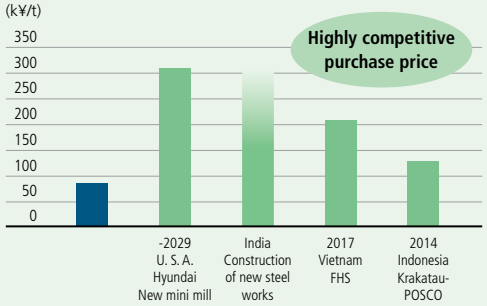
Furthermore, our objective is to expand U. S. Steel's production capacity and enhance its product portfolio, and we intend to actively pursue investments for growth to that end. Our intention to expand U. S. Steel's production capacity and enhance its product offerings is completely consistent with the expectations of the U.S. government, which aims to maintain and increase domestic steel supply and link that to job growth and a reduction in the trade deficit. Accordingly, we have agreed to accommodate the U.S. government's desire to oversee the execution of these investments, and this has been clearly reflected in the form of the NSA and the golden share. We, therefore, do not view the existence of the NSA or the golden share as an obstacle to our strategy of pursuing the further growth of U. S. Steel.

Merger consideration: Approx. JPY 2 Trillion

The consideration for this merger amounts to approximately USD 14.2 billion (around JPY 2 trillion). We believe this represents a highly competitive acquisition price.

On a crude steel per-ton basis, the merger consideration for U. S. Steel falls below JPY 100,000. In contrast, construction costs for steel facilities have risen sharply in recent years. Even in India, which is considered one of the most cost-effective locations, the new installation of an integrated steelworks requires more than JPY 200,000 per ton. Furthermore, the development of such large-scale steelworks—from construction to the commencement of commercial operations—typically takes nearly a decade. During this period, not only does significant capital expenditure occur upfront, but the project also carries multiple risks, including those related to construction, facility commissioning, employee recruitment and training, and securing new customers. In the United States, where labor expenses are higher, such projects would be expected to require even greater investment.

[Investment per crude steel production capacity]

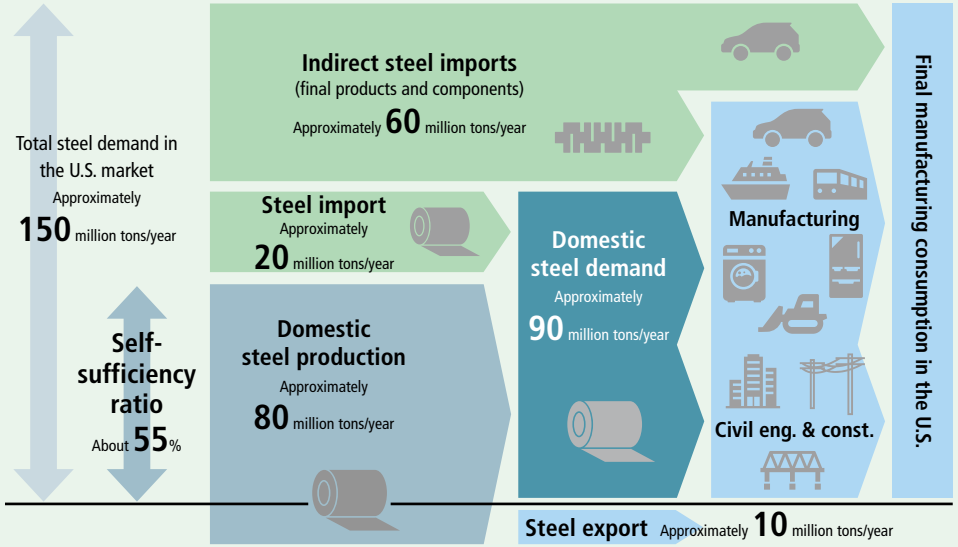


In the case of U. S. Steel, the facilities are already in place and operational, eliminating the risks associated with construction and start-up phases. In addition, the company owns high-quality iron ore mines, making this a strategic and reasonable deal. Another considerable advantage is that, while securing qualified labor remains one of the greatest challenges in the United States, U. S. Steel already has a skilled workforce in place.

It was through competitive bidding among several companies in December 2023 that Nippon Steel secured the merger consideration of approximately USD 55 per share. Notably, the final offer from one of the competing bidders was USD 54 per share. This demonstrates that our valuation was not unique to us alone, but one broadly recognized as fair and reasonable in the market.

In addition, U. S. Steel owns USSK, a wholly owned subsidiary that operates an integrated steelworks in Slovakia, Europe. USSK currently has a production capacity of 4.5 million tons, but it also holds an extensive site comparable in size to our East Nippon Steel Works Kimitsu Area, which has a capacity of 10 million tons. This provides significant potential for substantial future capacity expansion. By acquiring these strategic assets in both the United States and Europe simultaneously through this transaction, we have effectively advanced the completion of our global network.

[Structure of the U. S. steel market (Nippon Steel estimates)**]**



Facility investments following the merger (Approx. USD 11 billion / JPY 1.6 trillion)

Under the NSA, we have committed to facility investments totaling approximately USD 11 billion by the end of 2028. The rationale for this significant capital allocation is outlined below.

The U. S. Steel market is the largest among developed nations, with domestic demand of around 90 million tons—roughly twice that of Japan. However, its steel self-sufficiency ratio is reportedly only about 70%. When including steel imported indirectly in the form of finished products and components, the total demand reaches approximately 150 million tons. This represents the scale of domestic demand we are targeting. Of this total, about 55% is supplied domestically, 15% through direct steel imports, and the remaining 30% through imports of finished products and components. The U.S. government has expressed concern over the low self-sufficiency rate in automobiles (approximately 55%). Notably, the steel sector faces an identical challenge. The United States is not only by far the largest market among advanced economies but also one with strong potential for continued growth. Importantly, it is a market where demand for high-grade steel—an area where our technological expertise provides a distinct competitive advantage—is significant, making it the most promising market globally. By lowering costs to substitute imports and supplying products that are not currently manufactured in the United States, we aim to promote greater localization of steel currently imported in the form of products and components.

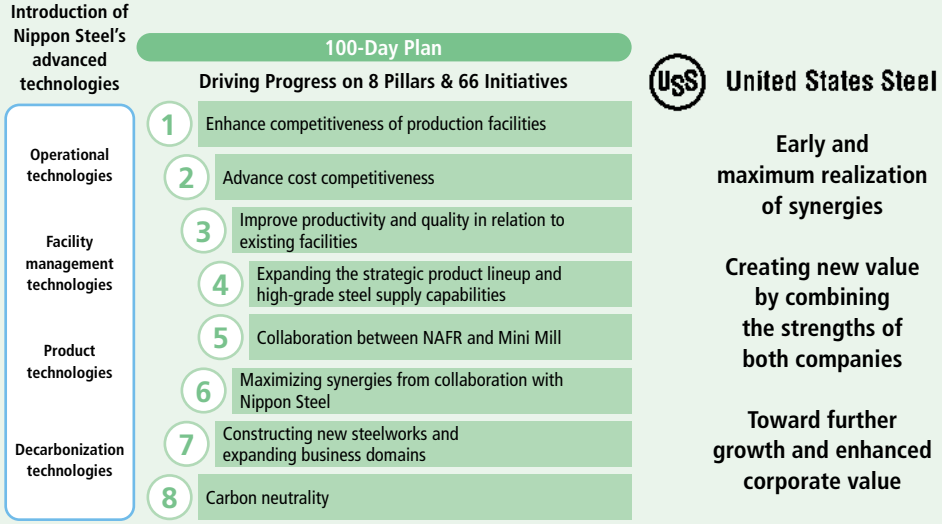
All of the capital investments we plan to implement in this large market are judged to be necessary and effective for enhancing U. S. Steel's corporate value, and we have determined that each is expected to be economically viable. Looking ahead, we will also reduce costs by applying our expertise in operations and facility management, while raising added value through the introduction of strategic products. Furthermore, by strengthening the supply network for high-grade steel, we aim to establish a robust and sophisticated supply chain that will play a vital role in the revitalization of U.S. manufacturing.

On the Projected Earnings for FY2025 and Plans for Future Profit Enhancement

Although it took a year and a half from the signing of the merger agreement in December 2023 to the closing, this period allowed us to deepen our interaction and mutual understanding with U. S. Steel and build a solid foundation of mutual understanding and trust. Under such a solid partnership, we have advanced the detailing of improvement initiatives and facility investments, enabling us to promptly commence the execution of measures to drive U. S. Steel's revitalization and growth. Specifically, immediately after closing, we launched a "100-Day Plan." This initiative involves the creation of action plans with deadlines set for "Eight Pillars and 66 Initiatives," which are already being implemented to realize early and maximum synergies.

Regarding U. S. Steel's underlying business profit for FY2025, we forecast approximately 80 billion yen. This reflects nine months of consolidated performance (July 2025–March 2026), during which the Big River 2 project will still be in its start-up phase and the impact of tariff policies remains uncertain. However, when annualized and factoring in the full ramp-up of the Big River 2 project, this figure translates into a profit level of around 150 billion yen.

Initiatives to realize synergies



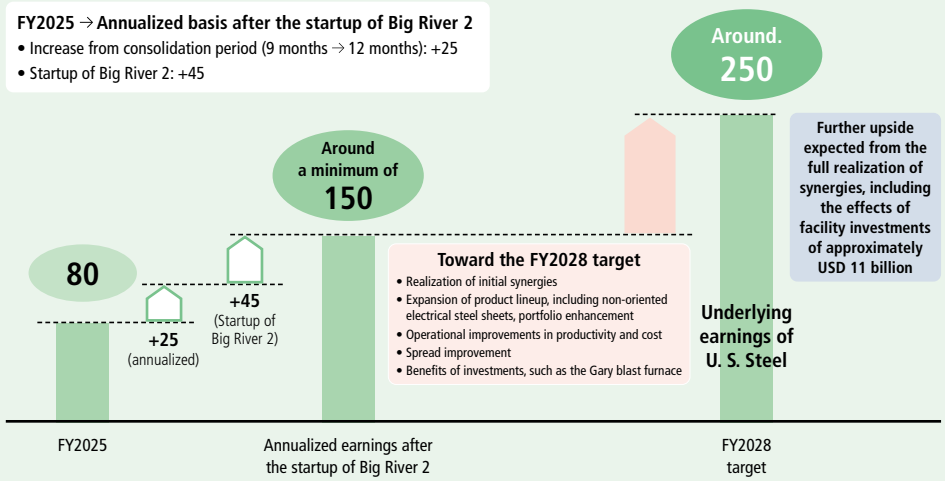
Going forward, we intend to use this profit level as a starting point and achieve underlying operating profit of approximately 250 billion yen at an early stage, with a target of FY2028 through the early realization of synergies, expansion and portfolio enhancement of product lines such as non-oriented electrical steel sheets, operational improvements in productivity and cost efficiency, margin enhancement, and the benefits of investments (including the No. 14 blast furnace at the Gary steelworks).

Furthermore, we intend to treat these 250 billion yen as a baseline and pursue additional synergy gains beyond this level, including the full effect of facility investments totaling approximately USD 11 billion.

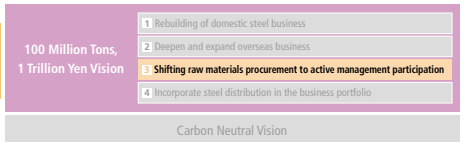
We recognize that the most significant challenge in executing our plan is a shortage of technical personnel required to carry out these initiatives. Both our existing high-performing facilities and those in which we are to invest will require dedicated technical personnel to ensure their continued effectiveness. Similarly, the introduction of our strategic products, as well as the achievement of stable, mass production of these products, also needs specialized technical experts. As a first step, we have already dispatched approximately 40 employees to the United States for this purpose. Through these assigned personnel, we will transfer Nippon Steel's operational know-how, plant management expertise, and product technologies to U. S. Steel, thereby enhancing production capacity, improving cost efficiency, stabilizing and upgrading quality, and increasing value-added performance. By enabling U. S. Steel to gain trust from the market through these improvements, we will, in turn, build trust with the U.S. government, which allows us to secure both managerial flexibility and profitability at a higher level. To bring about this virtuous cycle, Nippon Steel is committed to rallying its entire workforce and focusing all efforts.

Future earnings improvement outlook for U. S. steel

(¥bn)



3 Shifting raw materials procurement to active management participation



Nippon Steel had made minority investments in raw material mines owned and operated by major resource companies; the investments have supported reliable procurement of raw materials. In recent years, however, we have moved beyond viewing raw material procurement simply as a supply function, positioning it instead as a "business" in its own right and steadily building greater depth and resilience in this area.

In order to realize a carbon-neutral steelmaking process, we are developing three breakthrough technologies: Hydrogen injection into blast furnaces, high-grade steel production in large-scale electric arc furnaces, and hydrogen direct reduction of iron. Securing stable procurement of high-quality raw materials suitable for manufacturing processes using these innovative technologies will become an increasingly important challenge. We therefore need to secure interests in raw materials that are indispensable to our business strategy.

In recent years, raw material prices have been soaring and fluctuations in market prices have been expanding. In order to realize a consolidated profit structure that is less susceptible to external factors, we must raise the ratio of raw materials sourced from our own mines.

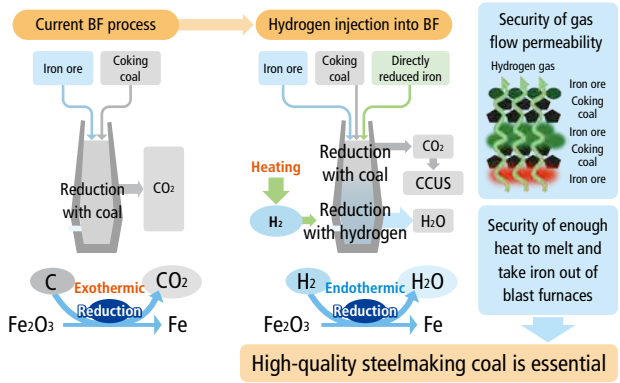
From the standpoint of stable procurement of quality raw materials that will be necessary in the future, and of realization of a consolidated profit structure that is less susceptible to fluctuations in raw material market conditions, we will expand its investment in raw material mines not only for procurement, but also to make this operation into a business, utilizing our insights on user needs and raw material utilization technology. By doing so, we want to build an integrated business structure with an extensive depth spanning from raw materials to manufacturing and distribution.

Equity participation in high-quality coking coal mines

In order to realize a carbon-neutral steel production process, we are working on the development of "hydrogen injection into BFs" technology. In the BF hydrogen injection process, high-quality coking coal, which is used as a raw material for high-quality, high-strength coke, is required to achieve both CO_2 emissions reduction and the stability and efficiency of pig iron production.

However, given the trend toward decarbonization, investment in development of coking coal for steelmaking is not expected to increase in the future, and there is growing concern that the world's capacity to supply coking coal for steelmaking will gradually decrease. In order to promote carbon neutrality in the future, we believe that it is necessary to expand our investments in raw material interests to secure stable procurement.

[Necessity of securing high-quality steelmaking coal]

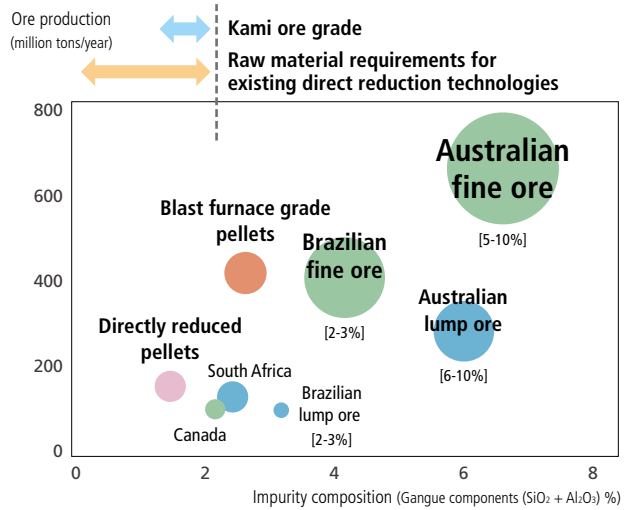


Equity participation in high-quality iron ore mines

In pursuing the development of "high-grade steel manufacture in large-scale EAFs," it is essential to secure both a reduction in CO_2 emissions and the stable production of high-quality steel. This requires a reliable supply of high-quality scrap and directly reduced iron (DRI).

However, given the limited availability of high-quality scrap, DRI that can be readily melted in EAFs becomes indispensable. While DRI can be produced in shaft furnaces, which we have been actively developing, the use of low-grade iron ore can lead to issues such as disintegration and sticking during production. As a result, securing access to high-quality iron ore has become increasingly critical. To ensure the stable operation of our EAFs in the future, we are also pursuing equity participation in iron ore mines.

[Distribution of iron ore by grade and Kami ore grade]



Bubble size: Export volume [ ]: Crystal water content

Fine ore · Lump ore · DR-grade pellets · Blast furnace grade pellets

Source: Created by Nippon Steel based on CRU/AME data (2018 production/export volumes)

[Recently executed and approved raw material equity investments]

Raw material	JV name	Location	Nippon Steel's ownership	Equity investment amounts	Raw materials produced	Major shareholders
Coking coal	EVR JV	Canada	20%	Approx. 200.0 Bn. JPY	Hard coking coal	Glencore 77%
	Blackwater	Australia	20%	Approx. 108.0 Bn. JPY	Semi-hard coking coal and non-slightly caking coal (enabling the production of high-quality coke by leveraging our advanced technologies)	Whitehaven 70%
Iron ore	Kami	Canada	30%	Approx. 16.2 Bn. JPY*1 +Approx. 130 Bn. JPY*2	Extremely scarce direct reduction (DR) grade iron ore	Champion Iron 51%

*1 Portion of equity investment prior to the decision to commence development
*2 Portion of development investment (our share)

4 Incorporate steel distribution in the business portfolio

Changes in the environment surrounding steel distribution

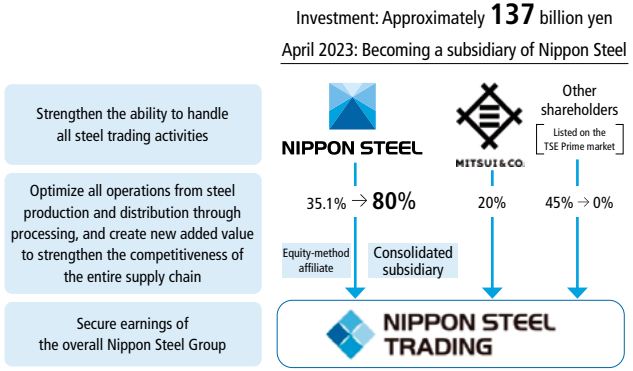
To date, in addition to direct transactions with some customers, Nippon Steel has appointed several trading companies as intermediaries and has maintained and strengthened its sales capabilities throughout the steel supply chain by utilizing their various functions such as information gathering, transaction operations, credit, investment and management in the distribution and processing businesses.

However, the environment surrounding the steel market has structurally and drastically changed in a short period of time due to a potential decline in domestic demand and expansion of local production by customers, qualitative improvement, and quantitative expansion of China and other competitors, the steel industry's global trend of local production for local consumption, and fluctuations in resource and energy prices and exchange rates affected by economic policies in various countries to address geopolitical and inflationary risks. In order to respond swiftly and appropriately to such fluctuations, we must increase direct contact with customers in Japan and overseas, and strengthen the ability to comprehensively carry out operations related to steel trading. Moreover, in order to securely generate the entire Group's profit, we need to optimize and streamline operations that span from manufacturing to distribution and processing and to create higher added value to further improve competitiveness throughout the supply chain.

Turning Nippon Steel Trading into a subsidiary and privately held company

We have long maintained a cooperative relationship with Nippon Steel Trading, the core trading company of our Group, mainly 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 Nippon Steel subjects us to certain restrictions on the mutual sharing of customer and technical information, and the storage and mutual utilization of management resources. Moreover, measures aimed at enhancing the corporate value of our Group and Nippon Steel Trading from a medium- to long-term perspective may have been viewed as conflicting with the interests of minority shareholders of Nippon Steel Trading if the measures result in a short-term deterioration in its performance or financial position.

[Changes in the investment ratios of Nippon Steel Trading]



In order to eliminate these restrictions and realize broader synergies, we made Nippon Steel Trading a subsidiary and took it private. We will create new added value by promoting many actions, listed below, from the following three viewpoints:
(1) to enhance and raise the efficiency of the Group's trading company functions,
(2) to enhance the direct sales ability by making integrated use of our sales knowhow and infrastructure throughout the group, and
(3) to further advance the supply chain.

Specifically, we are advancing a wide range of initiatives, as detailed in the following examples.

[Measures under consideration or in preparation for projects involving Nippon Steel Trading]

Equity investment in Hystar, a Norwegian company engaged in the production of water electrolysis equipment for hydrogen production (January 2023, May 2025: equity investment)
Expansion of a steel material service center in India (commenced operation in August 2023)
Integration of NS Construction Materials Sales Co., Ltd. and SK Construction Co., Ltd. (temporary stand construction) (April 1, 2024: integrated)
NST Mechanical Tubular Products Sales Co., Ltd. acquired the automobile steel pipe cutting business from Sakaishin Co., Ltd. (April 1, 2024: acquired)
Transfer of the steel processing business of Mitsuhashi Kozai Co., Ltd. to Nippon Steel Kobelco Shearing Corp. (July 1, 2024: transferred)
Made Denkishizai Co., Ltd. a subsidiary (August 1, 2024: executed)
Merger of Nippon Steel Trading and NS Architectural Steel Services Corp. (former Nihon Teppan Co., Ltd.) (October 1, 2024: to merge)
Construction of high-grade electrical steel sheet processing plant in Mexico (April 2025: scheduled to start operation)
Full-scale development of the portal site for linking information with business partners (NST Business Online)
Undertaking efforts to focus our sales forces on new demand areas, improve the efficiency of our commercial business operations, and strengthen cooperation at overseas bases
Equity investment in Mlion Corporation, a Singapore-based distributor of civil engineering and construction products (investment executed in December 2024)

[Progress toward the 100 Million Tons, 1 Trillion Yen Vision]

	What we have done so far	Actions to be taken
1 Rebuilding of domestic steel business	**Drastic improvement in breakeven point (BEP)**	
	1) Facility structural measures • Of the facility shutdowns planned as part of our structural measures, including the shutdown of five blast furnaces, only three projects remain: the small-diameter seamless pipe west mill at Wakayama (Kainan), the sheet mill at Wakayama, and part of the cold rolling and annealing facilities at Shunan. • Reduced annual costs by ¥110 billion by FY2024 of ¥150 billion planned in the structural measures • Significantly reduced fixed costs through cost reduction efforts, including structural measures	• Reduce the remaining ¥40 billion in costs from the structural measures steadily • Absorb the increase in amortization costs, and maintain a low level of fixed costs by cost reduction efforts, including structural measures
	2) Margin improvement in direct contract 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, increase in labor costs and transportation costs, etc. in sales prices • Ensure that the value of our products and solutions is reflected in the sales price
	3) Shift to a more sophisticated order mix, and undertake renewal and improvement of facilities • Launch of investments to expand capacity and enhance the quality of electrical steel sheets (initiated in the first half of FY2023 and the first half of FY2024), along with the implementation of additional investments scheduled to commence in the first half of FY2027. • 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), with the project currently underway.	• Steadily execute construction and start of the 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
2 Deepen and expand overseas business	• 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 west India (Sep. 2022, Apr. 2022), and secured renewable energy power and acquired infrastructure assets (Sep. 2022). • Merged U. S. Steel as a wholly owned subsidiary of Nippon Steel (June 2025)	• Maximize the business value through partnership with U. S. Steel • Further capacity expansion at AM/NS India, including construction of a new steelworks in Andhra Pradesh (southern India) and expansion of the Hazira facility • Explore further opportunities toward establishing a 100 million-ton global steel capacity
3 Shifting raw materials procurement to active management participation	• Indirectly acquired a 20% interest in Elk Valley Resources (EVR JV), which is the coking coal business partnership sold by Teck Resources Limited, the world's second largest producer of high-quality steelmaking coal in the world. (Jan. 2024) • Acquired a 20% equity interest in the Blackwater coal mine in Queensland, Australia, owned by Whitehaven (March 2025) • Entered into a basic agreement in December 2024 to acquire a 20% equity interest in the Kami iron ore mine in Canada, owned by Champion Iron, which produces high-grade DR-grade iron ore.	• Pursue more investments in raw material interests in order to secure stable procurement of raw materials essential to the business strategy
4 Incorporate steel distribution in the business portfolio	• 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 • Become more competitive throughout the supply chain by optimizing and improving efficiency in steel production, distribution and processing, and through creation of new value

Carbon Neutral Vision

Nippon Steel aims to achieve CO_2 reductions in its supply chain by offering two values: "providing high-performance steel products and solutions that contribute to reducing CO_2 emissions throughout the entire society" and "providing GX Steel* by decarbonizing the steel making process" through the realization of the "Nippon Steel Carbon Neutral Vision 2050."

* This refers to the "green steel for green transformation" defined in a summary of the Study Group on Green Steel for Green Transformation (GX) hosted by the Ministry of Economy, Trade and Industry (METI) in January 2025.

Nippon Steel's Mission in Addressing Climate Change Issues

In support of the ambitious government policy to realize a carbon neutral society in 2050, we announced the Carbon Neutral Vision 2050 in March 2021.
We will satisfy the decarbonization needs of our customers (totaling approximately 6,000 companies in Japan) and support their international competition by taking the lead in decarbonizing the steel making process ahead of other countries, offering high-performance steel products and solutions, and swiftly supplying GX Steel to the market.

Corporate Philosophy

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

Ensure a sustainable supply of materials essential to building the social infrastructure while continuously enhancing corporate value

Ensure economic viability

Response to global climate change issues

- Reducing CO_2 emissions in the steelmaking process
- Contribute to reducing CO_2 emissions from society (reducing CO_2 emissions during steel processing and use)

- Realizing a carbon neutral steelmaking process by 2050
- Expanding and improving products that contribute to reducing CO_2 emissions in society

Economic valuation of CO_2 emission reductions

Provision of GX Steel

Provision of GX Solutions

Contribution to CO_2 reduction by our customers

Realization of a carbon neutral society in 2050

Toward the Decarbonizing of Steelmaking Process

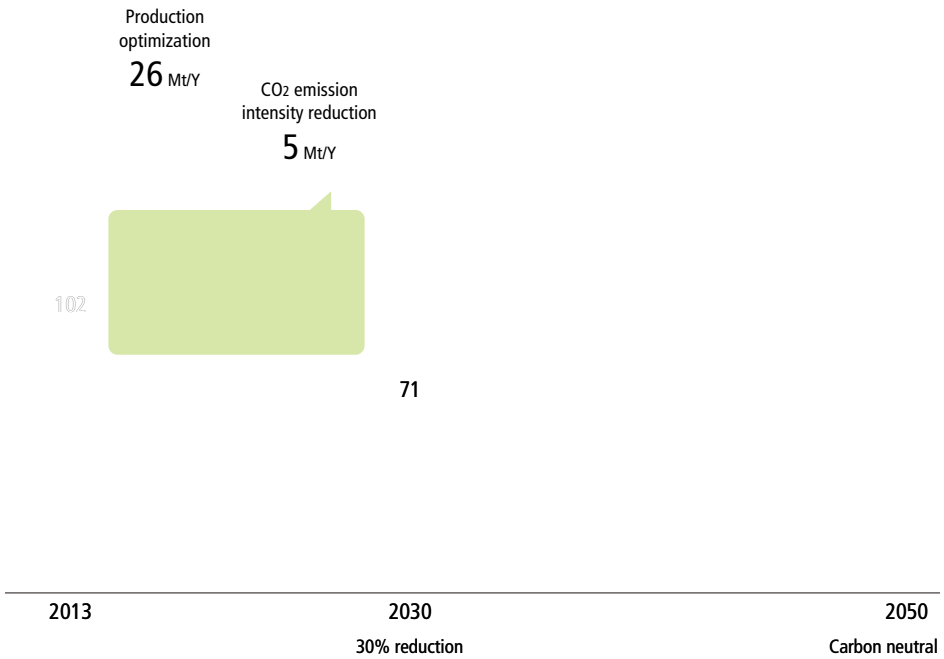
Nippon Steel have formulated a target of reducing total CO_2 emissions by 30% by 2030, compared to the 2013 baseline and of achieving carbon neutrality in 2050. We are working to develop and actually implement innovative technologies in steelmaking process ahead of steel companies in other countries.

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 (GI) Fund*, we are working on specific plans for the roadmap of development and practical implementation.

* This is an R&D project commissioned and subsidized by the New Energy and Industrial Technology Development Organization (NEDO), to support companies and other entities implementing projects that aim to achieve the ambitious 2030 targets (such as CO_2 emission reductions) in priority areas of the Green Growth Strategy Action Plan.

[Decarbonization scenario for "Carbon Neutral Vision 2050"]

Aiming for a 30% reduction in CO_2 emissions by 2030 and achieving carbon neutrality by 2050, steadily advance the full implementation of CO_2 reduction technologies through a multi-track approach



Nippon Steel's Initiatives for Realization of a Carbon Neutral Society

Achieving carbon neutrality requires a multi-track approach to the development and implementation of innovative technologies aimed at decarbonizing the steelmaking process, as well as efforts in securing decarbonized energy and raw materials. In addition, this initiative requires creating a GX market to supply GX Steel to society by establishing rules for CO_2 reduction value that assess the predictability of investment returns, by promoting the adoption of GX Steel embedded with the CO_2 reduction value, and by ensuring the predictability of investment returns.

We are steadily addressing these tasks by developing innovative technologies. We are also engaging the entire society in improving its awareness, with a primary focus on policy and institutional proposals to the government and industry.

Technology development	**Development plan and testing**	Establishment of a hydrogen-based CO_2 emission reduction technology at an experimental BF (-43%) Completion of an experimental EAF at the Hasaki R&D Center and the start of the testing (2H/FY2025)
	Government support	The subsidy **from Green Innovation (GI) Fund** for "Hydrogen Utilization in Iron and Steelmaking Processes" increased from ¥193.5 billion to ¥**449.9** billion
Predictability of investment returns	**Government support for capital investment**	One-third of the total investment was borne by the government utilizing GX transition bonds ▶ **Approval of the "Investment for Conversion of BF Process to EAF Process"**
	Government support for operating costs	Establishment of the strategic materials and production base tax system (Green Steel)
	Economic valuation of environmental value (CO_2 reduction)	Study Group on GX Product Market (METI), GX 2040 Vision and Sector-Specific Investment Strategy (the Japanese government) **GX Steel was classified as a target for the government support measures for priority procurement and purchase** at the Study Group on Green Steel for Green Transformation [METI] ▶ **Review of the basic policy of the Act on Promoting Green Purchasing (Ministry of the Environment), subsidies to CEVs (METI)**
Institutionalization and standardization	**Standardization**	**Proactive participation in the formulation of the Guidelines of the Japan Iron and Steel Federation** Publication of the worldsteel Guidelines ver.1 (November 2024) Advocating for revisions of ISO, GHG protocol, etc. GX League (METI) ▶ Growth-oriented carbon pricing Study Group on Utilizing CFP for Achieving GX (METI) ▶ CFP standardization
Infrastructure Development	**Energy infrastructure development**	Safe Use of Nuclear Power for the 7th Strategic Energy Plan Hydrogen and ammonia: Revision of the Basic Hydrogen Strategy, Hydrogen Society Promotion Act CCS: JOGMEC/Advanced CCS Support Program

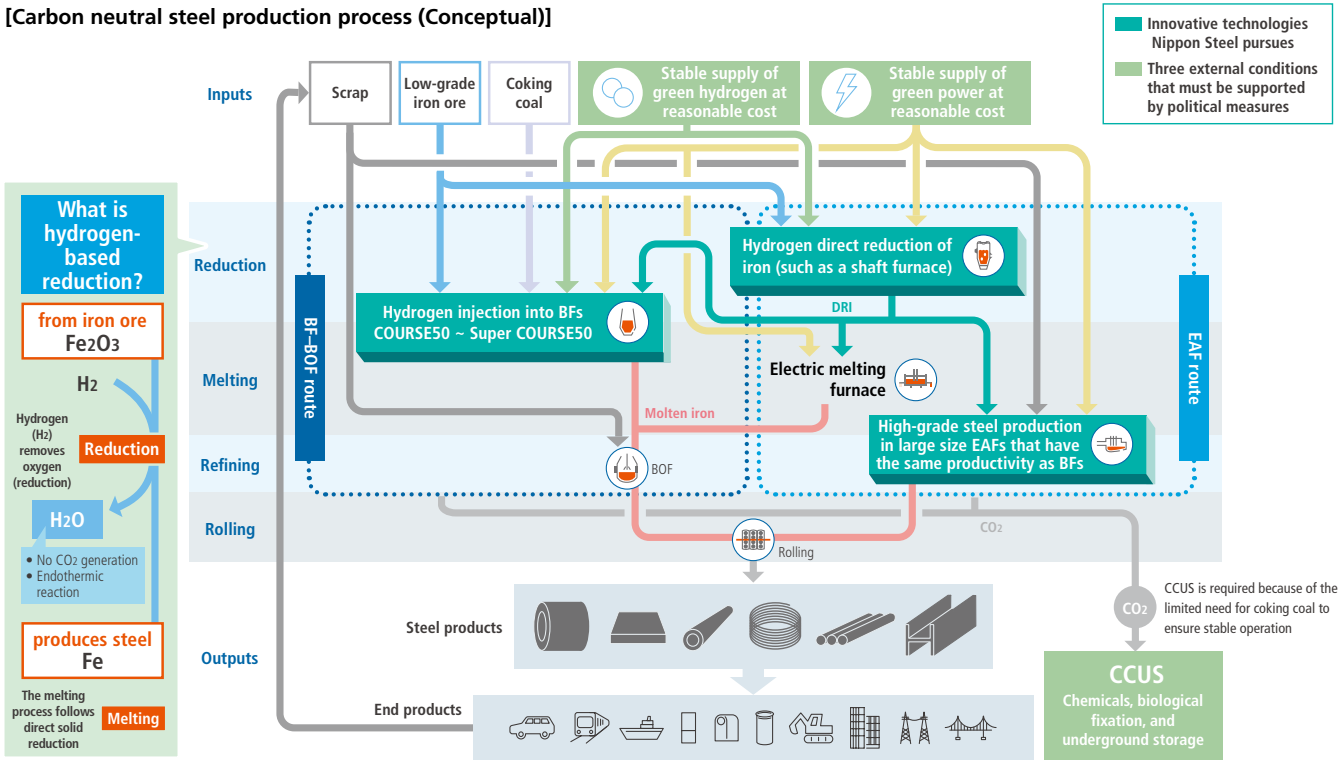
Decarbonizing the steel making process" through the realization

In the current BF–BOF process, coal (or coke) is utilized as a reducing agent and a heat source. At the same time, it remains in a solid form even at high temperatures in the BF, maintaining ventilation while supporting raw materials. Despite these advantages, this process inevitably generates CO_2 during the reduction reaction.

For this reason, we will strive to achieve carbon neutrality by drastically reviewing our existing processes and engaging in the development and commercial-scale implementation of three innovative technologies via a multi-track approach. The three technologies are high-grade steel production in large size electric arc furnaces (EAFs) (through productivity improvement of EAFs and the manufacture of high-grade steel that cannot be made from direct reduced iron (DRI) and steel scrap), hydrogen direct reduction of iron (manufacturing solid reduced iron by hydrogen reduction in direct reduction furnaces (DRFs)), and hydrogen injection into BFs (injecting hydrogen into the existing BFs to partially replace the use of carbon).

Technical issues in realizing a carbon neutral steel production process
https://www.nipponsteel.com/en/sustainability/env/climate/future.html

[Carbon neutral steel production process (Conceptual)]

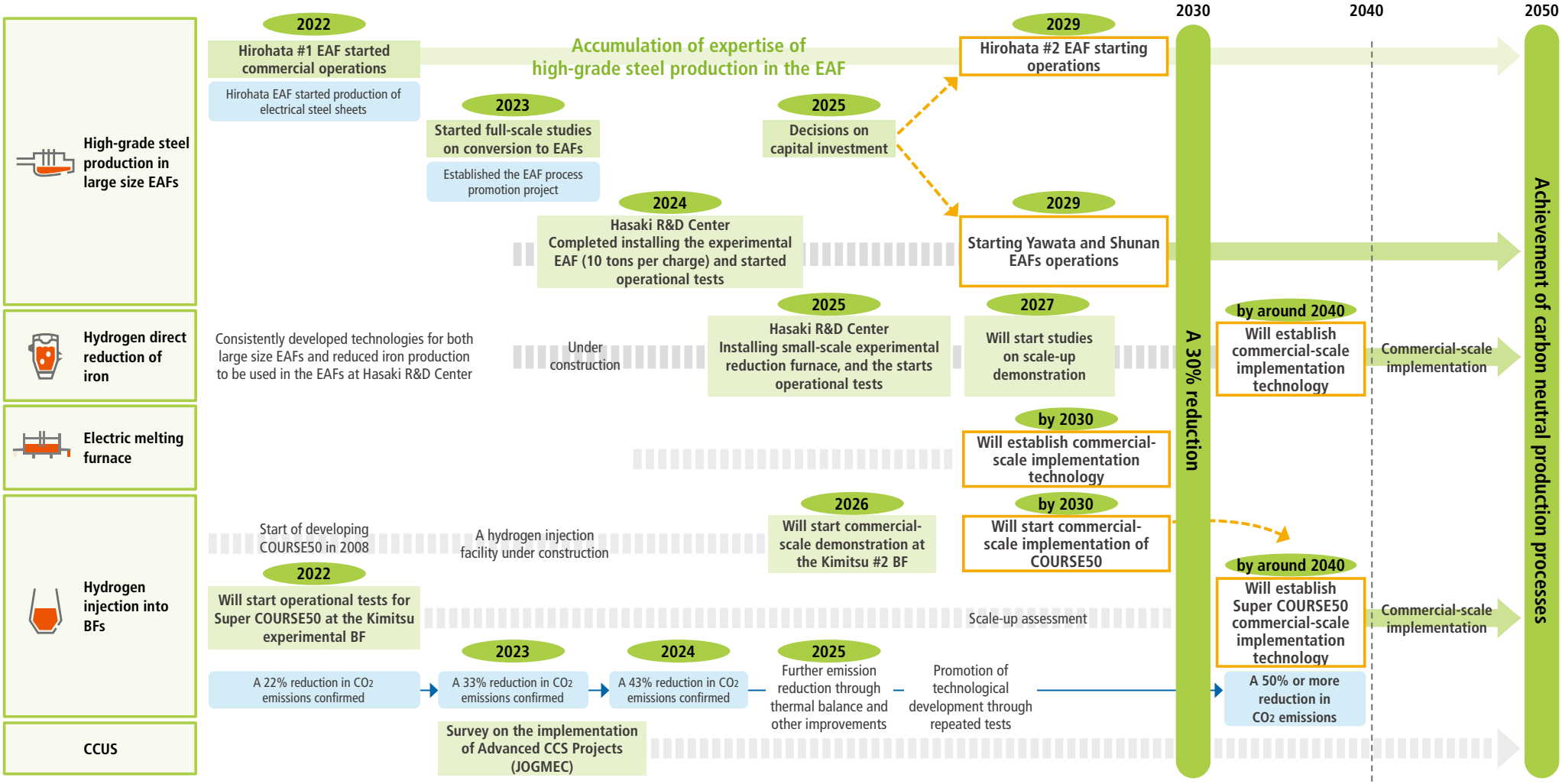


Progress of Carbon Neutral Vision 2050

Following the roadmap below, Nippon Steel is driving R&D, demonstration tests, and feasibility studies on commercial-scale implementation related to the three innovative technologies identified in the Carbon Neutral Vision 2050: high-grade steel production in large size EAFs, hydrogen direct reduction of iron, and hydrogen injection into BFs. In FY2024, we also made steady progress, including the completion of an experimental EAF and the start of operational tests at Hasaki R&D Center of R&D Laboratories (Kamisu, Ibaraki), as well as the achievement of a 43% reduction in CO_2 emissions at the Super COURSE50 experimental BF in the East Nippon Works Kimitsu Area.

In May 2025, we also made decisions on capital investments, including the conversion of a BF to an EAF in the Kyushu Works Yawata Area, the addition of #2 EAF in the Setouchi Works Hirohata Area, and the restarting of the EAF in the Yamaguchi Works (Shunan).

[Roadmap for Nippon Steel Carbon Neutral Vision 2050]



The Need for a Multi-track Approach

Mass steel production processes currently available include the BF–BOF route, the EAF route (which involves melting scrap in the EAF), and the direct reduction (DR)–EAF route. Among these production processes, the EAF scrap melting process and the direct hydrogen reduction-EAF process are excellent from a decarbonization perspective. However, the EAF scrap melting process is subject to quantitative constraints stemming from the finite nature of scrap, as well as qualitative constraints related to impurities within the scrap. These constraints make it impossible to convert all existing steel production processes to the EAF scrap melting process. Therefore, we still require steel production relying on the reduction of iron ore to meet global steel demand.

Regarding the DR process, we are developing a direct hydrogen reduction process to achieve carbon neutrality. However, this process also has quantitative constraints due to the limited availability of high-grade iron ore.

Therefore, we are striving for carbon neutrality through a multi-track approach that leverages the strengths of both the BF and EAF methods.

Carbon neutral conversion of existing BFs

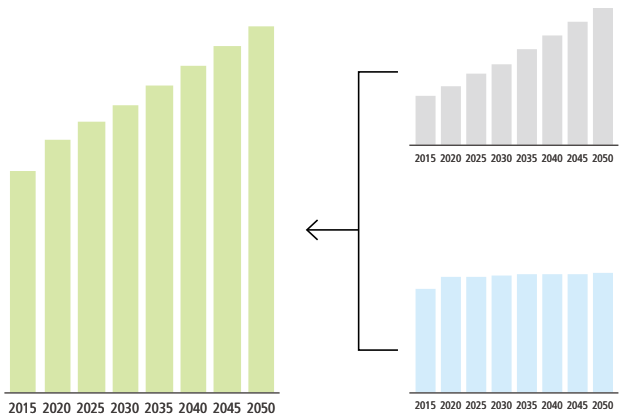
In the Carbon Neutral Vision, we will strive to achieve a carbon neutral production process no later than 2050 by converting our existing domestic BFs to the EAF process, or through optimum combinations of CO_2 reduction technologies, such as hydrogen direct reduction of iron and hydrogen injection into BFs.

From now up to 2030, our primary option is the conversion of BFs to EAFs. From 2030 to 2050, we will fully implement GX technologies for iron ore reduction (hydrogen injection into BFs and hydrogen direct reduction of iron).

[Constraints of direct hydrogen reduction + EAF process]

Limited availability of scrap

While scrap generation is increasing year after year, iron ore reduction still remains necessary to meet global steel demand

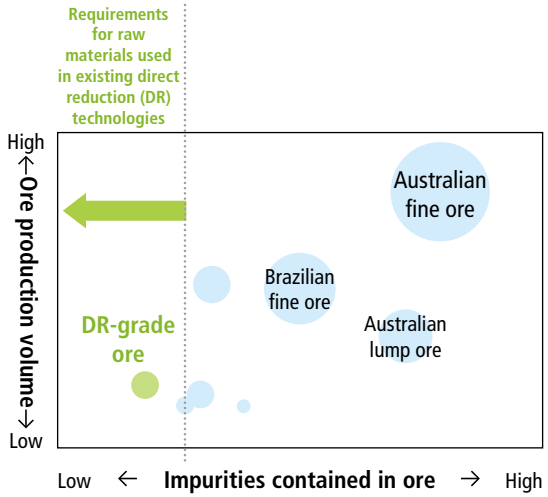


Impurities contained in steel scrap

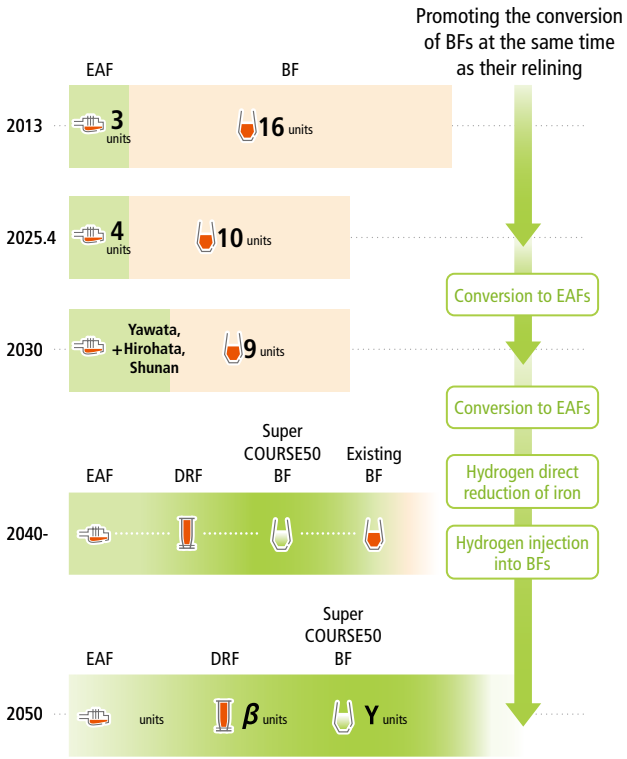
Manufacturing high-grade steel in EAFs is difficult due to impurities contained in scrap and nitrogen contamination during scrap melting

Resources of high-grade iron ore

The production of DRI requires rare, high-grade iron ore, which accounts for less than 5% of the world's total iron ore resources



Source: Created by Nippon Steel based on CRU/AME data (2018 production/export volumes)

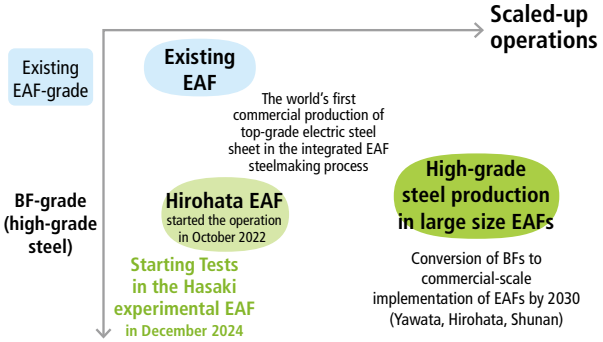


Toward the Development and Implementation of CO_2 Reduction Technologies

Initiatives to High-Grade Steel Production in Large size EAFs

Toward the commercial-scale implementation of "high-grade steel production in large size EAFs," Nippon Steel has already started the commercial production of high-grade steel in the integrated EAF steelmaking process in the Hirohata Area, which has been considered difficult to accomplish. In the future, we will continue to develop EAF technologies that offer productivity and quality comparable to the BF–BOF process.

[Technology development plans for "high-grade steel production in large size EAFs" and their progress]



Starting operational tests toward further technology deepening and expansion

Nippon Steel has completed the installation of an experimental EAF (with a capacity of 10 tons/charge), aimed at developing and verifying the technologies required for the commercial-scale implementation of high-grade steel production technologies at large size EAFs, and has already started tests for high-efficiency dephosphorization and denitrification processes at this experimental EAF from 2025.

The experimental EAF
(Operational tests starts in 2024)

Decision has been made to invest in process conversion from BFs to EAFs

In May 2025, Nippon Steel decided to make a capital investment in the construction, expansion, and restarting of three EAFs in Japan by FY2029, involving the Kyushu Works Yawata Area, the Setouchi Works Hirohata Area, and the Yamaguchi Works (Shunan).

This investment totals ¥868.7 billion and encompasses ancillary and related facilities, including measures for high-grade steel production, logistics, power supply, and energy supply to downstream processes.

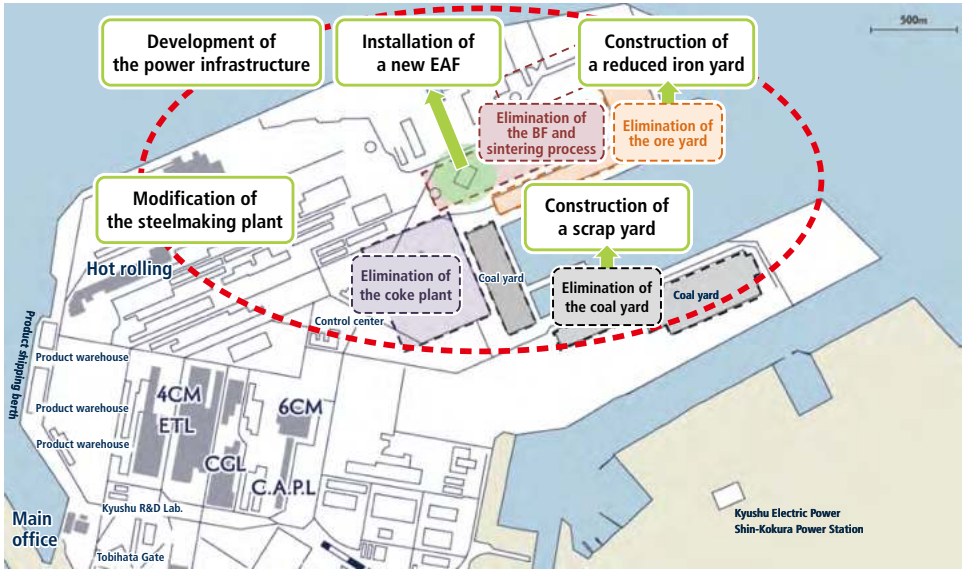
Initiatives to procure raw materials (steel scrap, HBI, and pig iron etc.)

In April 2025, we established the Steel Scrap, HBI & Pig Iron General Planning Div. to respond to the significantly increasing demand for scrap resulting from our expanded introduction of large size EAFs and to optimize the procurement and blending of raw materials throughout our entire Group. This dedicated organization that integrally manages the procurement, use, inventory control, and logistics of scrap and other raw materials and also promotes the comprehensive strategies.

TOPICS Conversion to the EAF in the Kyushu Works Yawata Area

Of these investments in process conversion from BFs to EAFs, the conversion to the one in the Yawata Area, scheduled to begin production in the second half of 2029, is a large project that will redevelop approximately half of the total land area by shutting down part of the existing iron and steelmaking processes.

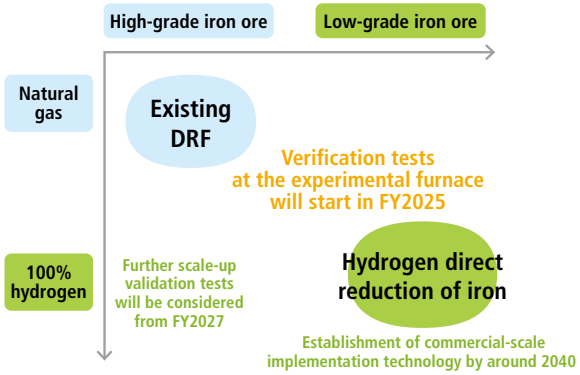
Thanks to these investments, the conversion of a total of approximately 2.9 million tons of production capacity per year to EAFs is expected to result in an estimated reduction of 3.7 million tons of CO_2 emission per year. Accordingly, the supply of GX Steel with embedded CO_2 reduction value is estimated to be approximately 1.6 million tons per year.



Development of technology for hydrogen direct reduction of iron

Hydrogen direct reduction of iron requires the conversion of the existing reducing agent to hydrogen. This process also necessitates the development of various innovative technologies that enable the use of lower-grade iron ore.

[Technology development plans for "hydrogen direct reduction of iron" and their progress]



Starting operational tests at a scaled-up experimental shaft furnace

Toward establishing commercial-scale implementation of technology for hydrogen direct reduction of iron by around 2040, our R&D Laboratories are constructing a scale-up experimental shaft furnace (60 meters high) at the Hasaki Research and Development Center, whose operation tests are scheduled to begin in FY2025. This effort is based on the knowledge accumulated through bench tests conducted in the bench-scale shaft furnace at the Research and Engineering Center (Futtsu) since 2010.

The operation building for the experimental shaft furnace (front) and the experimental shaft furnace (back)

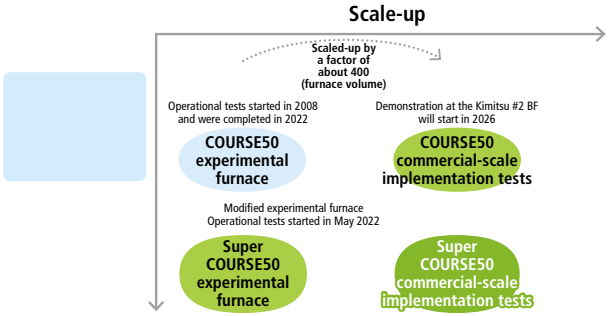
Proceeding to Acquire Mining Interest in High-Grade Iron Ore Mine Suitable for Direct Reduced Iron Production

In June 2025, Nippon Steel signed an agreement to invest in a joint venture that will conduct an economic feasibility study on the development and operation of new mining areas in the Kami Mine in eastern Canada. The mine is expected to have an abundance of high-grade iron ore suitable for direct reduction of iron.

Initiatives for Commercial-scale Implementation of Hydrogen Injection into BFs

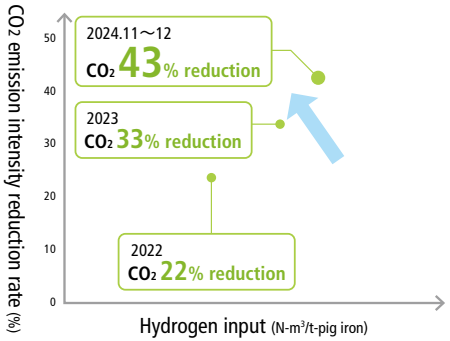
The BF-BOF process is currently the only steelmaking process capable of mass-producing high-grade steel products from iron ore. However, it generates approximately 2 tons of CO_2 per ton of steel produced. We are developing the technology of hydrogen injection into BFs, in which carbon (coal), the reducing agent used for the BF process, can be replaced with hydrogen.

[Technology development plans for "hydrogen injection into BFs" and their progress]



Demonstration tests at an experimental BF in anticipation of the implementation of the hydrogen injection into BFs at the actual BF

At an experimental BF installed in the East Nippon Works Kimitsu Area, in anticipation of the implementation at a large-scale BF, we are working on technological development through a spiral-up approach combining mathematical model calculations and the verification at the experimental BF to achieve a 50% reduction in CO_2 emissions. During our operational tests in December 2024, we achieved a new world record of a 43% reduction in CO_2 emissions.



TOPICS

COURSE50 Project*1 Super COURSE50 Project*2

The COURSE50 is a technology development we undertook from 2008 to 2022 to realize steelmaking using hydrogen.

At an experimental BF with a volume of 12m^3 constructed in the East Japan Steel Works Kimitsu Area, we conducted operational tests on hydrogen injection into the BF using hydrogen-rich by-product gas (coke oven gas) generated within the steelworks, verified over a 10% reduction in CO_2 emissions. We also developed an energy-saving CO_2 separation and capture technology using a chemical absorption method, which led to its commercial-scale implementation in the industrial CO_2 field.

The Super COURSE50 is a Green Innovation Fund-subsidized project that aims for a further reduction of CO_2 emissions (50% or more).

This is a technology for heating and using hydrogen purchased from external sources for maintaining the heat balance in the BF in anticipation of an era when social infrastructure for a sufficient hydrogen supply is available.

Since the start of test in May 2022, we have steadily made progress, including the achievement of a 43% reduction in CO_2 emissions from the BF during operational tests conducted in November to December 2024. This achievement sets a new world record.

Source: NEDO Hydrogen Utilization Project in Iron and Steelmaking Processes

*1 A project commissioned by the New Energy and Industrial Technology Development Organization (NEDO)
*2 An R&D project commissioned and subsidized by NEDO: Green Innovation Fund Project/ Hydrogen Utilization Project in Iron and Steelmaking Processes

Initiatives for Decarbonization of Power

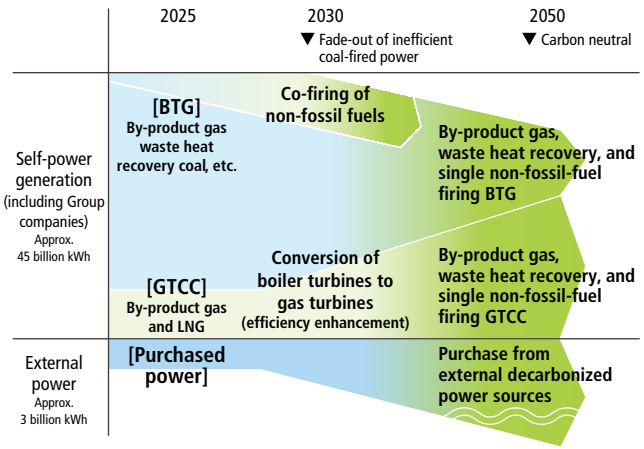
Nippon Steel generates 88% of the power consumed in its steelworks, 68% of which comes from internally generated energy sources, including waste heat and by-product gases. We also use LNG, petroleum, and coal as external-source auxiliary fuels.

Thus, we will promote the decarbonization of our power structure through fuel conversion to non-fossil fuels (hydrogen, ammonia, and biomass) and efficiency enhancements in our self-generation facilities, thereby accelerating CO_2 emission reduction toward 2050, including the decarbonization of purchased electric power.

[Considerations for the decarbonization of our power structure and the points for promotion]

- Total elimination of inefficient coal-fired power
- Efficiency enhancement of by-product gas-fired power, utilization of CCUS, and the conversion of external auxiliary fuels to non-fossil fuels (expanded use of biomass, ammonia, hydrogen, and other zero-emission fuels)
- Purchase of decarbonized electric power from external sources

[Efficiency enhancement, conversion to non-fossil fuels, and decarbonization through CCUS at our power generation facilities]

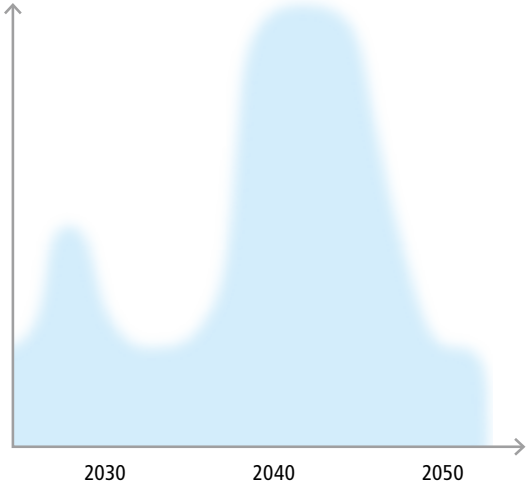


Initiatives for GX Steel Market Creation

Costs of achieving carbon neutrality

The development and commercial-scale implementation of innovative technologies to realize carbon neutral steel production processes require significant R&D expenses and capital investment. At this point, we estimate that achieving carbon neutrality in our steel production processes would require over ¥500 billion in research and development expenses by 2050. In addition, we anticipate requiring capital investment for commercial-scale equipment that exceeds the initially projected ¥4 trillion to ¥5 trillion, depending on future increases in material and labor costs, as well as the specific methods for implementing innovative technologies.

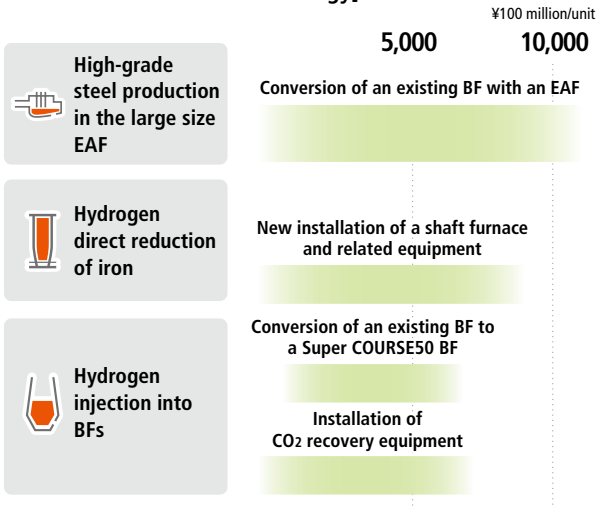
[Image of capital investment timeline for commercial-scale equipment]



We are committed to engaging in R&D for commercial-scale implementation, supported by the government with the Green Innovation Fund. We are also making steady progress in technology development to minimize cost increases to the extent possible.

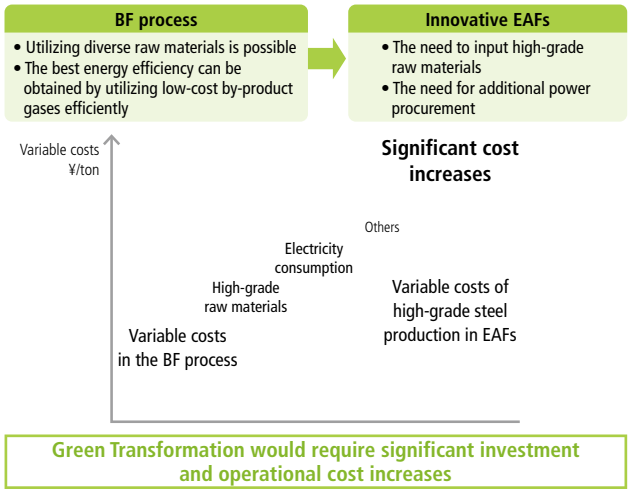
However, the operating cost of GX Steel production will increase significantly due to the need for higher-grade raw materials compared to the conventional process, as well as the requirement to procure electricity to replace recycled energy sources, such as by-product gases.

[Image of the estimated capital investment per unit required to introduce innovative technology]



Therefore, we will make investment decisions on capital investment for commercial-scale facilities after assessing these cost increases and ensuring the predictability of investment returns based on the aforementioned policy support and the progress in the economic valuation of CO_2 reduction value in the GX Steel market.

[Image of operational cost increases associated with the conversion of the BF process to the EAF process]



Support for increasing capital investment and operating costs

In other countries, government support systems have been established not only for R&D expenses aimed at achieving carbon neutrality but also for covering increasing capital investment in commercial-scale equipment and operating costs. From the standpoint of equal footing in international competition, such a support system is desired in Japan as well.

To establish such a support system, we are actively advocating government agencies for support by submitting proposals and through other approaches. As a result, the Japanese government has already launched investment promotion measures utilizing GX economy transition bonds, as well as tax credit measures corresponding to the production volume in each strategic sector. These measures support technologies that effectively and efficiently reduce CO_2 emissions, particularly those that are highly effective in strengthening our industrial competitiveness and economic growth.

This business investment in process conversion from BFs to EFs we decided in May 2025 is adopted in the "Energy and Manufacturing Process Transformation Support Business (Business I (Steel)) FY2025–2029 Project" under the GX Promotion Act.

We will continue to make efforts to secure such support measures and ensure the predictability of investment returns.

Establishing the predictability of GX investment returns

Establishing the predictability of GX investment recovery requires not only the aforementioned "government support for capital investment in commercial-scale equipment for carbon neutrality" but also "creating a sound GX Steel market where the price of CO_2 reduction value is paid."

In the GX2040 Vision, approved by the Cabinet in February 2025, the creation of this GX product market was positioned as a key initiative for achieving Green Transformation (GX). The measures included in the Vision are (a) promoting active public procurement of green steel and studying the strategies for its active utilization in public works under the Act on Promoting Green Purchasing, (b) promoting procurement by private companies by utilizing the "GX Leading Execution Declaration" of the GX League, (c) the materialization of demand-side support measures to promote the use of GX Steel in automobiles, and (d) establishment of a calculation and assessment system for the lifecycle carbon emissions of buildings.

Furthermore, in addition to carbon pricing, the government has stated its policy to introduce regulatory measures under its "Sector-specific Investment Strategies," and the implementation or consideration of these measures has started.

Activities for GX Steel market creation

To recover GX investments, it is necessary to raise the price of GX Steel to a level commensurate with its CO_2 reduction value. To make it happen, we must establish an environment where the costs required for CO_2 reduction are evaluated and borne as a CO_2 reduction value in the entire value chain, and ultimately across the entire society.

On the other hand, our customers need to visualize the CO_2 reduction value embedded in GX Steel and ensure it is reflected in the environmental value of the products they manufacture from this material.

Furthermore, since GX Steel's functional properties as a steel product are the same as conventional steel, it is essential to devise incentive mechanisms powerful enough to convince customers to purchase GX Steel during the period when the customers use both GX Steel and conventional steel at the same time.

Given the circumstances, with "Green Steel for GX Promotion = GX Steel" defined at the "Study Group on Green Steel for Green Transformation" hosted by the METI, the government has begun implementing various measures, such as revising the basic policy of the Act on Promoting Green Purchasing and introducing subsidies for clean energy vehicles (CEVs) using GX Steel, as part of its priority procurement and purchase support for GX Steel.

Nippon Steel will continue to promote the widespread adoption and expansion of products utilizing GX Steel and implement initiatives to encourage the adoption of GX Steel in public works.

TOPICS Activities to create a GX Steel market for the economic valuation of environmental value (CO_2 reduction)

Nippon Steel participated in the "Study Group on Green Steel for Green Transformation," hosted by the METI from October 2024 to January 2025, to promote GX in the steel industry. Other participants included experts and representatives from the steel industry and end-user industries. The Study Group discussed how to link the expansion of the green iron market to GX promotion, organizing challenges for market expansion, as well as the way we communicate with consumers. As a result, the Study Group proposed comprehensive public-private measures toward establishing a GX Steel market.

[Measures for a GX Steel market creation]

Concept of supporting green steel (= GX Steel) for GX promotion

Green steel for GX promotion
Products that have a significant reduction in environmental burden due to additional emission reduction actions on a company-by-company basis, and **whose price is significantly higher than a typical product when the costs associated with emission reduction actions are added to the cost of the product.**

Preferential procurement by the government
(under the Act on Promoting Green Purchasing, etc.)
Government purchase support
(included in the requirements for subsidization)
Demand expansion support through the focused implementation of measures, such as the above
* Combined with production cost reduction support measures, etc.

Review of the basic policy of the Act on Promoting Green Purchasing
(Approved by the Cabinet on January 28, 2025)

Additional CEV Subsidy Measures for Vehicles using GX Steel
(Announced by METI on January 27, 2025)

Widespread promotion of GX Steel through CFP utilization support and other measures

Government and private sector measures

Appeal for GX value, reflection in international standards

Expanded use of CFP for steel

Support for the supply side

Product and Solution Technologies that Contribute to Reducing CO_2 Emissions in the Entire Society – NSCarbolex™

Response to global climate change issues has become a major trend in the industry, creating a new demand in the materials field through changes in the industrial structure.

The need for measures to cope with growth in renewable energy, decarbonization of industrial complexes, electrification of automobiles, national resilience, and intensifying disasters is increasing. Under these circumstances, Nippon Steel is working to expand the supply of steel products that contribute to the reduction of CO_2 emissions in society, to meet the needs for new steel products and solutions where we can leverage our technologies, by combining the strengths of our Group from product development to distribution processing networks.

NSCarbolex™ is a brand that collectively refers to "product and solution technologies that contribute to reducing CO_2 emissions in the entire society," which Nippon Steel provides to the world. This brand consists of two sub-brands: NSCarbolex™ Neutral and NSCarbolex™ Solution.

We will contribute to reducing CO_2 emissions in society, not only by reducing CO_2 emissions from our manufacturing processes, but also by supplying our high-performance products and solution technologies to the market.

[NSCarbolex™ brand architecture]

Expanding Adoption of GX Steel

Actual sales of NSCarbolex™ Neutral have been steadily increasing through our initiatives to create a GX Steel market, including the adoption of GX Steel for mass-produced vehicles in the automotive sector, its adoption for office furniture triggered by the revision of the Act on Promoting Green Purchasing, and the adoption of this steel in the construction sector. These cases include those supposedly on a mass-production and follow-on order basis.

We will continue to expand and penetrate the GX Steel market in collaboration with the government, anticipating an increase in GX Steel supply through the conversion to EAFs and other investments.

[Examples of the adoption of our GX Steel]

Sector	User	Overview
Automotive	Nissan Motor	GX Steel is adopted for mass-produced vehicles. (The share of green steel in the total steel sheet used for vehicles produced in Japan in FY2025 is expected to increase about fivefold compared to FY2023 levels.)
	Isuzu Motors	Wire rod for truck parts Main structural members of the Electric Vehicle Development and Testing Facility
Industrial machines	AIRMAN CORPORATION	Compressors, generators
	HISAKA WORKS, Ltd. (Osaka Expo)	Steel (plate and bar) and titanium sheets for plate-type heat exchangers
Shipbuilding	Yamanaka Shipbuilding	Steel products for domestic vessels
Plants and shipbuilding	HH Stainless Pte Ltd	Duplex stainless-steel pipe
Civil engineering work	Kyushu Regional Development Bureau, the Ministry of Land, Infrastructure, Transport and Tourism Yokogawa Bridge Corp.	Steel products for bridge construction
Construction	Columbia Pavilion (Osaka Expo)	Interior materials, building structure
	Nippon Steel Kowa Real Estate Toyota Housing Corporation	Steel structures for logistics facilities
Steel furniture	OKAMURA CORPORATION	Lockers and office system storage cabinets procured by Tokai City, Aichi Prefecture
Beverage cans	Mojiko Retro Beer Co., Ltd. Daiwa Can Company	Steel beer cans

For more information on NSCarbolex™ Neutral:
https://www.nipponsteel.com/en/product/nscarbolex/neutral/

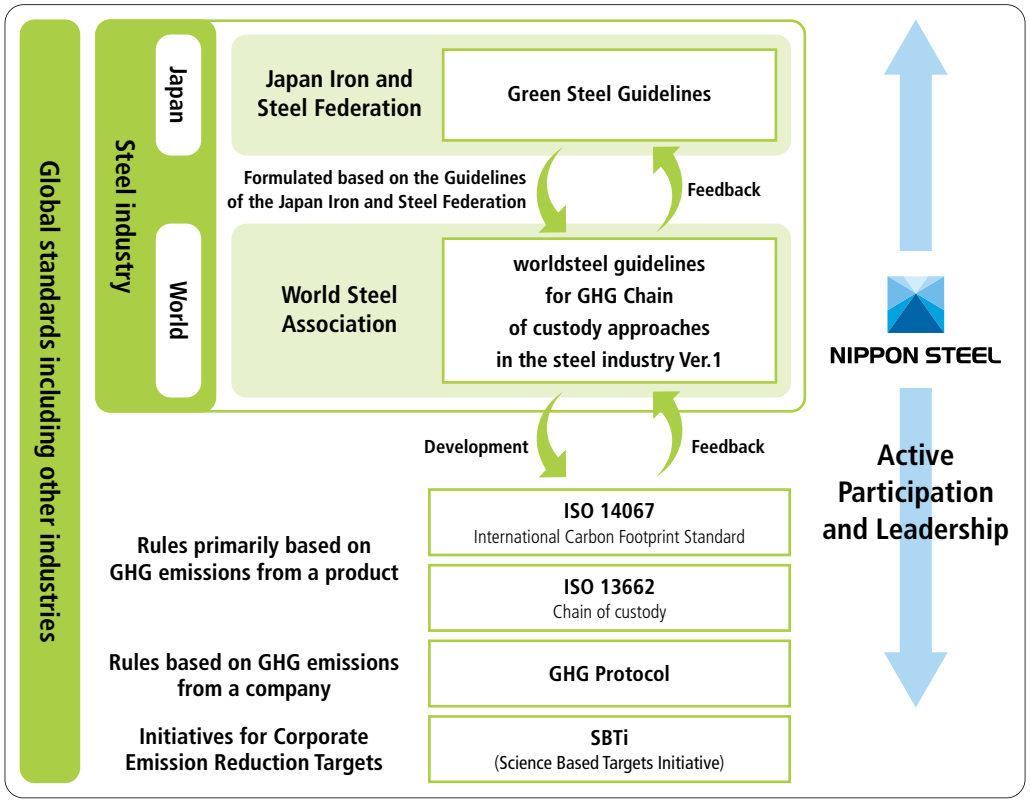
Here is our dedicated website to see the features and CO_2 reduction effects of the NSCarbolex Solution line-up and target product and solution technologies (estimated by Nippon Steel)
https://www.nipponsteel.com/en/product/nscarbolex/solution/

Initiatives for International Standardization of GX Steel

We will incrementally push forward with the conversion of the existing processes toward GX Steel manufacturing, considering the timing for the renewal of BFs and the economic viability. On the other hand, since the high-grade steel customers want is tied with the steelworks capable of manufacturing it, swiftly responding to the need of customer demand for GX Steel, while satisfying the steelmaker's rationality of investment during this period of incremental conversion, would require a mechanism that allocates the actual reduction in GHG emissions achieved by supplemental emission reduction projects implemented by the steel company itself to any given product.

To address this issue, we proactively participated in the formulation of the "Guidelines on Green Steel" by the Japan Iron and Steel Federation, as well as the creation of the international standard rules based on the guidelines, contributing to the formulation of the "worldsteel guidelines for GHG chain of custody approaches in the steel industry ver.1." published by the World Steel Association (worldsteel) in November 2024.

[International standardization of GX Steel]



Energy infrastructure development

Carbon neutral steel production processes require substantial quantities of hydrogen and electricity. It also needs to implement CO_2 capture, utilization, and storage (CCUS) measures for the CO_2 that is partially generated. Nippon Steel positions the "stable supply of low-cost green hydrogen and power" and the "social implementation of CCUS" as "external conditions that should be developed by the government" for us to achieve carbon neutral steelmaking processes. To this end, we are advocating for support from relevant government agencies.

Securing green hydrogen, green ammonia and green energy

To realize carbon neutral steelmaking processes, Nippon Steel alone would require several million tons of hydrogen and ammonia per year for use in hydrogen injection into BFs, hydrogen direct reduction of iron, and power decarbonization.

These hydrogen, ammonia and power must be green hydrogen, green ammonia and green power, which are produced without generating CO_2.

In FY2024, the Hydrogen Society Promotion Act was enacted, which developed government support mechanisms, including "support focusing on the price gap" and the "hub development program" with a 15-year support period after the start of supply. However, hydrogen and ammonia production costs are significantly higher than those of current fossil fuels, making a substantial cost reduction essential. Furthermore, large-scale hydrogen manufacture, transportation, and storage technologies require further development.

We are working to resolve the issue of affordable and stable hydrogen and ammonia procurement by collaborating with the national and local governments, as well as participating in various councils in the regions where our steelworks are located.

CCUS technology development

CCUS is a technology that separates and captures CO_2, utilizes it directly or by converting it to other substances, or stores it underground. In carbon neutral steel production processes, CCUS technology is used to capture and store remaining CO_2 emitted from the steel manufacturing process after minimizing CO_2 generation.

The Nippon Steel Group is aggressively engaged in developing these technologies to help realize the social implementation of CCUS.

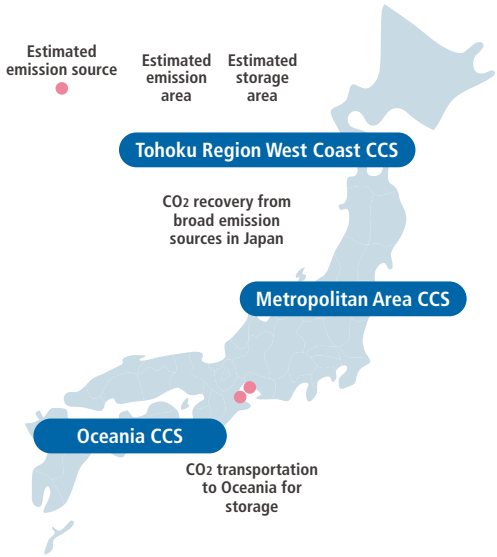
[Nippon Steel Group's initiatives for CCUS technology development]

Storage

CO_2 storage technology

Nippon Steel participates in three CCS-related joint projects, the Tohoku Region West Coast CCS Project, the Metropolitan Area CCS Project, and the Oceania CCS Project, which the Japan Organization for Metals and Energy Security (JOGMEC) adopted in FY2024 as part of its publicly solicited project, the "Engineering Design Work for Advanced CCS Projects."

In these projects, we are conducting, jointly with other companies, the engineering design work for the entire CCS value chain and preparing the work for storage potential assessment as a follow-up phase to the post-feasibility study. At the same time, we are actively promoting the early social implementation of CCS by taking the lead in studies related to CO_2 separation, capture, and liquefaction, as well as shipping terminals.



Separation and capture

CO_2 separation and capture technology (NEDO COURSE50 projects)

Nippon Steel Engineering Co., Ltd., a company of the Nippon Steel Group, has commercialized an energy-saving CO_2 chemical absorption process, ESCAP™, a chemical absorption technique used for CO_2 separation and capture. Currently, two units are in operation in Japan, including one at the North Nippon Works Muroran Area.

The ESCAP™ is characterized by its high energy efficiency with a 40% or more reduction in heat consumption compared to general-purpose CO_2 separation and capture technologies. Furthermore, the company's proprietary impurity removal equipment can recover CO_2 with a purity of 99.9% or higher from raw material gases containing high levels of impurities.

Other CCUS technology development initiatives

- Development of low-concentration CO_2 separation and capture technology (subsidized by the Green Innovation Fund)
- Chemical product manufacturing technology using CO_2 as a raw material (NEDO-commissioned project)
- Absorption and fixation by marine life (NEDO-commissioned project)
- Integrated CO_2 ship transportation project (NEDO-commissioned project)

Click here for Nippon Steel Group's CCUS technology development initiatives
https://www.nipponsteel.com/en/sustainability/env/climate/future.html

Nippon Steel Group's CO_2 Emissions Reduction Target

In addition to its independent "Nippon Steel Carbon Neutral Vision 2050," we are tackling climate change measures as a member of the Nippon Steel Group at major domestic and international upstream facilities with high CO_2 emissions, based on medium- to long-term CO_2 emissions reduction targets. As we expand our business in Japan and overseas in the future, we will continually and flexibly assess our climate change measures in accordance with the policy outlined below, while monitoring international trends, as well as developments in laws, regulations, and disclosure standards in other countries.

Meanwhile, U. S. Steel, which we merged with in June 2025, announced in 2019 a plan to reduce its Scope 1 and 2 GHG emission intensity by 20% compared to 2018 levels by 2030. The company also announced in 2021 another plan to achieve net-zero emissions by 2050.

[Governance policy on CO_2 emissions reduction targets at our global upstream facilities]

Advance carbon neutrality at domestic and overseas upstream facilities by leveraging Nippon Steel's resources and expertise gained thorough domestic R&D and operational activities

Domestic consolidation (parent company + subsidiaries)
- Targets are set for the group, including those of the parent company and consolidated subsidiaries
- Each company formulates its emission reduction plans to meet the group target

Overseas subsidiaries
- Their targets are set for each country and company, taking into account different conditions imposed by each country and region, and varying national reduction targets and transition strategies

Equity method affiliates (domestic and overseas)
- Each company's target setting and carbon neutrality initiatives are supported in collaboration with the JV partner

[CO_2 emissions results and reduction targets at our Group's global upstream facilities (consolidated basis)] (as of March 2025)

Consolidated basis (parent company + subsidiaries)			Crude steel production capacity (Mt/Y)	CO_2 emissions results FY2024 (Mt/Y)	CO_2 reduction target: Mid-term target	CO_2 reduction target: Long-term target
Japan	Nippon Steel		38.9	72.6	2013 → 2030 30% reduction	2050 carbon neutral
Japan	Subsidiaries*1		4.8	2.2		
Overseas	OVAKO	EU	1.3	0.1	2015 → 2030 80% reduction	2015 → 2040 90%*2 reduction
Overseas	SSMI*3	India	0.2	0.1	2016 → 2030 40% reduction	2050 carbon neutral
Overseas	G/GJ Steel	Thailand	3.5	0.5		
Overseas	Standard Steel	USA	0.2	0.1		
Total of global upstream facilities (consolidated basis)			**49**	**76**		

*1 NS Stainless Steel, Nippon Steel Structural Shapes, Sanyo Special Steel, Osaka Steel, Tokyo Kohtetsu, Oji Steel
*2 Carbon neutrality already achieved through the 2022 Carbon Offset Program
*3 Sanyo Special Steel Manufacturing India Private Limited

[Reference] Major shareholders

AM/NS India	India (Nippon Steel's equity ratio 40%)	9.6	6.8*4	2021 → 2030 Reduction in carbon intensity 20%
USIMINAS	Brazil (Nippon Steel's equity ratio 12%)	4.4	0.8*4	2019 → 2030 Reduction in carbon intensity 15%

*4 CO_2 emission results equivalent to Nippon Steel's equity ratio

Policy proposals and industry activities aimed to realize GX

As stated earlier, carbon neutrality in the steel industry cannot be accomplished by the effects of steelmakers alone. Instead, this is a national challenge that necessitates a nationwide effort in cooperation with society based on policy package to achieve both international industrial competitiveness and carbon neutrality. This should also be based on policies that serve as national strategies, involving strong, continuous support, including the financial and institutional sides.

To realize 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 economic and industry associations.

Our policy positions and latest activities related to GX are published on the following website.

Nippon Steel's policy positions related to GX
https://www.nipponsteel.com/en/sustainability/lobbying/pdf/policyposition_final.pdf

Major advocacy activities to date

- Strong, continuous support across all stages of R&D, equipment implementation, and operational cost increases for decarbonization, including the expansion of the GI Fund.
- The need for a Japanese-style policy package that integrates climate change measures with the maintenance and enhancement of the international competitiveness of industries.
- The need to establish a mechanism for regulations and support for creating a green steel market, and standardization for a more accurate assessment of the "actual emission reductions."
- Participation in the GX League to advance voluntary emissions trading and other initiatives. Request for introducing an effective and feasible system in designing a future emissions trading system based on the fact that the path to carbon neutrality varies depending on the industry and from the perspective of equal footing with other countries.
- The shift of the energy supply structure, including not only renewable energy but also the active promotion of the use of nuclear power.
- The need for a stable low-cost supply of green hydrogen and green power, as well as the social implementation of CCUS.

Infrastructures that Support the Strategies

R&D Activities — Sources of value creation and competitiveness

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

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 fully 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.

[Representative R&D Initiatives Supporting the Implementation of Our Management Plan]

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 direct reduction of iron, high-grade steel production in large size EAFs,hydrogen injection into blast furnaces and CCUS (cooperation with outside parties)	• 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 of 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

R&D organization

R&D is driven by the research and technology Laboratories and carried out through three research centers: the Steel Research Laboratories, the Advanced Technology Research Laboratories, and the Process Research Laboratories. Furthermore, we will strengthen cooperation with universities and research institutes in the fields that require basic understanding, including elemental technologies that our group does not possess.

(1) Steel Research Laboratories
Leveraging advanced capabilities in phenomenon analysis, microscopic materials design, and sophisticated numerical simulation, the Steel Research Laboratories develop new products by enhancing material performance and offering solution-oriented technologies that address user needs in key sectors such as automotive, energy, and infrastructure.

(2) Advanced Technology Research Laboratories
These laboratories are engaged in the development of advanced basic technologies, such as atomic-level materials analysis and mathematical modeling, while conducting R&D activities that span the entire Nippon Steel Group—from steel to advanced materials, and to the energy and environmental sectors. To realize a carbon-neutral society, the laboratories are also advancing technologies for the separation and capture of CO_2 contained in blast furnace gas; the absorption and fixation of CO_2 through the creation of seaweed beds using steelmaking slag; and the conversion of CO_2 into value-added products through catalytic and microbial processes.

(3) Process Research Laboratories
These laboratories are engaged in the development of new technologies for ironmaking, steelmaking, and rolling processes; the advancement of environmental, energy, and resource recycling solutions; and R&D of process analysis, measurement and control and digitalization technologies that support these initiatives.

We are also developing hydrogen-based steelmaking processes to contribute to the realization of a carbon-neutral society.

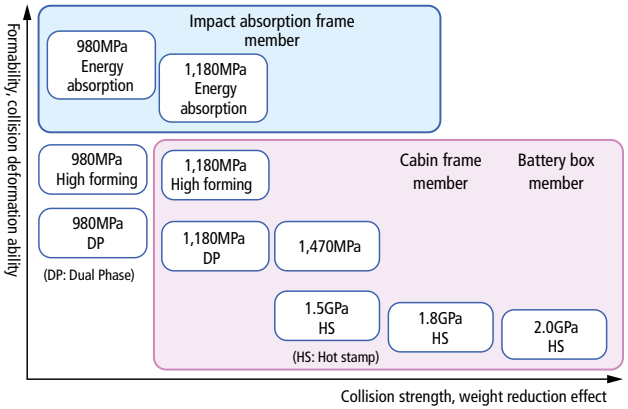
Developing products with high-added value and solution technologies

We will continue to work on maximizing the potential of steel as a material, that is, achieving our goal of "mastering steel." Furthermore, we are driving the development of "NSCarbolex™ Solution" which is a high-performance product with solution technologies and contributes to reducing CO_2 emissions in society.

Next-generation automobiles

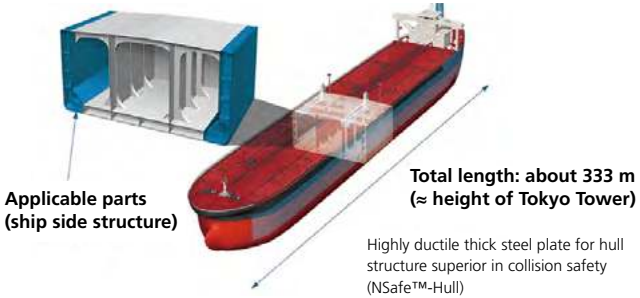
We are contributing to the reduction of environmental impact by developing and expanding the application of high-tensile steel sheets to achieve both weight reduction and collision safety of automobiles, developing high-efficiency electrical steel sheets for hybrid and electric vehicles, and improving fuel efficiency through the development of underbody products. We are proposing the NSafe™-AutoConcept ECO³, a next-generation steel automobile concept for the era of carbon neutrality. This concept promotes part integration using steel to achieve key objectives: weight reduction, CO_2 emissions reduction, cost efficiency, and labor-saving. As one of the core technologies supporting this concept, we have developed tailored blanks of aluminized hot-stamped steel sheets. This innovation was honored with the 54th (FY2023) Japan Welding Engineering Society Award "Welding Notable Invention Award."

[Deepening of high-tensile steel sheets for vehicle body frames]



Energy and resources/Shipbuilding

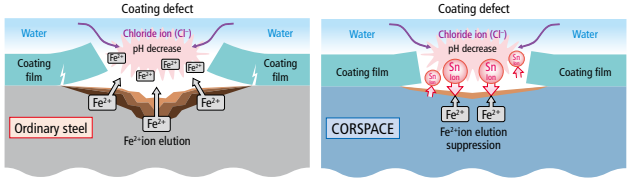
Steel materials for energy and shipbuilding require a quality that ensures long-term safety under various service conditions. We are contributing to improving the safety of final products and enhancing the productivity and competitiveness of customers by supplying high-performance products that utilizes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



Civil engineering and infrastructure

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 Monodzukuri Nippon Grand 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.

[Corrosion mechanism of coating defects]



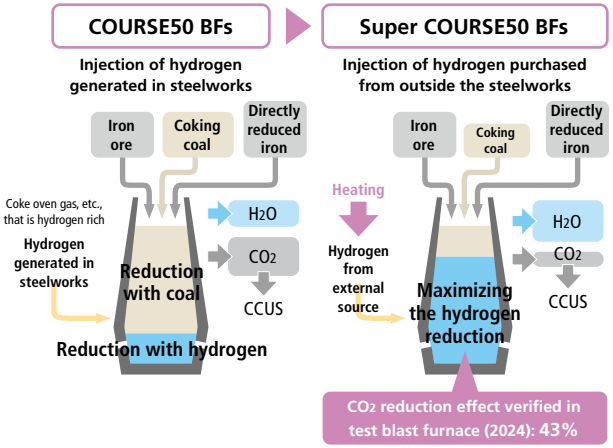
Challenge of carbon neutrality

We aim to achieve carbon neutrality using three innovative technologies. "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 concerning stabilization of mass production."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.

Through the Green Innovation (GI) Fund Project of the New Energy and Industrial Technology Development Organization (NEDO), we are tackling these challenges by undertaking 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 2024, we confirmed the world's highest 43% CO_2 emission reduction at the test furnace, making steady progress in development toward proposing the future steelmaking process. In addition, we will conduct R&D of carbon offset measures using CCUS, etc., aiming for CN with a multi-aspect approach.

[Hydrogen injection into BF]

First-in-world achievement of 43% CO_2 emissions reduction successfully demonstrated in test blast furnace



Intellectual Property Activities that link strengthen management strategies through R&D results

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.

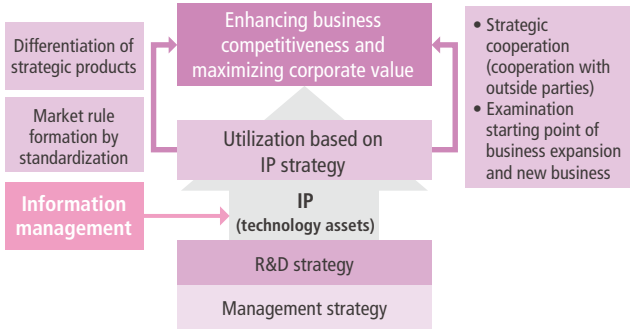
Policy and organization of intellectual property activities

Policy on intellectual property activities

We perform activities under the company-wide slogan, "IP is the source of our corporate activities. Maximize corporate value enhancing protection, management and active use of IP." We are strengthening efforts to directly link IP created from R&D activities, which are implemented based on management strategies, to maximizing business earnings and corporate value.

Based on a specific business strategy, we formulate and act on an IP strategy in accordance with all aspects (offensive and defensive) of individual products and technologies. We then share the results throughout the Company in an effort to continuously strengthen our strategies. We are also focusing on the acquisition of rights for IP generated in the development of technologies and products that realize carbon neutrality, as well as the transformation of business and production processes—including business models enabled by DX technologies. Moreover, we are involved in licensing IP outside the Group and in standardization to form the market rules, and use IP in a variety of ways to advance its business. As shown in the table below, we are working to complete our Medium- to Long-term Management Plan by actively utilizing our IP.

[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 Div.. In addition, the Intellectual Property Div. is actively involved in management from a traversing perspective regarding intellectual property activities that straddle 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. The results of such discussions 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 education/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]

[Examples of intellectual property utilization for contribution to business to accomplish Medium- to Long-term Management Plan]

Initiatives aligned with growth and decarbonization strategies	Examples of representative intellectual property utilization
1. 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 and enhancing the appealing power to customers • Stable and efficient production based on accumulated technical know-how
2. Promoting a global strategy to deepen and expand overseas business • Building an integrated production framework and a sales network 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
3. Expansion of business domain (Raw material and logistics businesses) • 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 technologies
4. Challenge of carbon neutrality • Hydrogen injection into blast furnaces • Hydrogen direct reduction of iron • High-grade steel production in large size EAFs • CCUS (cooperation with outside parties)	• 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)

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 aspects of our business. Specifically, we thoroughly manage technical information related to research results obtained through our independent research and collaboration with universities and external research institutes, and secure IP that can be used in our business activities.

We secure the most advanced newly created technologies and other proprietary technologies such as carbon neutral-related technologies, as 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 Management's Plan.

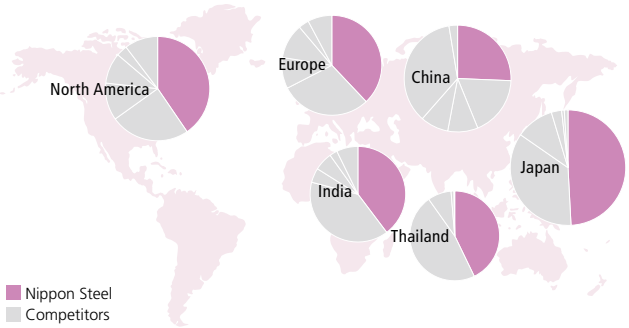
[Specific initiatives in intellectual property activities]

[Nippon Steel's patents in 2024] Japan approx. 16,000 / Overseas approx. 19,000 (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
3. Commendations and awards from external groups	• 2022 [Okochi Memorial Production Prize] "Development of coke strength improvement technology that contributes to low-carbon blast furnaces and cost reduction" • 2025 [Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology] "Development of sea forest creation technology using steel slag to support diverse ecosystems" • 2024 National Commendation for Invention [Invention Award] "Invention of chromium resource recycling and environmentally harmonized steelmaking process of stainless steel"

Value of our patents

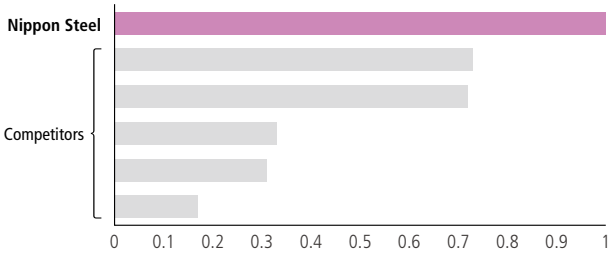
The Nippon Steel Group holds a high share of patents in major global markets compared to its competitors in Japan and overseas.

[Comparison of shares of patents held by Nippon Steel and its competitors in major global markets]



LexisNexis "PatentSight™" provides a patent value index PAI (Patent Asset Index™) based on the technical value and market value of patents. The PAI data in 2024 shows that Nippon Steel has a relatively higher value than our domestic and overseas competitors. We carefully evaluate domestic and international patent applications in line with our management strategy. At the same time, we continue to expand and accumulate important patents in terms of both quality and quantity, thereby increasing our valuable patent portfolio in Japan and overseas, which not only supports our business revenues in the world but also contributes to social, economic and industrial developments.

[Relative comparison of patent value PAI with domestic and overseas competitors (2024)]



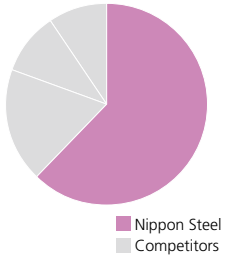
* Calculated using PatentSight™, a patent analysis tool of LexisNexis. Comprehensive evaluation index of patent calculated by multiplying "technical value" calculated based on the number of citations of patents and "market value" calculated based on the country of application for patents with valid legal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

Example of IP utilization for our strategic products: Highly corrosion-resistant plated steel sheets

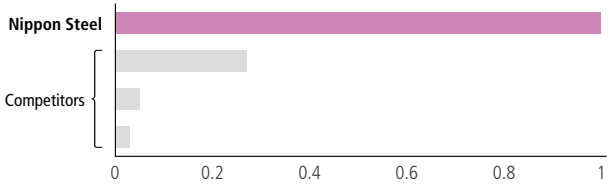
We hold a dominant position in one of our strategic products, with a significantly larger number of patents related to highly corrosion-resistant plated (Zn-Al-Mg-based plated) steel sheets than any other competitor. In particular, the patent portfolios for our flagship products—ZEXEED™, SuperDyma™, and ZAM™—surpass domestic and international competitors not only in the number of patents but also in their Patent Asset Index (PAI).

Leveraging the competitive advantage provided by these patent portfolios, we are further reinforcing group-wide sales activities for highly corrosion-resistant plated steel sheets and related structural components, thereby enhancing market recognition, expanding demand, and ultimately increasing profitability in this business domain.

[Comparison of patent holdings in major global markets (Japan, China, Taiwan, U.S., Europe, India)]



[Relative comparison of Patent Asset Index (PAI) values for highly corrosion-resistant plated (Zn-Al-Mg-based plated) steel sheets patents against domestic and overseas competitors (2024)]



[Examples of adoption]

Windbreak and snowbreak fences

Photovoltaic mounts

Initiatives to expand the utilization of intellectual property through standardization

Pursuing broader utilization of intellectual properties

We promote the comprehensive intellectual property (IP) utilization strategy aiming at securing and strengthening the competitive advantage based on our management strategies in each business domain. This strategy integrates multiple approaches—including confidentiality, patenting, market expansion through standardization, and defacto standardization—to maximize the values of intellectual properties created through manufacturing operations and R&D activities.

Starting in FY2025, we established a permanent cross-functional structure within our Intellectual Property Division being to serve as the central enhancer of company-wide efforts to expand the use of various standards. Under the leadership of the Representative Director & Executive Vice President, who concurrently serves as Chief Standardization Officer (CSO)*, we have launched cross-divisional initiatives that are to go beyond conventional business unit frameworks, e.g. activities in emerging fields such as new energy markets.

To support these initiatives, we are also to encourage the human resources development. This includes recognition by the Head of the R&D, the Representative Director & Executive Vice President, for employees who have made outstanding contributions to standardization activities.

* CSO: Chief Standardization Officer

Promoting strategic standardization for distinctive business objectives

For promoting the practical uses of standardization, which encompasses a broad range of targets and approaches, we advance our initiatives based on the following three distinctive business objectives, as illustrated in the diagram at the lower right.

(1) Quality assurance:
As a manufacturing company, quality assurance is a fundamental element of our business activities. In this domain, we not only ensure compliance with domestic and international standards but also continue to strengthen and expand our long-established internal quality assurance framework.

(2) Business competitiveness:
Strategic standardization aiming at enhancing profitability across the businesses is implemented in alignment with product characteristics and market needs. These efforts are employed in conjunction with Open & Close strategies to enhance our competitive edge.

(3) Management base:
We are actively working on standardization and related initiatives to support the market expansion for our products including GX Steel, designed to meet the requirements of a carbon-neutral society.

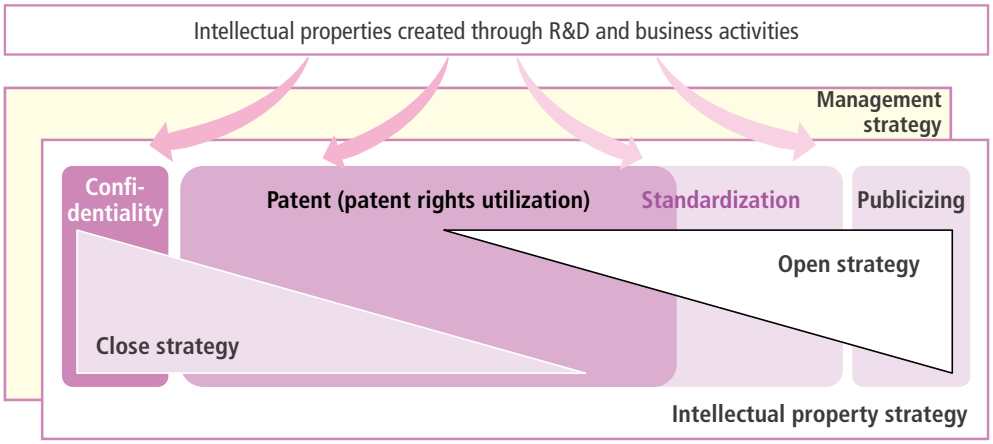
Strategic standardization activities aligned with broader societal trends

We actively support the formulation and revision of fundamental standards such as JIS and ISO, in collaboration with the Japan Iron and Steel Federation, an organization accredited as a designated industrial standardization body by the Ministry of Economy, Trade and Industry (METI). Through these collaborative efforts, we promote standardization that enhances the common convenience and applicability of steel.

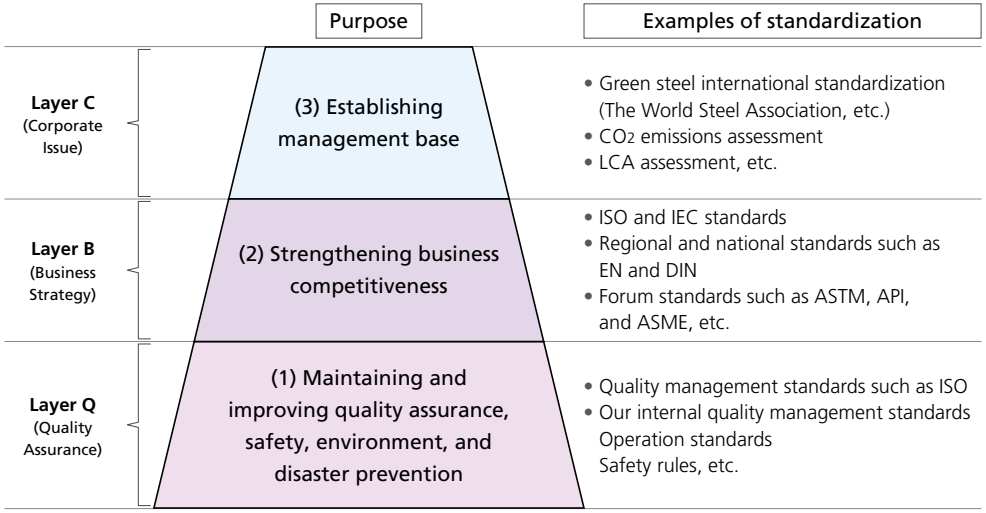
We also advance standardization initiatives that are aligned with Japanese government's priorities, particularly in key strategic areas such as environment and energy—including climate change, energy transition, GX—as identified in the government's *New National Standardization Strategy* released in June 2025.

Through our standardization efforts, we aim accelerating the dissemination of advanced technologies that facilitate the broader and more sophisticated use of steel—a material that underpins the foundation of the society—thereby contributing to more sustainable and prosperous society.

[Intellectual properties created through R&D and business activities]



[Activities related to standardization]



Promoting of digital transformation strategies

Building upon our core domestic and global steel operations, we are committed to evolving into a robust and diversified business structure. Leveraging data and digital technologies, we are driving innovation in both production and business processes, promoting digital transformation that will help speed up decision-making and fundamentally strengthen our problem-solving capabilities.

Nippon Steel's DX Vision

We are implementing a ground-breaking digital transformation (DX) that will revolutionize steel business processes.

Our efforts extend beyond efficiency improvements, guided by three key visions that will accelerate our journey of transformation.

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

- Developing smarter manufacturing through advanced use of 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 operating standards and product quality at overseas sites equivalent to those 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 source mines to steel mills and enhancement of responsiveness to changes in the procurement environment

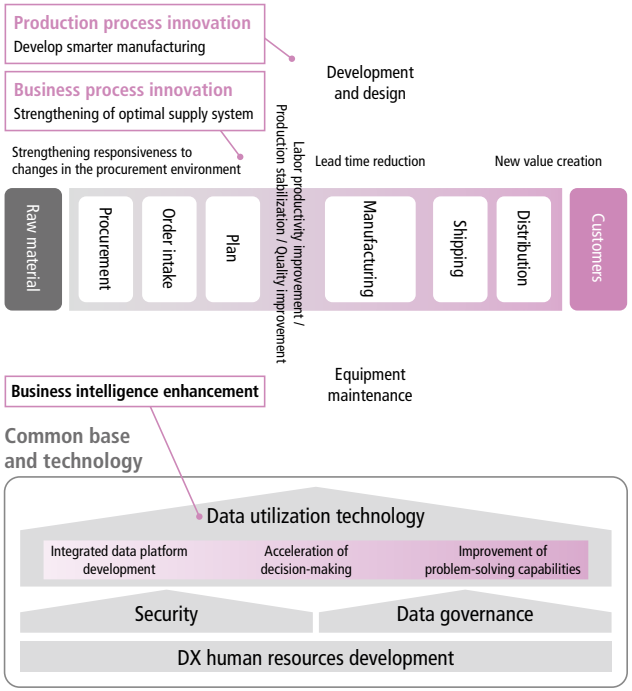
Global management support through enhancement of business intelligence

- 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

Innovation of all steel business processes

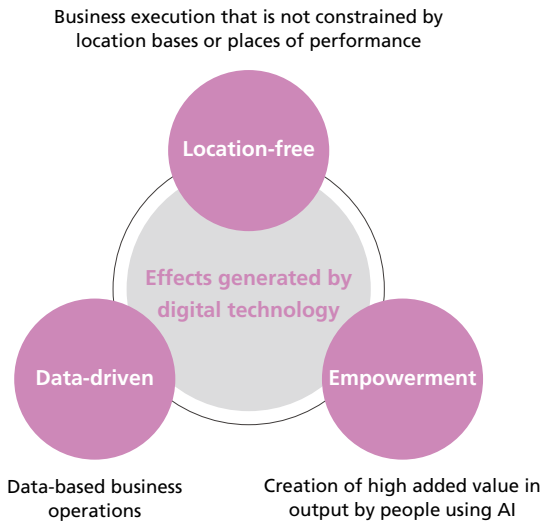
The steel business process encompasses the entire supply chain—from raw material procurement to end customers—as well as a full range of business activities, including development, design, manufacturing, and equipment maintenance. We are advancing reforms across this broad domain of operations.

To this end, we are developing and enhancing a common system platform and related technologies to dramatically improve data accessibility and usability, while also cultivating the human resources needed to sustain these initiatives. Through these efforts, we are driving a comprehensive transformation of the entire steel business process by leveraging digital technologies.



Innovation initiatives that make full use of digital technology

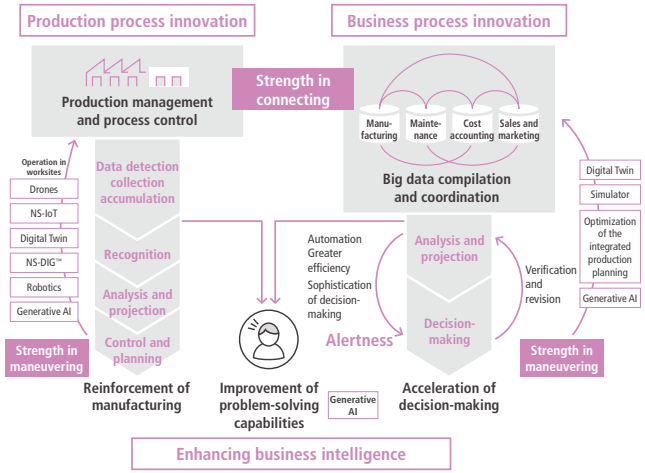
By fully leveraging the three key benefits of digital technology —"location-free," "data-driven," and "empowerment"— we will transform traditional workstyles, improving productivity dramatically, accelerating decision-making, and enhancing problem-solving capabilities. Rather than simply applying new digital technologies in a merely formal manner, we will fundamentally review our existing production processes, business processes, and business models based on "data." This will enable us to move beyond decisions that tend to result in partial optimization and advance toward company-wide optimization in decision-making, thereby contributing to the maximization of corporate value.



Strength in connecting and strength in maneuvering
—Production process innovation and business operations 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 connecting" to organically link valuable data assets existing across each factory or department using digital technologies and cultivate "strength in maneuvering to enable advanced data utilization, process control, and automation.

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 technological capability and marketability.

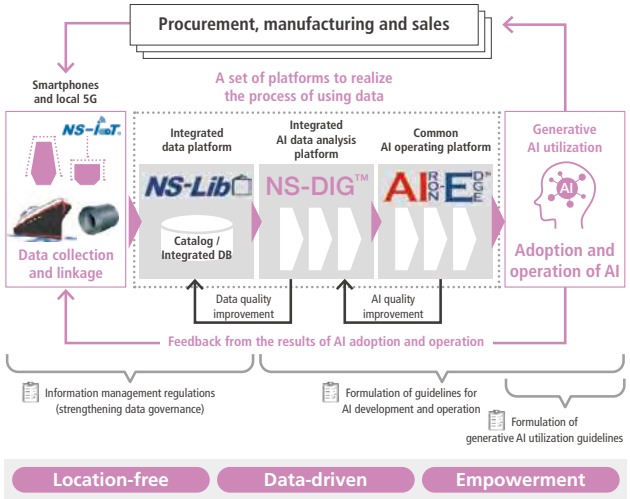


Nippon Steel DX Initiatives

New ways of working with digital technology and data

To enhance our capability to "connect and maneuver" data, we are developing a company-wide common platform and building an environment that enables all employees to leverage digital technologies. This includes deploying NS-IoT, a wireless Internet of Things (IoT) sensor-utilization platform that efficiently collects operational and facility data from steelworks sites, and accumulating such data within our data utilization infrastructure, NS-Lib. These efforts have enabled data visualization and real-time situational awareness, fostering the adoption of data-driven operations. Furthermore, through our integrated data analysis platform, NS-DIG™, and edge computing platform, AIRONEDGE™, we are accelerating AI development and its implementation in real-world operations. These initiatives are creating empowered operations that maximize the value of time and are establishing new work styles.

At the same time, robust management is essential to ensure quality and safety in data utilization. To strengthen data governance, we have revised our Basic Information Management Regulations and newly established both AI Development and Operation Guidelines and Generative AI Utilization Guidelines. Through the establishment of rules and employee training, we aim to foster an internal culture in which employees take the initiative in driving digital innovation.

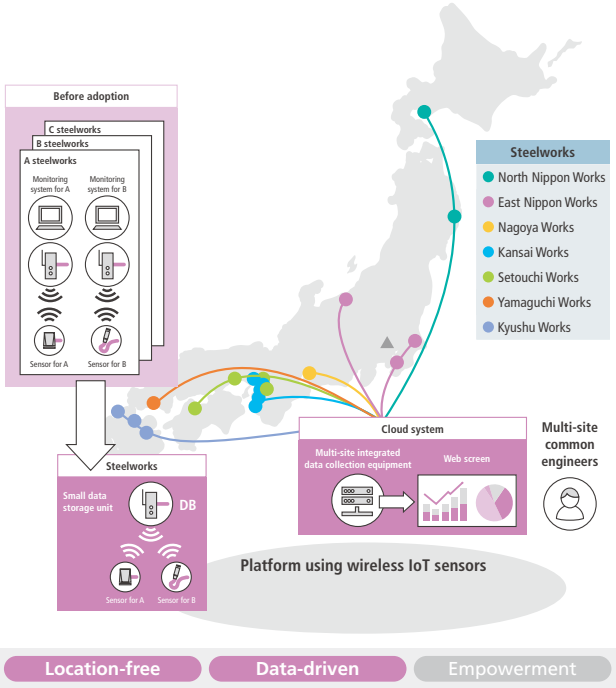


Advanced utilization of operational and facility data using wireless IoT sensors (NS-IoT)

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

By centralizing the management of data and vehicle location information from sensors and leveraging this data for facility status detection and trend monitoring, the use and application of data in the production process have been expanded. Building on this platform, we aim to improve labor productivity, stabilize production, and further enhance quality through initiatives such as predictive detection of equipment abnormalities based on temperature, vibration, and other parameters, as well as automation.

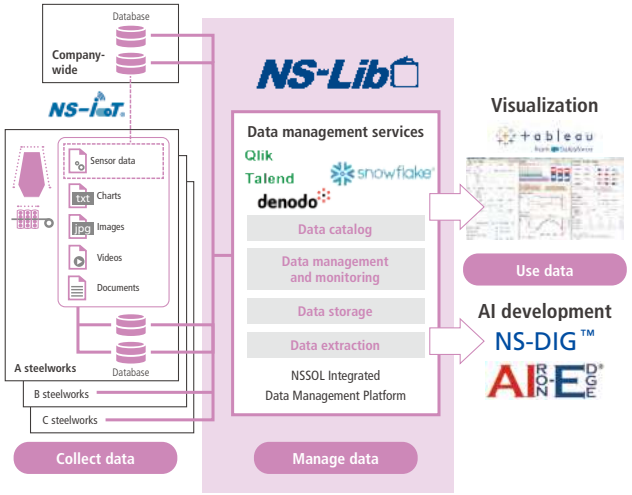
Implementation in the ironmaking processes of all our steelworks has already been completed. Going forward, through Nippon Steel Solutions Corporation and Nippon Steel Texeng Co., Ltd., we will promote the provision of this solution to other Group companies—including those overseas—as well as to external clients.



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. Then, in December 2023, DENODO™, a data virtualization platform, was launched, enabling databases located in different locations to be accessible across the company. We use data for orders, production plans, and manufacturing by "cataloging them within NS-Lib to promote company-wide data utilization." Through management dashboards and other various dashboards for manufacturing and maintenance etc., we visualize key performance indicators, monitor changes, and issue alerts. This enables rapid and advanced decision-making and problem solving based on the same data from the management level to the front line.

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



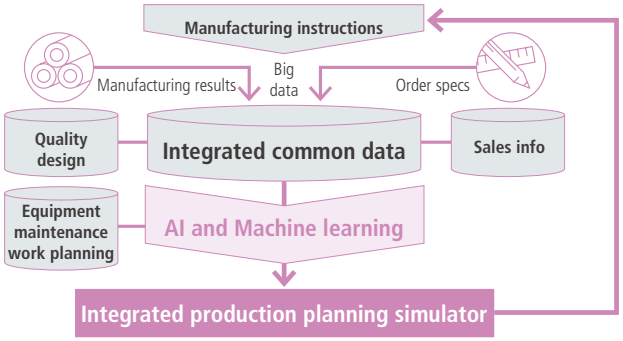
Location-free | Data-driven | Empowerment

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. The production plan is a complex combination of multiple processes, ranging from crude steel production to rolling to surface treatment.

We are now building an "integrated production planning platform" that is shared throughout the Company. This platform enable us to quickly create optimized integrated production plans based on the latest sales information and big data collected by each steel mill on the manufacturing process efficiency and detailed order specifications. 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 steelworks through the sophistication of production planning operations and strengthen optimal production control throughout the Company. For example, we have developed a new production planning system to efficiently produce "slabs" (steel pieces) in the steelmaking-to-hot-rolling process. The system was first introduced in the East Nippon Works Kimitsu Area. This has resulted in about a 70% reduction in the time required to create a production plan that is equal to or greater than the level of quality created by skilled workers. We are now deploying the system to other production areas.

[Integrated production planning platform]



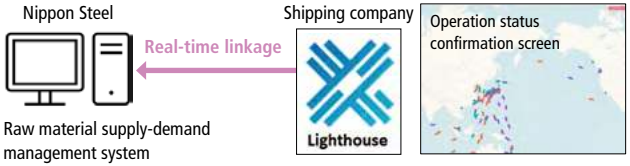
Location-free | Data-driven | Empowerment

Integrated efficiency improvements of the procurement and transportation of raw materials

We are dependent on imports for over 200 brands of raw materials, including iron ore and coal. Therefore, efficient transportation from source mines to our steel mills is a key issue.

For the transportation of these raw materials, we use algorithms to formulate optimal transportation plans from 10^{760} (10 to the 760th power) combinations.

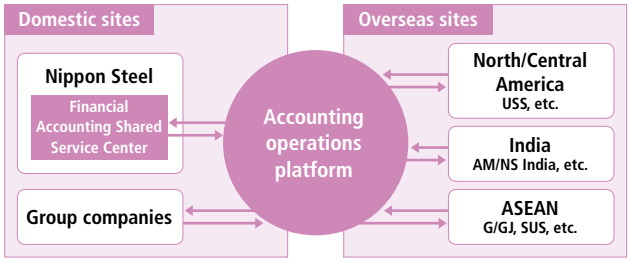
In executing these plans, the transportation environment varies greatly due to economic, meteorological and geopolitical disruptions. Ship allocation management that can respond flexibly and quickly to these factors is required. For this need, we have linked Mitsui OSK's "Lighthouse" real-time operation information platform with Nippon Steel's raw material supply-demand management system. This integration enables us to instantly understand the onsite situation and streamlines the entire process from raw material procurement to transportation.



Location-free | Data-driven | Empowerment

Strengthening the accounting operations platform

Our Accounting & Finance Div. has overhauled its accounting operations platform to improve the efficiency of financial accounting processes and enhance our ability to operate on a global scale. In April 2023, we established the Financial Accounting Shared Service Center and, on a priority basis, organized a structure that enables company-wide, cross-functional operations to be carried out without location constraints. In April 2024, we launched the new accounting operations platform. Looking ahead, we aim to build an environment that enables operations in line with global standards, while considering the rollout of this platform to Group companies and further enhancing collaboration with our overseas subsidiaries.



Location-free | Data-driven | Empowerment

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 have forced 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 security measures and providing security education, both in Japan and in other countries. Specifically, we are working actively to improve the IT literacy (information security awareness) of every employee by providing security education through e-learning and conducting targeted 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

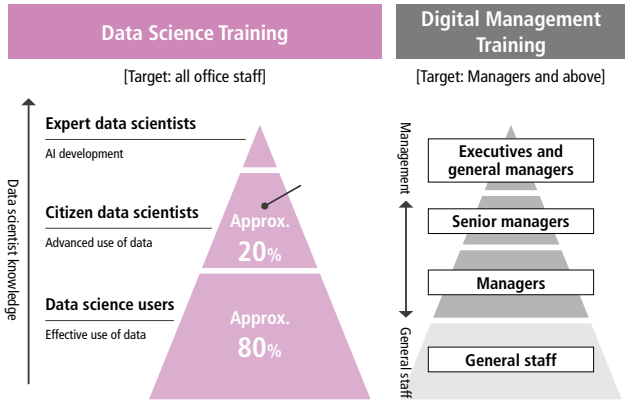
DX human resources development

Nippon Steel is cultivating DX human resources through both "data science training" and "digital management training."

In data science training, we reference the Digital Skill Standards published by the Ministry of Economy, Trade and Industry (METI) and the Information-technology Promotion Agency, Japan (IPA) to define three competency levels based on data science knowledge: expert data scientists, citizen data scientists, and data science users. Our goal is for all office staff to attain at least the data science user level, and for over 20% of staff in each workplace to achieve the citizen data scientist level. Training for data science users is provided on an ongoing basis, including for newly appointed staff members who have joined through mergers and other means. By March 2025, approximately 7% of all the staff had been certified as citizen data scientists, and by March 2031, we expect this ratio to reach 20%. To motivate employees to improve their knowledge and skills, those certified as citizen data scientists receive Open Badges.

In digital management training, we provide all managers—section heads, manager, supervisors, and above—with training to instill the mindset and literacy needed to lead DX initiatives within their respective workplaces.

Looking ahead, we will continue to update our curriculum flexibly in response to technological innovation and changes in the operating environment, accelerating our company-wide DX promotion through the cultivation of DX human resources.



TOPICS A Generative AI Prompt Contest held to promote the use of generative AI within the company

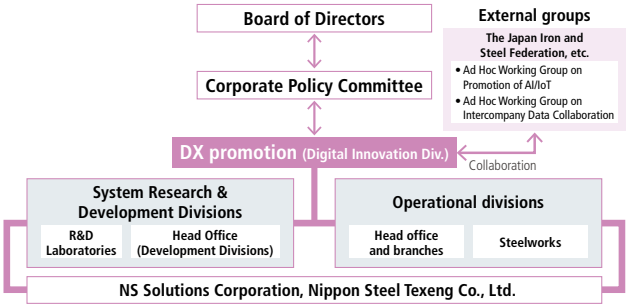
To make more effective use of generative AI and accelerate its adoption across the organization, we organized a company-wide contest in which teams competed by presenting unique application examples. Sharing these use cases helped uncover effective applications and stimulated greater utilization of generative AI within the company.

Scene from the in-house Generative AI Contest

DX promotion framework

With the Digital Innovation Division at the core, the operational divisions and the system research and development divisions will work together to strengthen business competitiveness mainly through integrated responses to company-wide cross-sectional issues and data management. Furthermore, we take on the challenge of advanced initiatives in cooperation with external organizations and with the collective strength of the Nippon Steel Group. These initiatives are promoted in close coordination with the Executive Vice President responsible for digital innovation promotion and information systems, with whom we discuss strategy on a regular basis.

In January 2025, we established the Knowledge Innovation Research Department within our Process Research Laboratories, and in April 2025, we created the Intelligent System Technology Dept. within the Information & Communication Technology Div. thereby strengthening our capabilities for developing and applying AI and digital technologies.



5 Financial Strategy

Key Takeaways from This Section

Virtuous cycle of cash flow

We aim to maximize corporate value by optimizing operating cash flow and strategically allocating funds across internal reserves, growth investments, carbon neutrality initiatives, human capital development, and shareholder returns.

Detailed financial policies

Allocation of management resources

- Adopt agile investment strategies to act quickly and seize opportunities as they arise.
- Enhance corporate value on an ongoing basis by maximizing operating cash flow, focusing management resources through strategic selection and concentration, and reallocating incremental cash flow to priority areas.

Asset streamlining

- Streamline assets with a strong focus on improving capital efficiency and securing resources for reinvestment.

Shareholder returns

- Maintain a flexible dividend policy with a target consolidated payout ratio of around 30%, adjusted for non-recurring gains and losses.
- Continue to review our dividend policy on an ongoing basis.

Financial discipline and funding strategy

- Maintain financial discipline by aiming to reduce the D/E ratio of 0.7 or lower as early as possible.
- Secure fundraising effectively, taking into account our financial foundation.
- Continue to manage growth investments appropriately and enhance communication with the market to improve financial indicators such as PBR.

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A Message from the

Executive Vice President of Finance

Takahiro Mori

Representative Director, Vice Chairman and Executive Vice President

The business environment surrounding us has remained structurally severe and highly challenging since last fiscal year. China's steel overproduction and growing exports, caused by a widening domestic supply-demand gap, represent structural challenges with no signs of resolution. Furthermore, as trade measures are being tightened across various countries toward FY2025, the U.S. tariff policies have started to impact the global economy. This raises growing concerns about potentially significant, including indirect, impacts on the steel industry both in Japan and abroad.

Despite the prolonged structural challenges, we have established a robust earning base-capable of consistently delivering an underlying consolidated business profit of over ¥600 billion, through the execution of production facility restructuring and growth strategies. We are virtually recording world-class profits in the most recent term, despite this challenging business environment. Looking back the past, we have secured stable revenue levels without being affected by the environment. This demonstrates our efforts not only to maximize profits but also to reduce earnings volatility and lower capital costs, thereby enhancing our market capitalization.

Based on these achievements, we are currently accelerating our decision-making process for initiatives that accurately anticipate future opportunities. Among these initiatives, the June 2025 merger with U. S. Steel marks a critical turning point in our journey to reclaim our position as the world's leading steelmaker. This highly strategic move aligns closely with the U.S. national strategy to revitalize its manufacturing sector.

This integration is not merely about scale. It is a rigorously assessed investment expected to deliver returns that exceed the cost of capital. Unlike greenfield investments, this brownfield approach leverages U. S. Steel's high-quality existing assets, minimizing construction and labor risks. It significantly strengthens our supply base in North America and Europe and is highly competitive. We expect strong synergies, particularly in high-value-added and environmentally friendly steel products, through the fusion of our technological strengths and brand equity.

In contrast, we are currently in the "investment phase," in which upfront costs related to the merger with U. S. Steel and capital expenditures are taking precedence. Until we enter the "recovery phase," this places a certain level of financial burden on our operations. Precisely because of this, we are further reinforcing prudent financial management centered on cash flow generation. We are pursuing assets streamlining, such as the reduction of cross-shareholdings, optimizing fundraising, and taking steps to realize and maximize returns early – maintaining a strong balance between investment and financial soundness.

We are confident in moving forward – even in this environment – because we sensed the urgency of change long before structural issues surfaced. With a long-term perspective, we swiftly implemented structural reforms, selection and concentration of resources, and growth investments ahead of competitors. We firmly believe that our current earnings strength is the result of "foresight," "execution capability" and – above all – "timely decision making." Now that a pivotal moment to make bold decisions for our next stage of growth.

In addition, our R&D efforts toward the social implementation of carbon-neutral technologies have already entered the commercial-scale testing phase. Going forward, we will steadily advance these initiatives with a view to long-term capital investment. However, we will place strong emphasis on the predictability of investment returns and make appropriate investment decisions based on proactive efforts to secure government support and take the lead in developing the GX Steel market.

Furthermore, strengthening human capital and implementing appropriate shareholder returns are also key pillars of our strategy. In particular, with regard to shareholder returns, our current basic policy is to provide performance-linked dividends, targeting a consolidated payout ratio of around 30% as a guide. Going forward, we will continue to take a sustainable and flexible approach to our dividend policy, taking into account long-term profit growth and capital efficiency.

We are now formulating a new Medium- to Long-term Management Plan and long-term vision to drive our next phase of growth, with plans to release the finalized version by the end of the year. We will continue to work toward the early realization of "100 million tons of global crude steel production capacity" and "¥1 trillion in consolidated business profit," and the "achievement of a carbon-neutral society." We will also continue to build a strong financial base to support these ambitions, through sincere and ongoing dialogue with the market.

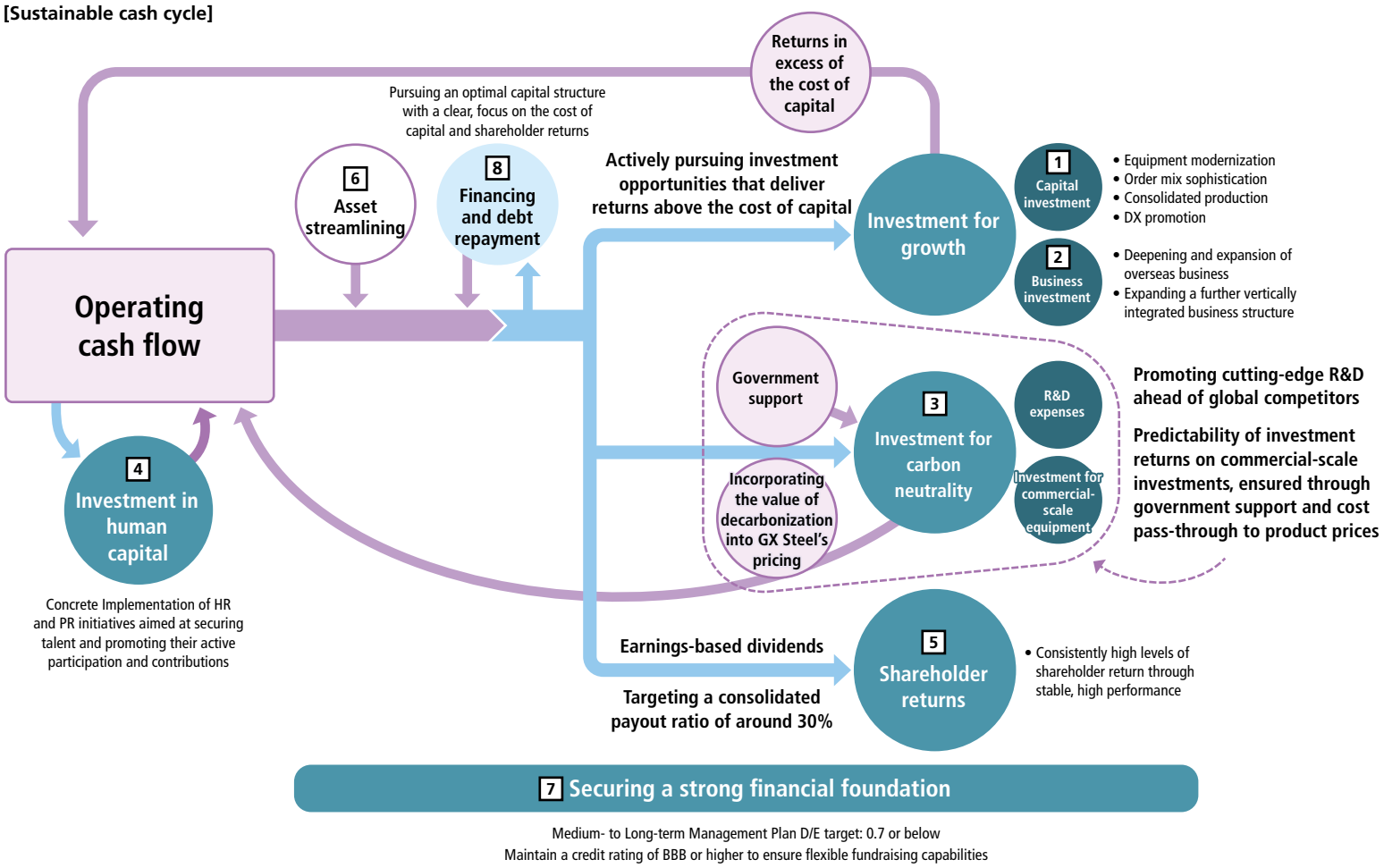
Financial Strategy

Through a virtuous cash cycle, Nippon Steel aims to achieve growth in profits and carbon neutrality in pursuit of our "100 Million Tons, 1 Trillion Yen Vision."

Sustainable cash cycle

We will achieve sustainable growth in profits by actively promoting growth investments that generate returns in excess of the cost of capital. At the same time, we will proceed with the necessary investments to achieve carbon neutrality in steel production processes only after ensuring the predictability of investment returns, based on a societal consensus on cost-sharing that includes government support and the development of a GX Steel market.
We aim to deliver continuous, high-level shareholder returns by maintaining a sound financial foundation and achieving stable high performance through these initiatives.

[Sustainable cash cycle]



[Investment plans for FY2021-FY2025]

Capital investment	¥2,400 billion/5 years
Business investment	¥600 billion/5 years
Payout ratio	Around 30% as a guide

[Financial targets for FY2025]

Return on sales (ROS)	About 10%
Return on equity (ROE)	About 10%
Debt-to-equity ratio (D/E)	0.7 or lower even in a deteriorating environment

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

1 Capital investment

Nippon Steel plans to invest ¥2.4 trillion in capital expenditures over the five years from FY2021 to FY2025. We are implementing production facility restructuring by shutting down less-competitive facilities and concentrating production in more competitive ones. A series of production restructuring initiatives for our domestic steelmaking business, launched in 2020, reached a milestone with the shutting down of the Kashima BF at the end of the last fiscal year. Meanwhile, we are selectively concentrating investment in the remaining facilities for modernization and enhancing the capacity and quality of high-value-added products. To date, investments have been approved for electrical steel sheet capacity and quality improvements (a total of ¥213 billion) and the construction of a next-generation hot rolling line at the Nagoya Works (approximately ¥270 billion).

Many of our steelworks, built during Japan's high growth period, are now over 50 years old. Since their construction, we have maintained and renewed these facilities appropriately to keep them in good condition. However, key infrastructure assets with long renewal cycles are approaching their scheduled replacement periods. Due to the concentrated need for refurbishment investments, we anticipate maintaining a high level of capital expenditure in the near term. To manage this, we promote efficient capital allocation based on a long-term renewal plan to optimize capital spending. When making capital investment decisions, we apply a payback period hurdle for profit-improving projects, and for all capital expenditures – including those for aged asset renewal – we aim to secure an internal rate of return (IRR) that exceeds our cost of capital.

2 Business investment

Nippon Steel aims to establish a system of 100 million tons of global crude steel capacity by pushing forward with an integrated steel production system that enables us to consistently create added value starting from the upstream processes in "regions where demand is expected to grow significantly" and "sections in which our technological and product capabilities can be utilized."

For such growth investments that align with our basic policy, flexibility to swiftly execute investments in response to attractive opportunities - even when such investments are not included in the current Medium- to Long-term Management Plan - is a key element of our investment strategy. Given the always-limited M&A opportunities, we will enhance corporate value on an ongoing basis by maximizing operating cash flow, focusing management resources through strategic selection and concentration, and reallocating incremental cash flow to priority areas.

The partnership with U. S. Steel, which was closed based on the merger agreement in June 2025, marked a pivotal turning point in achieving a global crude steel production capacity of 100 million tons. It is a rare strategic investment opportunity that will enhance corporate value and dramatically strengthen our revenue structure.

- Merger consideration (our payment amount): US$14.2 billion (approx. ¥2.03 trillion)
- Additional capital investment after closing: approximately US$11 billion (approx. ¥1.6 trillion)

We will enhance our ability to supply high-value-added products by leveraging U. S. Steel's strong brand power, technological capabilities, and stable customer base in the U.S. market and through the integration of our manufacturing and technical expertise. At the same time, we aim to establish a production system capable of responding to the growing need for energy conversion and decarbonization.

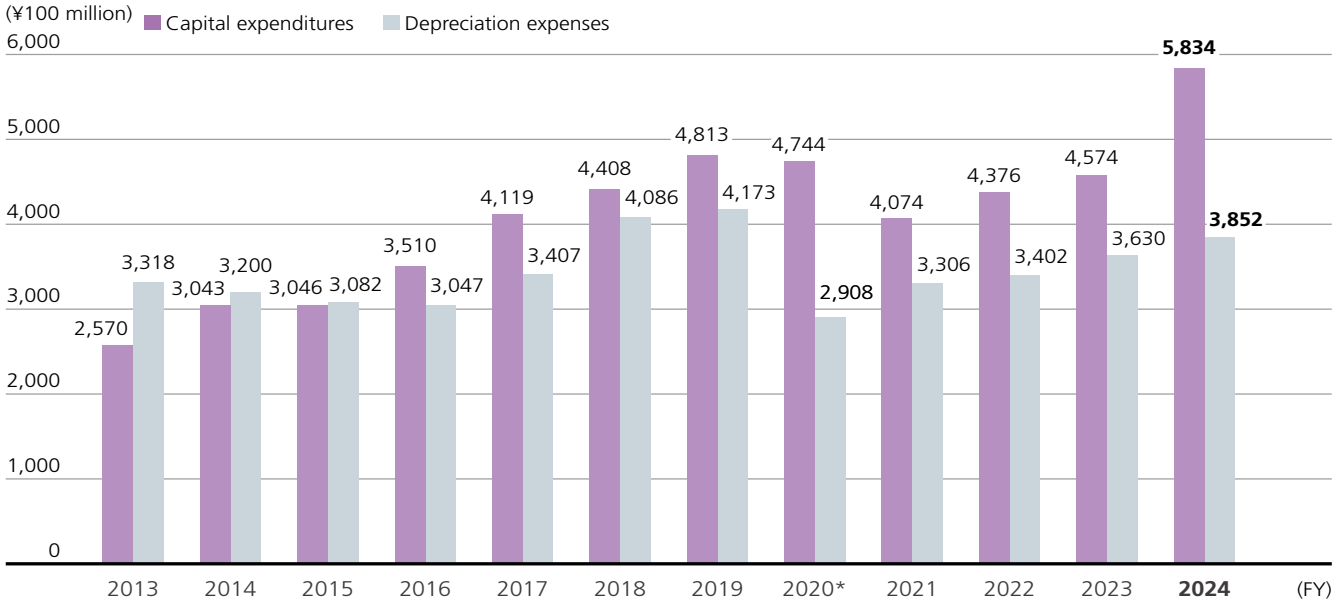
This investment in the U.S. was not included in the current Medium- to Long-term Management Plan at the time of its formulation. While we had already committed to large-scale investments in India, we promptly executed this investment, judging it as an excellent opportunity that aligns with our corporate policy and contributes to our growth strategy. We aim to progressively maximize the management value, under an appropriate financing and risk management system, while carefully assessing the impact of this investment on our future financial foundation and cash flow.

We set an IRR in excess of the cost of capital as a hurdle rate for all business investments, making decisions through rigorous review by management. After the execution of the investment, we implement flexible risk management by visualizing progress through a follow-up system based mainly on the PDCA cycle, enabling us to swiftly determine the need for restructuring or withdrawal.

To execute a sustainable investment strategy over the medium to long term while ensuring financial soundness, we will continue to work on growth investments from a long-term perspective by continuously monitoring cash generation and trends in capital adequacy ratio.

[Changes in capital expenditures and depreciation expenses]

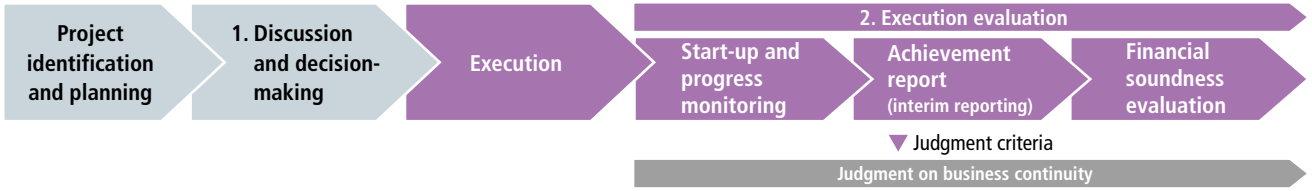
Capital expenditures are based on construction costs. The figures for FY2018 or later reflect the change in the accounting system.



* Depreciation expenses in FY2020: Impact of the change to the straight-line method: -¥70 billion
Impact of impairment loss: -¥60 billion

COLUMN Business Investment Management System

Nippon Steel has implemented a clearly defined PDCA-based management system, both domestically and internationally, in order to ensure appropriate decision-making on business investments - including company formation, capital contributions, and M&A - as well as early detection and resolution of issues during execution, and the sharing and succession of know-how.



1. Discussion and monitoring

We evaluate the strategic significance, market growth potential, competitive landscape, and individual risks (such as country, partner, and foreign exchange risks). For M&A projects, we identify and appropriately address risks based on due diligence, then analyze risk scenarios and confirm the certainty of returns commensurate with the investment.

Investment and Loan Committee

The Investment and Loan Committee deliberates projects from the specialized perspectives of each corporate division. Business investment proposals are reviewed by the Investment and Loan Committee before decisions are made. Particularly important projects are then submitted to the Corporate Policy Committee or the Board of Directors for further approval.

2. Execution evaluation

Start-up and progress monitoring

For approximately the first three years after project launch, we establish KPIs for operations, production, shipments, and financial performance for each project. As a rule, corporate divisions follow up on the achievement of business plans every three months and report progress to the Investment and Loan Committee and the Corporate Policy Committee. Additionally, for particularly important projects, an annual report is made to the Board of Directors.

Achievement report

After approximately three years from project start-up, we conduct a comprehensive review of the entire process - from decision making to full operation - and report the results to the Investment and Loan Committee and the Corporate Policy Committee. For particularly important projects, an annual report is also submitted to the Board of Directors.

Financial soundness evaluation

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 semi-annually. Those companies in which Nippon Steel has made indirect investment are similarly evaluated but only once a year. Their evaluation results are also reported annually to the Board of Directors. For companies deemed to be subject to intensive management based on our soundness assessment, we deliberate on their reconstruction plans in the Investment and Loan Committee.

<Decision on exit or restructuring>

Based on the evaluation of soundness using quantitative criteria (such as future cash flow and financial condition) and qualitative criteria (including sustainability and compliance), group companies that are determined not to contribute to enhancing Nippon Steel's corporate value are subject to deliberation by the Investment and Loan Committee regarding whether to continue their operations. For particularly important cases, proposals or reports are submitted to the Corporate Policy Committee, which decides on policies for exit (including restructuring) or business revitalization.

3 Investment for carbon neutrality

Nippon Steel is taking a multi-track approach toward realizing carbon-neutral steel production processes by utilizing three innovative technologies and CCUS, aiming to achieve the optimal process configuration in response to economic conditions such as energy and raw material price. Among these initiatives, the development of innovative technologies and capital investments for their commercialization will require substantial funding. Currently, we expect to invest approximately 500 billion yen in research and development and over 4 to 5 trillion yen in capital expenditures by 2050. The detailed breakdown of these investments will be clarified in the future, depending on the progress of technological development and changes in economic conditions such as energy and raw materials.

As the transition to a carbon-neutral steelmaking process will improve neither product functionality nor its quality, the establishment of a green steel market is crucial that transforms environmental value (CO_2 reduction) to economic value (to be passed on to the sales price) and comprehensive and effective government support for us to invest in equipment implementation aimed at CO_2 reduction. Based on these assumptions, we will continue to advance initiatives that will contribute to both sustainable growth and climate change response.

4 Investment in human capital

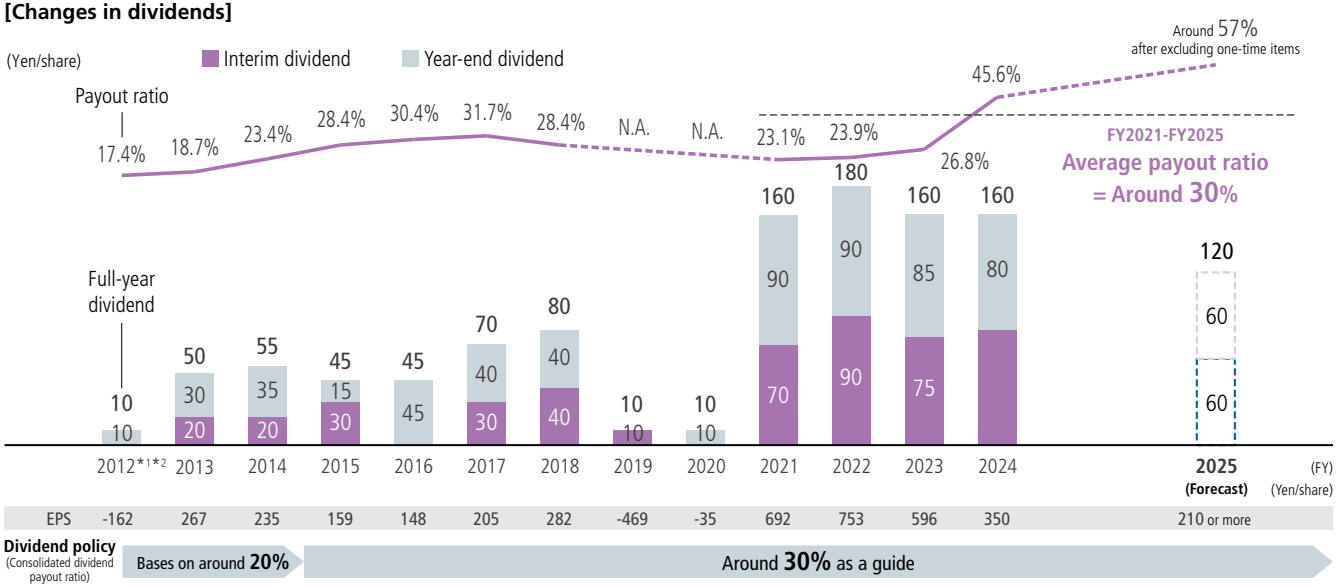
Amid intensifying competition in recruitment due to population decline, along with the diversification of individual career perspectives and increasing labor market fluidity, we must secure talented human resources and promote empowerment to drive our diverse management strategies toward realizing the 100 Million Tons and 1 Trillion Yen Vision. Therefore, we position this initiative as one of the highest priority management issues.

In April 2025, following on from the previous year, we implemented substantial compensation improvement exceeding the rate of inflation, as part of our initiative for "investment in human resources" to realize a virtuous economic cycle. The list of actions that we will continue to implement includes diverse hiring measures, support for work-life balance, and human resource development, among others. These measures are intended to secure and promote human resources, as well as raise favorable recognition of the company through PR.

5 Shareholder returns

With regard to shareholder return, we maintain a dividend policy targeting a payout ratio of approximately 30% of consolidated net profit. Dividends are basically allocated based on business performance, while also taking into consideration the funds required for investments aimed at enhancing corporate value, future earnings forecast, and both consolidated and non-consolidated financial conditions. By building a revenue base that secures stable underlying business profit of 600 billion yen or more regardless of external conditions, we have maintained a high level of underlying business profit exceeding 600 billion yen continuously since FY 2021. However, consolidated net income has fluctuated significantly due to large one-off valuation gains and losses - such as those from inventory and foreign exchange - and losses related to business restructuring disclosed individually. In this context, we continue to manage dividends according to above policy, while also considering sustained high level of shareholder returns. In FY 2021 and 2022, when large inventory and foreign exchange valuation gains were recorded, and in FY 2023, when earnings were sharply revised upward near the fiscal year-end, we applied a somewhat restrained payout ratio compared to the target. In FY 2024, despite a profit declined from FY 2023 due to an unprecedentedly challenging business environment, the transitional phase of our growth strategy, and significant restructuring losses, we achieved outstanding profitability among global steelmakers through proactive structural reforms and earnings improvement initiatives. This enabled us to maintain dividend levels comparable to FY 2023. Looking ahead to FY 2025, we expect the unprecedented crisis to continue, with additional concerns arising from the increasing trade measures by various countries and U.S. tariff policies, which could severely impact the steel industry. Regarding the annual dividend, we plan to pay a dividend of ¥120 per share, targeting a payout ratio of approximately 30% on a cumulative basis over the five-year period from FY2021 to FY2025. This payout ratio is calculated excluding the one-time loss and expenses (approximately ¥260 billion impact on net income) expected to occur in FY2025 due to the merger with U. S. Steel.

[Changes in dividends]



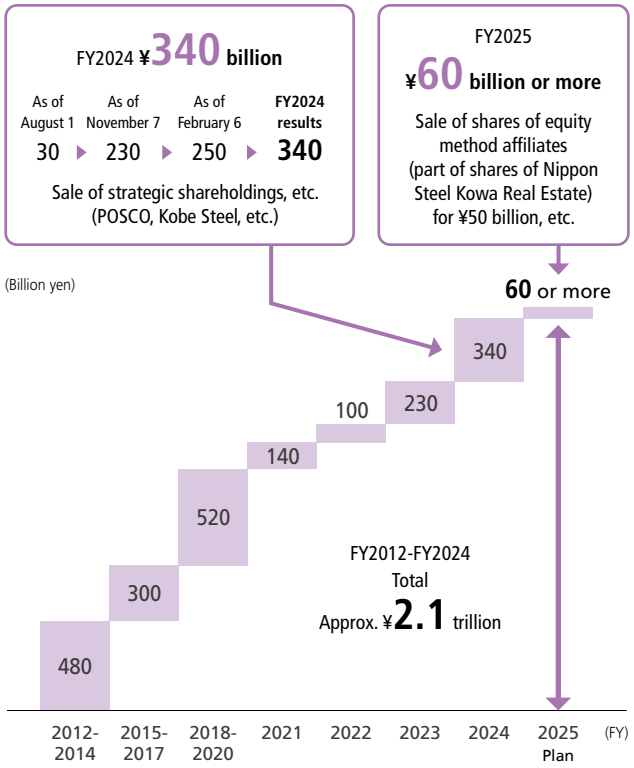
*1 The figures for FY2012 to FY2015 were adjusted assuming the upcoming share consolidation (10 shares to 1 share on October 1, 2015)
*2 The payout ratio for the net profit in 2H FY2012

6 Asset streamlining

Nippon Steel is continuously working on asset streamlining as one of its top financial strategy-related issues from the perspective of improving capital efficiency and ensuring financial soundness simultaneously. We have executed asset compression totaling approximately ¥2.1 trillion over the 13 years from FY2012 to FY2024 through the sale of strategic shareholdings, inventory reduction, real estate sales, and improvement of consolidated capital efficiency. We will continue and strengthen these initiatives in the future to sustainably improve profitability and capital efficiency.

In addition, given recent changes in the business environment, we intend to prioritize cash generation through asset streamlining in expanding our strategic business investments aimed at medium- to long-term growth.

[Asset streamlining]



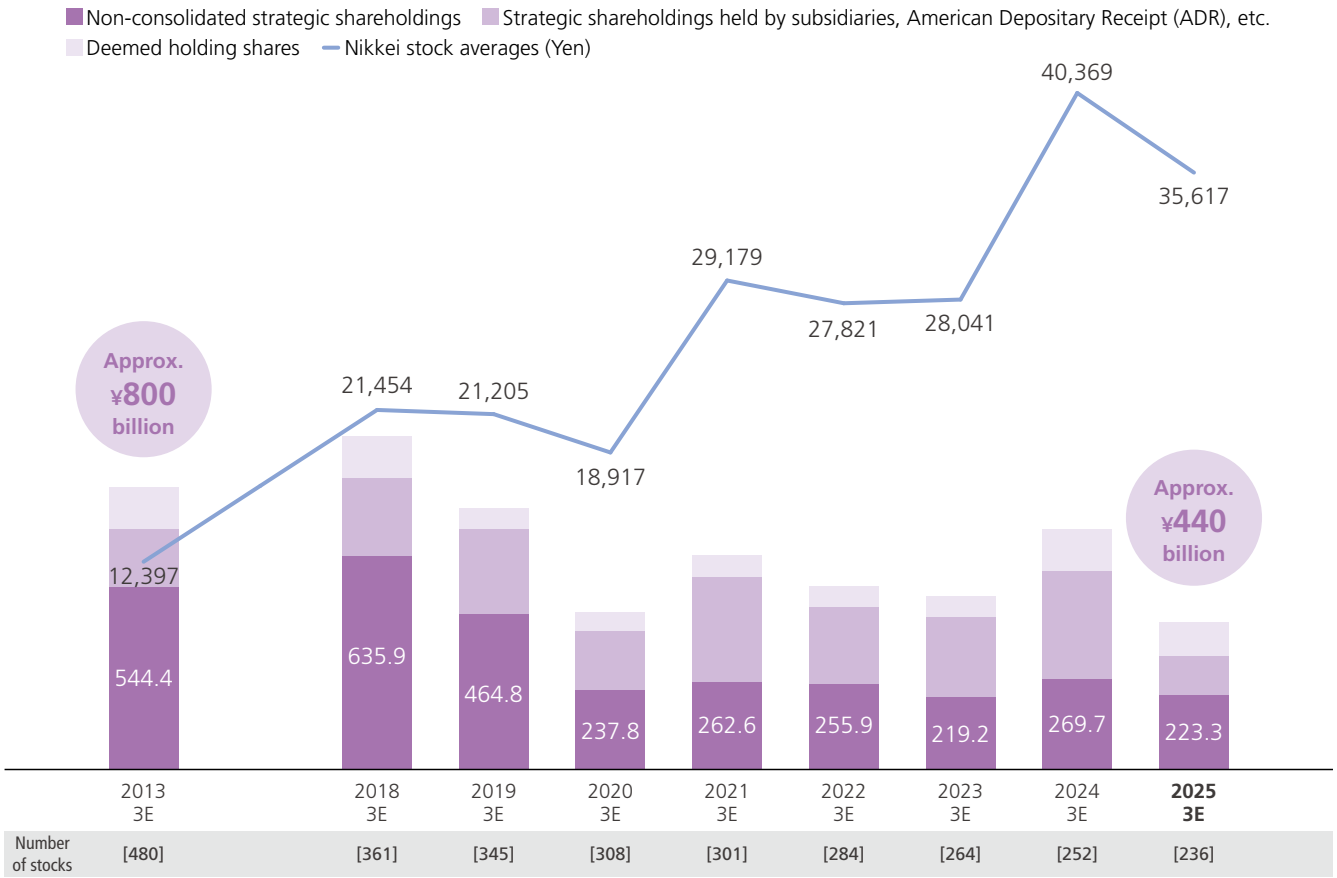
Promoting asset streamlining by disposing strategic shareholdings

Nippon Steel only hold strategic shareholdings when we reasonably judge that they will contribute to maintaining and strengthening the business foundation and improving the earning power between our business partners and us. Conversely, we dispose of them incrementally once we confirm that achieving the objective is feasible without holding those shares. The decision is made following thorough discussions with our business partners.

Based on this policy, we have sold and reduced our strategic shareholdings by 80% over the 12 years from the end of March 2013 to the end of March 2025. Considering the fact that Nikkei Stock Average has increased about 2.87 times during that period, this can be considered as equivalent to a reduction of 80% or more (*The impact of stock price fluctuations was corrected simply using the Nikkei share averages).

P.128 "Policy on strategic shareholdings"

[Changes in the balance of (non-consolidated) strategic shareholdings]



7 8 Financial foundation and fund procurement

The steel industry is capital-intensive, requiring significant investment in fixed assets, including machinery and equipment. Funds equivalent to these assets are financed through shareholders' equity and long-term debt, thereby ensuring financial stability.

Nippon Steel's basic financial policy is to pursue growth investments proactively while maintaining a sound financial foundation, with the D/E ratio positioned as a key financial indicator. Under the Medium- to Long-term Management Plan, we aim to maintain a D/E ratio of 0.7 or lower, even in the event of deterioration in the business environment.

Notably, the merger with U. S. Steel, which was closed in June 2025, represents a rare growth opportunity toward building a global crude steel production capacity of 100 million tons. Accordingly, we made the decision to proceed with this large-scale investment after carefully assessing its profitability. While we have initially financed the merger consideration of approximately ¥2 trillion with a bridge loan, we recognize the need to promptly implement measures including refinancing in order to maintain financial soundness.

We had initially anticipated a D/E ratio of around 0.9 immediately after the merger. However, through thoroughly maximizing operating cash flow, further considering and implementing asset streamlining, and executing fund procurement measures including the following equity-like financing initiatives, we now anticipate an improvement to the 0.7 range. We aim to restore the D/E ratio to 0.7 or below as soon as possible:

- Pre-executed hybrid financing (approx. ¥250 billion)
- Strengthening of capital base through conversion of convertible bonds into shares
- Implementation of optimal permanent financing, including subordinated loans (approx. ¥500 billion) executed in September 2025

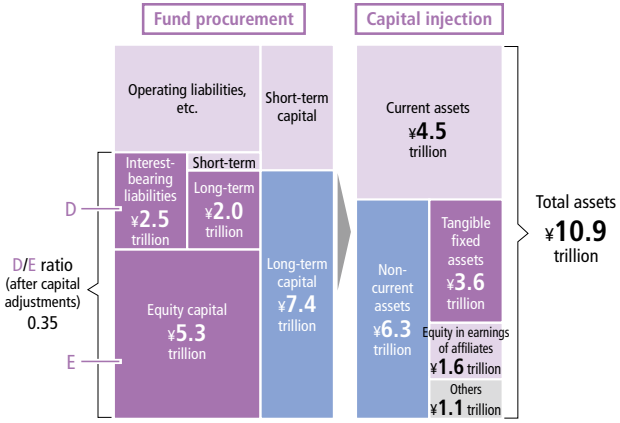
Regarding optimal permanent financing, we will utilize combination of methods that best suit our needs after carefully assessing our management and financial status, market conditions, and trends of interest and exchange rates. We will balance the cost of fund procurement and flexibility. We are considering a variety of fund procurement methods, including corporate bonds and bank loans. Furthermore, when considering additional capital financing, we aim to avoid any impairment of shareholder value by carefully managing the risk of dilution in earnings per share (EPS).

In addition, regarding the capital investment totaling $11 billion planned to follow the merger of U. S. Steel, we first intend to maximize U. S. Steel's own cash flow generation capacity and self-financing capabilities. We will then establish a funding scheme as needed, including parent company guarantees and parent-subsidiary loans.

We will continue to execute capital strategies to achieve financial soundness and growth strategies simultaneously, focusing on growth investments in Japan and overseas, capital investments related to carbon neutrality, and enhancing competitiveness through the value chain.

Our credit ratings as of July 2025 are shown in the table below. We will continue to engage in dialogue with rating agencies to maintain and enhance our medium- to long-term creditworthiness.

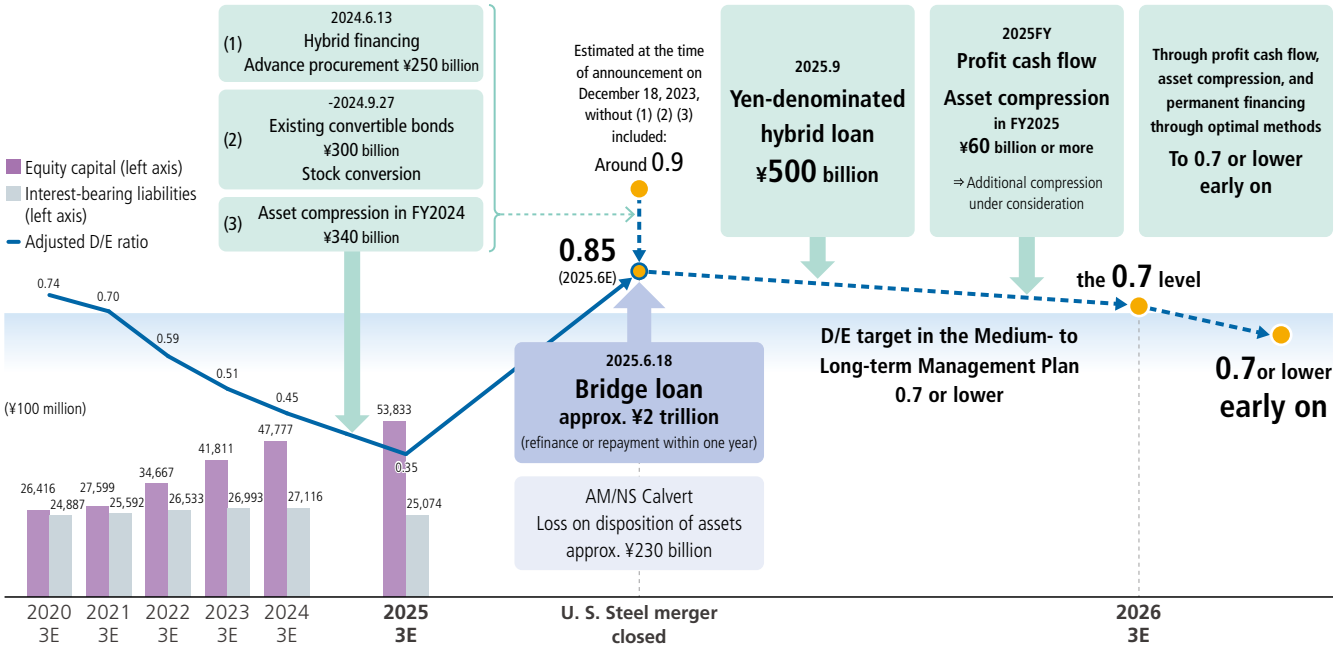
[Our asset-liability management (ALM)] (as of the end of March 2025)



Rating agency		Our rating
Japan	R&I	A+ (stable)
	JCR	AA (stable)
Overseas	Moody's	Baa2 (stable)
	S&P	BBB (negative)

(as of July 2025)

[Outlook for D/E ratio]



Initiatives to Improve Share Price Indicators

1. Basic approach to improving the PBR share price indicator

The Tokyo Stock Exchange requires companies whose price-book value ratio (PBR) consistently falls below 1.0 to disclose their capital efficiency improvement initiatives and the progress thereof.

Nippon Steel is taking strategic measures to address this by focusing on ROE (capital efficiency) and PER (market valuation), the two factors that constitute PBR. We aim to consistently maintain a PBR in excess of 1.0 not only by achieving numerical targets but also by enhancing intrinsic corporate value through sustainable profit generation and building trust with the market.

Reference: Changes in PBR* (FY)

	2021	2022	2023	2024
PBR (times)	**0.6**	**0.7**	**0.7**	**0.6**
ROE (%)	20.5	18.1	12.3	6.9
PER (times)	3.1	4.1	6.1	9.1

*PBR = ROE × PER

2. Recognition of issues and approaches to be taken (Approaches from both ROE and PER perspectives)

Current status of ROE and approaches to be taken

Nippon Steel's ROE is on a downward trend for the following reasons.

(1) Factors beyond our control, such as inventory valuation differentials, specific disclosure items, and the utilization of carry-forward losses, had a positive impact in FY2021 and FY2022 but a negative impact in FY2023 and FY2024.

For this reason, ROE appears high for FY2021 and FY2022, and conversely, ROE appears low for FY2023 and FY2024. For reference, the ROE for FY2024 exceeds 9% if inventory valuation differentials and specific disclosure items are corrected.

(2) While appropriately returning our earnings to our shareholders, we are in the process of actively investing them in future growth by capturing business opportunities.

As our basic policy, we make investment decisions to ensure their returns exceed the cost of capital. However, it takes a certain amount of time for investments to generate returns. Because of this, our capital efficiency indicators temporarily deteriorate as we make continuous investments for growth, but these investments are essential for our long-term growth. We believe this approach represents sound management judgment.

In addition, given the expected significant increase in liabilities from the merger with U. S. Steel, we have intentionally not considered capital measures in light of our future financial foundation. Furthermore, the scale of our profits has decreased due to the recent unprecedented deterioration of the business environment. These are also the reasons why our ROE is low.

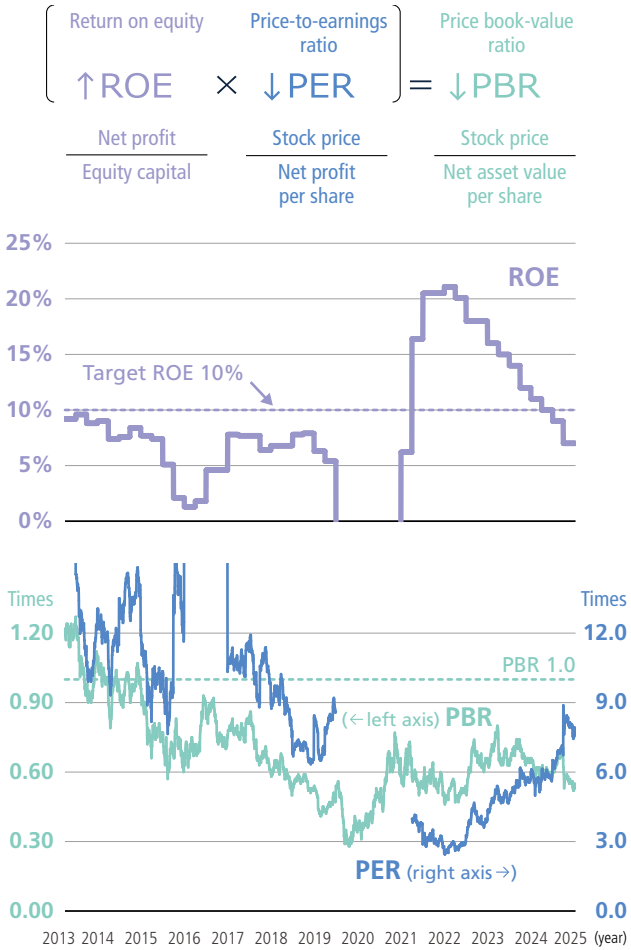
It will take some time before we reach the point of recovering these investments due to planned short-term significant investments for future growth. However, following the implementation of effective permanent financing related to the U. S. Steel merger, we will steadily make investments that will lead to future growth, including capital investments in U. S. Steel. This will enable Nippon Steel to generate the intended returns from growth investments and strive for medium- to long-term improvements in capital efficiency.

Current status of PER and approaches to be taken

Conversely, Nippon Steel's PER is trending upward. We believe this is because our initiatives to date are gaining traction in the market. In addition to continuing these efforts in the future, we believe it is also necessary to implement measures that address the concerns of our shareholders and investors regarding our initiatives to achieve carbon neutrality.

We will improve our PER further by enhancing our integrated reports, which also contain information on ESG, and financial IR materials. We will also expand IR activities for individual investors, and continue strengthening communications with domestic and overseas institutional investors. To ensure the feasibility and economic viability of the Carbon Neutral Vision, we will continue to devote efforts to enhancing shareholders' and investors' understanding of the current status and outlook of our carbon neutrality initiatives through technological development, commercial-scale implementation, and the establishment of a GX Steel market.

[Stock price-related indicators]



* The figures for ROE, PER, and PBR are based on average net assets and net profits of the last four quarters

FY2024 Results, FY2025 Forecast

Although the global steel industry is facing an unprecedented crisis, Nippon Steel has consistently achieved high profit margins among steelmakers worldwide. Even under these severe conditions, we are steadily executing forward-looking investments, and we are committed to improving profitability across the entire Group, including our domestic steel business and overseas steel business, such as U. S. Steel.

An extremely severe and unprecedented business environment

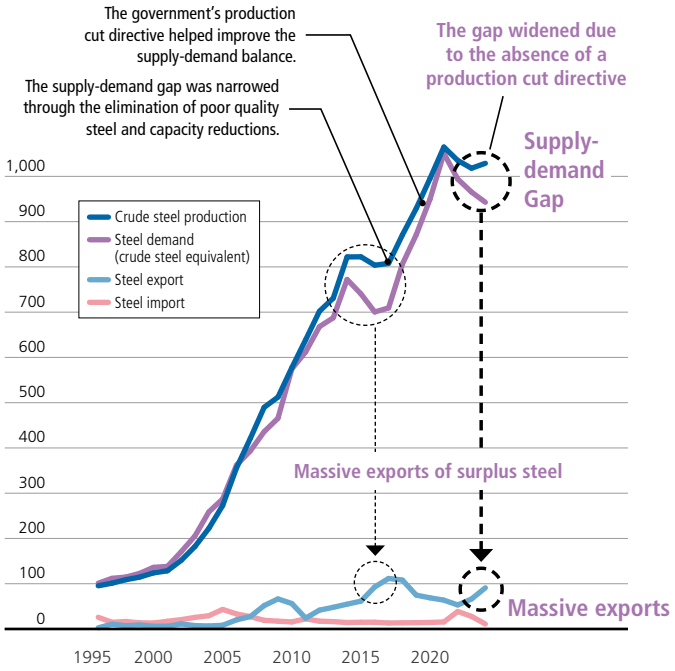
Amid a further weakening of global steel demand, China's economy continues to struggle, with the real estate sector remaining significantly below last year's levels and domestic demand for steel products continuing to decline. While steel production has not been reduced beyond the decline in domestic demand, steel exports continue to increase. In addition, there are growing concerns over market fragmentation due to the expansion of trade measures by various countries and the rise of protectionist, national interest-first policies.

In Japan as well, domestic steel demand is deteriorating more severely than expected, while pressure from imported steel products remains high. Under these conditions, we see little prospect for improvement in real demand or profit margins, both domestically and internationally.

Furthermore, the market spread between hot-rolled steel products and main raw materials has contracted from an average of $240 per ton to around $140 per ton since 2023. This contraction translates to an estimated loss of approximately ¥30 trillion in annual profits across the global steel industry. As a result, many steelmakers have been forced to report lower earnings.

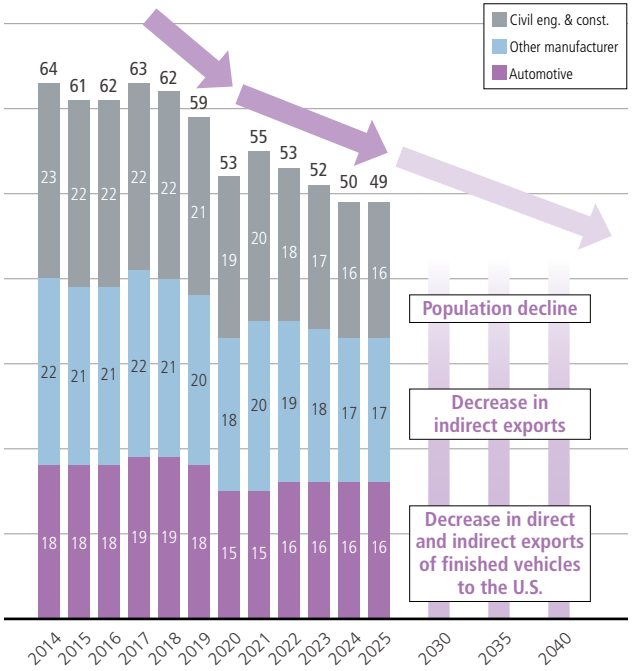
[Status of steel supply-demand gap in China]

(million t/year)



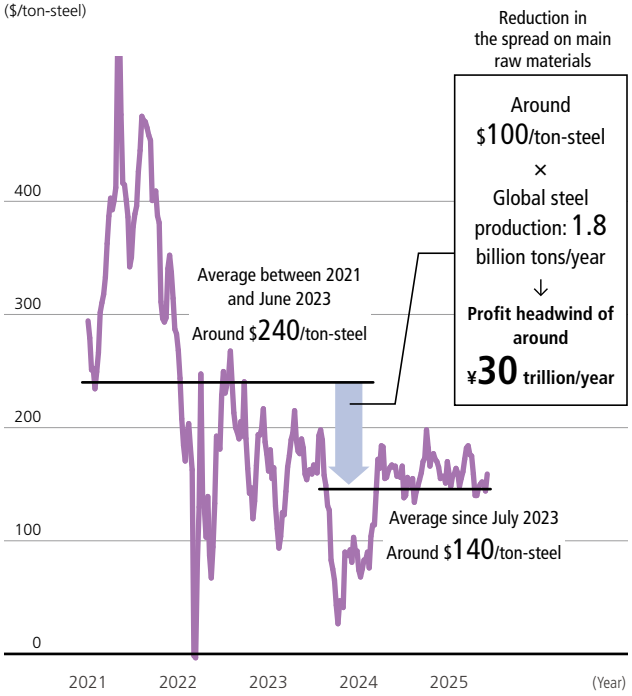
[Steel demand in Japan]

(million t/year)



[Asian markets/hot coils – Changes in the estimated spread on main raw materials]

($/ton-steel)



On the other hand, Nippon Steel has successfully implemented structural reforms and profit improvement measures ahead of its competitors. As a result, we have consistently achieved high profit margins compared to other steelmakers worldwide, demonstrating outstanding earning power, particularly in recent challenging conditions.

FY2024 Results

In the period between FY2021 and FY2025 under the current Medium- to Long-term Management Plan, we have built "a revenue structure that ensures an underlying consolidated business profit of ¥600 billion or more regardless of external conditions." Since FY2024, our business environment has deteriorated beyond the scale and pace we anticipated during the formulation of the current Medium- to Long-term Management Plan. Despite that, various structural measures and profit improvement measures we have implemented ahead of our competitors were successful. As a result, we achieved an underlying business profit of ¥793.7 billion, a business profit of ¥683.2 billion, and a net profit of ¥350.2 billion for the full year of FY2024, all of which exceeded the figures we had previously announced.

FY2025 Forecast

In this increasingly challenging business environment, we will strive to raise the level of revenue by fully leveraging the effects of the structural measures and capital investments we completed by FY2024. However, we forecast that the impact of the deteriorating environment will significantly decrease our consolidated business profit by approximately ¥210 billion on a year-on-year basis. To overcome this challenge, we will implement profit improvement measures, including additional cost reduction, and strive for growth in profits by executing the profit improvement measures outlined in the next Medium- to Long-term Management Plan currently under formulation.

However, the impact of the U.S. government's tariff policies may extend beyond the U.S. market, rippling across the entire world and burdening global steel users. This will lead to a risk of downward pressure on the FOB prices of steel products. In addition, further expansion of low-priced steel exports from China would intensify downward pressure on steel prices. This situation, compounded by the price adjustment pressure triggered by the U.S. tariff policies, could also intensify market competition. We inevitably need to consider these risks to some extent. As a result, our underlying business profit (excluding the impact of the U. S. Steel transaction) is forecast to be no more than ¥650 billion (¥50 billion above what we announced previously).

Meanwhile, we will consolidate the financial results of U. S. Steel starting this fiscal year. Regarding U. S. Steel's underlying business profit, we forecast it to be ¥80 billion, based on the assumptions that the profit reflects only the nine-month results of the subsidiary's performance (from July 2025 to March 2026), the Big River 2 project is still in the start-up phase, and the impact of U.S. tariff policies remains uncertain. (U. S. Steel's underlying business profit is forecast to be approximately ¥150 billion after the start-up of the Big River 2 project in FY2025 on an annualized basis.)

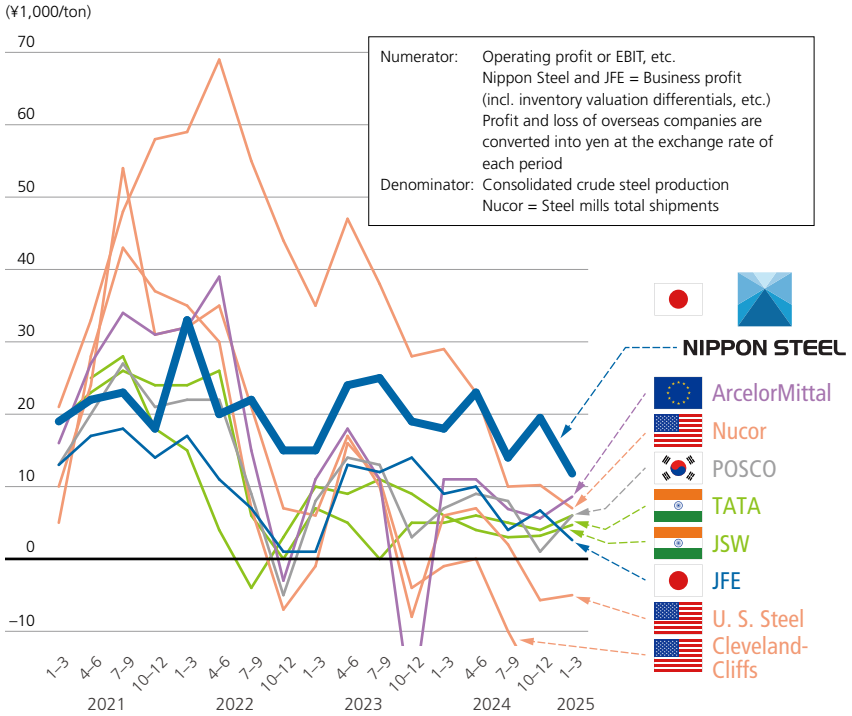
Based on these assumptions, Nippon Steel forecasts an underlying business profit of ¥730 billion (¥130 billion above what we announced previously) for FY2025 full year. We will continue to execute further profit improvement measures to maximize our profits.

Regarding net profit, we forecast a net loss for FY2025 full-year due to the circumstances described above, inventory valuation losses, and one-off expenses and losses arising from the U. S. Steel transaction (including losses related to the sale of the entire equity interest in AM/NS Calvert (approximately ¥230 billion)). (The net profit is ¥220 billion (¥20 billion higher than our previous announcement) when excluding one-off expenses and losses arising from the U. S. Steel transaction.)

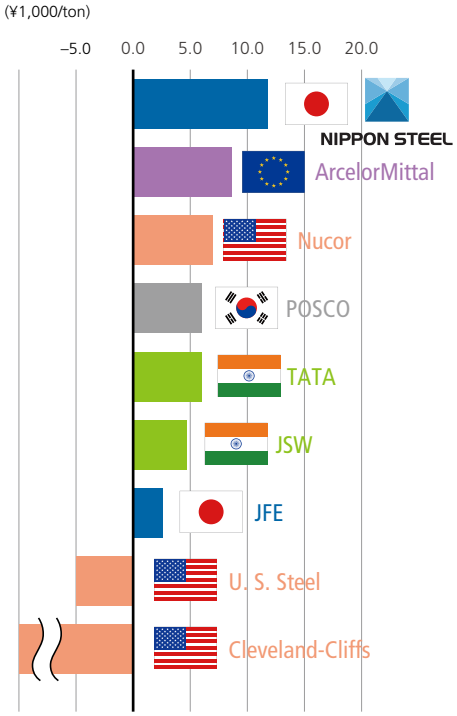
Regarding the dividend payment for FY2025, the final fiscal year of the current Medium- to Long-term Management Plan, we plan to deliver a dividend of ¥120/share (the same as what we announced previously, and before the stock split* effective October 1) based on an average payout ratio of 30% over the five years from FY2021 to FY2025, excluding one-off expenses and losses associated with the U. S. Steel transaction.

* Effective October 1, 2025, Nippon Steel will split its stocks (one common stock will be split into five) to create a more accessible investment environment and expand its investor base further.

[Changes in profit per ton of crude steel]



[Profit per ton of crude steel (January-March 2025)]



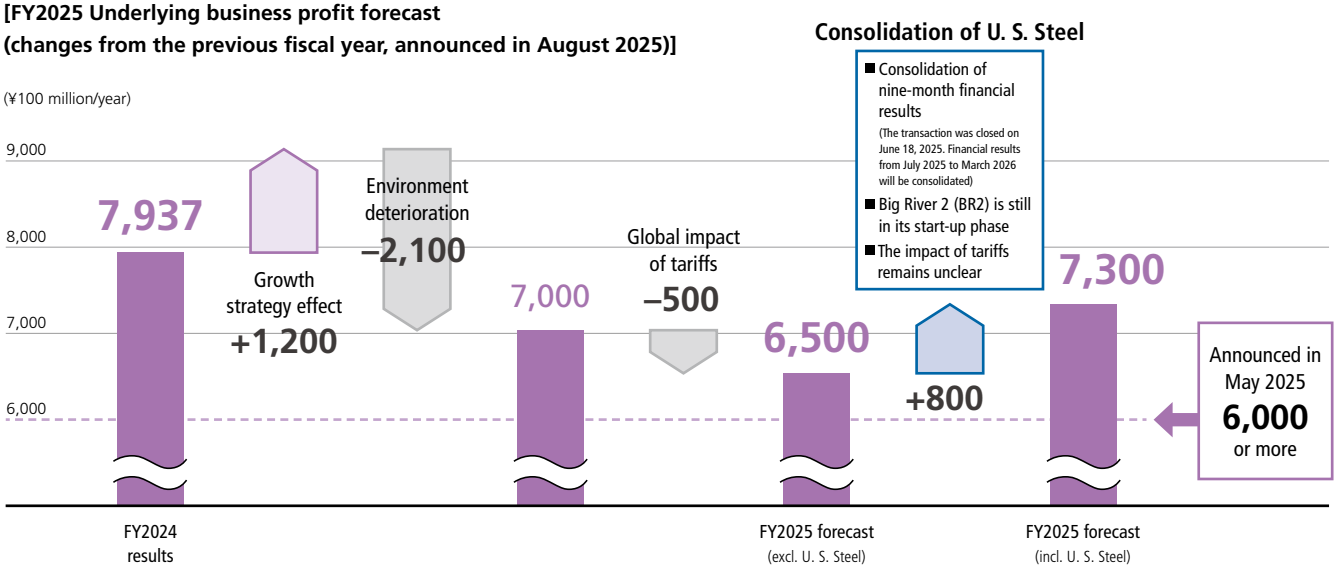
Source: Bloomberg and each company's financial results

[FY2024 results and FY2025 forecast]

	FY2024 Results	FY2025 Forecast	One-off expenses and losses associated with the U. S. Steel transaction	Excl. one-off items	FY2025 forecast vs. FY2024 results	FY2025 forecast (excl. one-off items) vs. FY2024 results
Sales revenue (100 million yen)	86,955	100,000	—	100,000	+13,045	+13,045
Excluding U. S. Steel	**7,937**	**6,500**	—	**6,500**	**-1,437**	**-1,437**
U. S. Steel	**0**	**800**	—	**800**	**+800**	**+800**
Underlying business profit excl. inventory valuation	**7,937**	**7,300**	—	**7,300**	**-637**	**-637**
Inventory valuation differences, etc.	(1,105)	(2,500)	(250)	(2,250)	-1,395	-1,145
Consolidated business profit ROS	**6,832 7.9%**	**4,800 4.8%**	(250) —	5,050 —	-2,032 -3.1%	-1,782 -3.1%
Specific disclosure items	(1,352)	(2,400)	(2,300)	(100)	-952	+1,252
Net profit*1	**3,502**	**(400)**	(2,600)	2,200	-3,902	-1,302
EPS (yen/share)*2	350	-38	-248	210	-388	-140
ROE (%)	6.9%					
Non-consolidated crude steel production (10,000 tons)	3,425	3,450			+25	+25
Non-consolidated steel product shipment volume (10,000 tons)	3,162	3,150			-12	-12
Exchange rate (¥/$)	153	145			-8	-8

*1 Net profit attributable to owners of the parent *2 Net profit per share before stock splitting

[FY2025 Underlying business profit forecast (changes from the previous fiscal year, announced in August 2025)]



Formulation of the next Medium- to Long-term Management Plan is currently underway

Toward further growth in the future, Nippon Steel is developing the next Medium- to Long-term Management Plan to achieve the early realization of the "100 Million Tons, 1 Trillion Yen Vision" as soon as possible. We plan to announce the next Medium- to Long-term Management Plan by the end of 2025, but we will begin implementing each measure as soon as it is finalized.

In Japan, we will strengthen our efforts to capture domestic demand by drastically enhancing our competitiveness, including the development and implementation of innovative technologies focusing on carbon neutrality and the creation of synergy through the reorganization of Group companies. Overseas, we will accelerate business expansion in markets with assured steel demand growth that are less susceptible to China's excessive exports, such as India and the U.S.

Looking ahead, we will achieve sustainable growth and enhance corporate value under any circumstances by consistently implementing growth strategies for future opportunities.

6 Sustainability

73 Materiality of Sustainability Issues
79 Environment
105 Safety
107 Disaster prevention
108 Quality Management
109 Production and Supply Chain Management
111 Human capital
119 Coexistence with Communities

The following are the points we would like you to understand in this section

Nippon Steel recognizes that sustainability initiatives are one of the most important issues and form the base that supports the very existence and growth of the Company. Considering our shareholders' expectations and our Corporate Philosophy, Values, and growth strategies, we have identified the initiatives that should be focused on as materiality of sustainability issues (priority issues) to set targets and KPIs.

[Identified materiality (priority issues)]

1. Safety, environment, and disaster prevention
2. Quality
3. Research and development and intellectual property
4. Production
5. Human resources
6. Coexistence with Communities
7. Corporate value enhancement and profit distribution

Thorough implementation of compliance

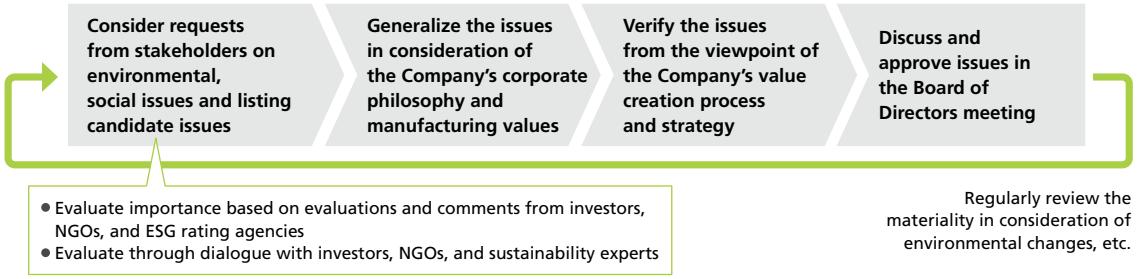
Materiality of Sustainability Issues

Identification of 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).

[Process to identify materiality]



Nippon Steel's Materiality

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 with rules and regulations.

The "world-leading technologies and manufacturing capabilities" are realized by our human capital. To enhance on-site capabilities and technological advancement, thereby strengthening our manufacturing capabilities, securing and fostering outstanding personnel is a critical priority. We firmly believe that development of human resources and diversity & inclusion, as well as respect for human rights, are the basics for our employees to work vigorously.

With regard to the relationship with society, we must maintain a 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 have pledged to operate in an environmentally friendly manner and maintain good communication with local communities, as a corporate citizen.

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

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

In addition, having positioned environmental matters as priority issues that underlie our corporate management, we have pledged to contribute to the creation of a society oriented toward environmental conservation and with low environmental burden. We have also been engaged in building 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 the climate change problems that affect the survival of humanity, we are making efforts aimed at carbon neutrality by 2050 from two aspects: Provision of high-performance steel products and solutions to reduce CO_2 emission of society as a whole, and breakthrough technology development to decarbonize steelmaking processes.

Corporate value enhancement and profit distribution

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

Thorough implementation of compliance

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

Materiality, KPIs and major initiatives in FY2024

1 Safety, environment, and disaster prevention

Materiality		Target and KPI	Main Initiatives and Achievements in FY2024 (including some results in 2024)	
1 Safety and health P.105		• Lost time injury frequency rate: **0.10** or less • Zero fatalities	• Fostered a shared crisis awareness and maintained vigilance to build a disciplined workplace • Prevented accidents caused by rule violations and inadequate TBMs and developed personnel responsible for safety and health activities • Continued equipment measures based on risk assessment. • Established a safety and health management system, operated meetings with an emphasis on discussion and dialogue, and promoted the establishment and advancement of safety management through "selection and concentration"	• Lost time injury frequency rate: **0.18** • Fatal accidents: **2** (2024)
2 Environment	1) Promotion of climate change measures	[Carbon Neutral Vision 2050 Promotion of CO_2 reduction in total] P.36 • Target in 2030 **30**% reduction in CO_2 emissions (compared to 2013) • Vision for 2050 **Carbon neutral**	• [High-grade steel production in large size EAF] Decided conversion from blast furnace process to EAF process at the Yawata Area of the Kyushu Works, and investment in EAFs at the Hirohata Area of the Setouchi Works and the Yamaguchi Works (Shunan). • [Hydrogen direct reduction of iron (DRI)] [High-grade steel production in large size EAFs] In HyDreams™, integrated development base for large size EAF and DRI production at Hasaki R&D Center, completed the installation and initiation of trial operations of a test electric furnace and promoting the construction of test shaft furnace. • [Hydrogen injection into BF] Confirmed the world's highest level of **43**% CO_2 emissions reduction in the Super COURSE50 test furnace. • [CCUS] Participated in a survey and study of basic design of three advanced CCS projects for Japan Organization for Metals and Energy Security (JOGMEC). • NSCarbolex Neutral Inquiries and adoption expanded in various areas including the private sector (domestic/overseas construction, manufacturing) and the public sector (public civil engineering, etc.)	P.38-43
		[Implementation of "Eco Process"] P.96 • Maintained high-level effective use of energy	• Effective use of by-product gas (coke oven gas, blast furnace gas, etc.) and waste heat	• Utilization ratio of byproduct gas: **100**% • Use of waste heat in steam generation: **74**% • Rate of use of in-house generated energy in power generation: **68**%
		• Promoted adoption of advanced energy-saving technology	• Adopted high-efficiency power generation equipment and oxygen plant: regeneration burner in reheating furnace	• Investment cost for energy-saving: ¥**6.9** bn
		[Enhancement of Eco Products™] P.49, P156 • Contributed to emission reductions when using end products through the supply of high-performance steel products.	• Expanded the supply of NSCarbolex Solution applicable products/technology • Expanded the acquisition of the SuMPO EPD (former Eco-Leaf) environmental label	• Acquired over 80 labels that cover almost all the products
		[Contribute with Eco Solutions] P.89 • Transfer and dissemination of the world-leading energy-saving technology to help CO_2 emissions reduction globally	• Growing cumulative CDQ delivery record by Nippon Steel Engineering in the Group	• **147** CDQ cumulative units (FY2023) (contributing to **31.38** mn t-CO_2 reduction)

Materiality, KPIs and major initiatives in FY2024

Safety, environment, and disaster prevention

Materiality		Target and KPI	Main Initiatives and Achievements in FY2024 (including some results in 2024)	
2 Environment	2) Contribution to creation of a circular economy	[Promote internal zero emissions] P.94 • Reduction in final disposal amount **263,000** tons (FY2025 target)	• Promotion of recycling of by-products (slag, dust, sludge, etc.) in and out of the Company	• Final waste disposal: **257,000** tons
		[Realization of recycling of waste generated in society] P.95 • Establishment of a waste plastics recycling system to expand its collection volume	• Aggressive promotion of recycling treatment, according to the Chemical Recycling Act	• Amount of plastic waste from packaging/ container disposed: **140,000** tons
	3) Biodiversity Conservation and Nature Positive P.98	[Contribution to the conservation of biodiversity and nature positive]	• Continued consideration of obtaining certification for nature symbiosis sites • Promoted activities of the Creation of Hometown Forests at steelworks • Promoted activities of the Creation of Sea Forests	• Application in progress for H1 2025 • Greenery space: **849** ha • Creation of Sea Forests at **70** spots in total
	4) Promotion of environmental risk management P.82	[Protection of the air environment] • Maintaining low-level emissions of NOx and SOx	• Installment of equipment that reduces SOx and NOx emissions; shifting to low-sulfur fuel; adoption of low NOx regenerating burners	• SOx: **11** mn Nm³ • NOx: **22** mn Nm³
		• Maintaining of lower discharge levels than voluntary targets in chemical substances • Emission of VOC (Volatile Organic Compounds): **1,106** tons/year (down 30% vs. FY2000) • Benzene: **172** tons/year (voluntary target, along with the government target)	• Continuing efforts based on the voluntary reduction plan	• VOC: **521** tons/year • Benzene: **73** tons/year
		[Water environment preservation] • Recycling of water; high-level stable use of recycled water	• Water treatment, recycling and reuse of freshwater used by the Company	• Use of recycled water: app. **90**%
3 Disaster prevention P.107		[Reducing disaster risks to zero, and group-wide sharing of effective measures] • Serious disaster-related accidents: **0**	• Promoted activities to prevent recurrence and prevention of disaster-related accidents based on risk assessment • Promoted initial response training aimed at minimizing damage when a risk occurs • Implemented various monitoring (audits) as a survey of disaster prevention activities Evaluation of disaster prevention activities through third-party monitoring, hearings from head office management, and self-monitoring by steelworks disaster prevention managers	• Serious disaster-related accidents: **0** (2024)

Materiality, KPIs and major initiatives in FY2024

2 Quality

Materiality	Target and KPI	Main Initiatives and Achievements in FY2024
1 **Quality control and guarantee** P.108	• Systemization and automation aimed at more credibility in testing and inspection	• To reduce risks caused by human intervention in shipment decision items, promoting system-based automation including automatic data input and pass/fail judgments within the system • Advancing the development and introduction of AI recognition models for automatic judgment of metallographic structure and reading of marks on products

3 Research and development and intellectual property

Materiality	Target and KPI	Main Initiatives and Achievements in FY2024	
1 **Research and development and intellectual property investment/utilization** P.50	• Promotion of strategic research and development aimed at sustainable business growth	• Actively promoted research and development related to priority issues such as product sophistication, process efficiency improvement, and the development of carbon-neutral-oriented innovative processes	• R&D expenses: ¥**80.7** bn (consolidated)
	• Respect and strategic protection of intellectual property and enhancement of its utilization	• Promoted strategic use of intellectual property by strengthening patent applications related to priority issues, response to infringement of patent rights, technical tie-ups, and other means	• The number of patents held: app. **35,000** (16,000 in Japan and 19,000 overseas)
2 **Solutions that result in customer satisfaction** Data Book P.51	• Enhancing recognition from customers, government, and institutions	• Recipient of the 2025 (60th) Japan Society for Technology of Plasticity Award "JSTP Medal," the 2025 Commendation for Science and Technology by the Minister of MEXT (Development Category), and the 2025 Stainless Steel Industry Award, Gold Prize in the Sustainability Category and Silver Prize in the Marketing Development Category, among others	• Number of awards from customers, government, and institutions: **9**

4 Production

Materiality	Target and KPI	Main Initiatives and Achievements in FY2024
1 **Stable production and supply** P.109	• Initiatives for more stable production and supply (hardware and software)	• Enhancement of the stable supply system by promoting measures to expand the electrical steel sheet capacity and improve quality in Setouchi Works Hirohata Area and Kyushu Works Yawata Area • Standardization of veterans' operational skills and extended use of experts • Use of IoT and AI for operational support, improved efficiency of facility inspection and operation monitoring, and reinforcement of predictive monitoring

Materiality, KPIs and major initiatives in FY2024

5 Human resources

Materiality	Target and KPI	Main Initiatives and Achievements in FY2024	
1 **HR securing** P.112	• Secured talent to realize the management strategy	• Recruitment initiatives: new graduates, postdoctoral researchers, and experienced professionals, including alumni hiring • PR initiatives to enhance corporate recognition • Initiatives to raise retention rate	• Turnover rate: **1.6**%
2 **Human capital development** P.112	• Promotion of measures to develop human resources facilitating enhancement of on-site capabilities and technological advancement	• Promoted various measures to maximize human resources to enhance their productivity and technological advancement	• Hours of training and education: **940,000** hours/year (33 hours/person, year)
3 **Diversity & inclusion** P.114	• 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 • Achieving a **100**% combined utilization rate of childcare leave and childcare-related leave for male employees • The ratio of paid holidays taken: **75**% or higher • Wellness management aimed at maximizing people's ability up to the age of 65, and support to enhance mental and physical health	• Continued to actively recruit women, implement measures to improve the retention rate, support career development and work-life balance, and provide education for supervisors • Continued to expand the system and improve the environment to realize flexible work styles and holidays • Continued various initiatives to promote mental and physical health	• Number of women in managerial positions: **91** (as of April 2025) • Male childcare leave utilization rate: **77**% (Combined utilization rate of male childcare leave and childcare-related leave: 100%) • Ratio of paid holidays taken: **80.0**%
4 **Respect for human rights** P.117	• Establishment of mechanisms of human rights due diligence and implementation of it to identify and prevent or mitigate negative impact on human rights • Appropriate response for corrective actions or remedies, if it becomes clear that our business activities have caused or contributed to a negative impact on human rights	• Established the Nippon Steel Group Human Rights Policy on April 1, 2024 • Conducted human rights due diligence for suppliers in a specific sector (mining) in FY2024 • Established an inquiry form regarding correction or remedy • Conduct business activities ethically while fully respecting human rights	

6 Coexistence with Communities

Materiality	Target and KPI	Main Initiatives and Achievements in FY2024	
1 **Environmental preservation/ creation activities in communities** P.99	• Development of green space to contribute to the local environment	• Funding for green space development and maintenance	• Expenses for green space development and maintenance: ¥**1.4** bn
2 **Activities mainly in the support of education, sports, and arts** P.119	• Ongoing promotion of hosting plant visits	• Proactively accepting plant visits by shareholders, investors, and junior high/elementary school students	• Number of plant visitors: app. **90,000**
	• Continual support of corporate patronage of music via Nippon Steel Arts Foundation	• Support of music culture via presentation of Nippon Steel Music Awards and operation of the Kioi Hall	

Materiality, KPIs and major initiatives in FY2024

7 Corporate value enhancement and profit distribution

Materiality	Target and KPI	Main Initiatives and Achievements in FY2024	
1 **Securing of profit and enhancement of corporate value**	• ROS of **10**% (FY2025 medium- to long-term management plan target) • ROE of **10**% (FY2025 medium- to long-term management plan target)		• ROS: **7.9**% • ROE: **6.9**%
2 **Profit distribution**	**1) Payment of wages to employees** • Amount of bonus payment • Revised amount of salary		• Base amount of bonus: ¥**2.15** mn (FY2025) • Revised amount of salary: **+**¥**12,000** (FY2025)
	2) Fair tax payment • Tax payment (consol.)		• Tax payment (consol.): ¥**180.9** bn
	3) Dividend payment to shareholders • Dividend per share * Target consolidated payout ratio: around 30% (FY2025 management plan)		• Dividend per share: ¥**160** (FY2024)

Thorough implementation of compliance

Adhering to laws and regulations as a base of all activities	

Environment

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

Basic Environmental Policy

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

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

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

2 Offering of environment-oriented products (Eco Product™)

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

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

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

4 Development of innovative technologies

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

5 Development of a rich natural environment

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

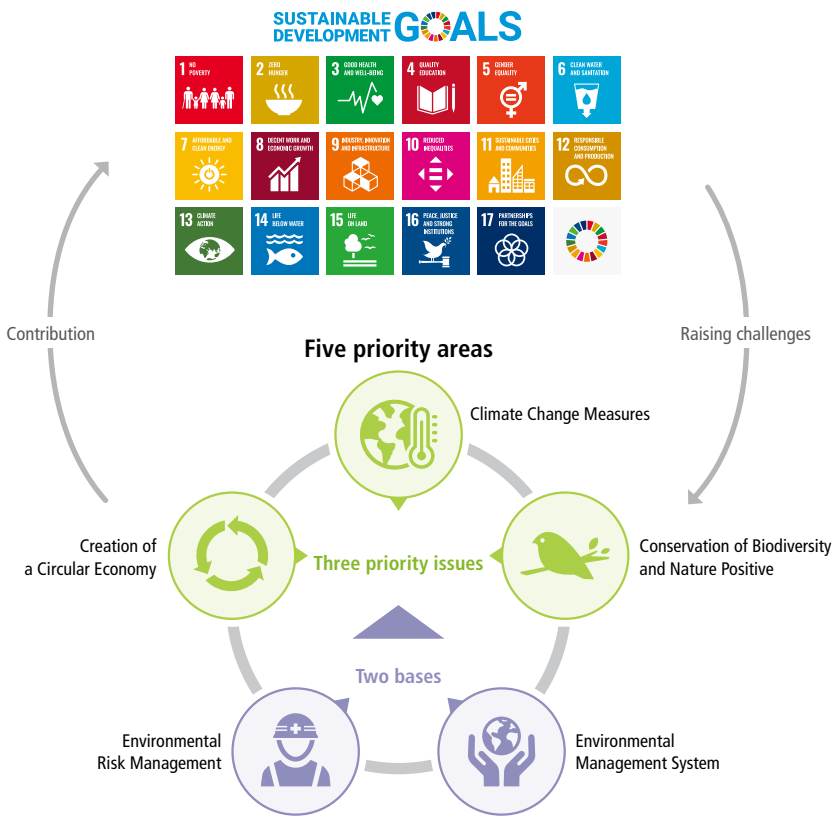
6 Promotion of environmental relations activities

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

Initiatives for priority areas

In line with its Basic Environmental Policy, Nippon Steel aims to realize a sustainable society by identifying five priority areas: three key issues—"Climate Change Measures," "Creation of a Circular Economy," and "Conservation of Biodiversity and Nature Positive"—along with two foundational areas to promote these three issues—"Environmental Risk Management" and the "Environmental Management System." We are steadily advancing initiatives in each of these areas.

Sustainable Development Goals (SDGs)



Environment Management and Governance System

We have established a comprehensive management and governance system to appropriately address key environmental issues, including climate change, creation of a circular economy, and biodiversity conservation and nature positive, as well as group-wide environmental risk management and the promotion of carbon neutrality initiatives.

Development of Environmental Management and Governance System

Nippon Steel has two committees to respond to environmental issues including climate change: the Environment & Plant Safety Committee and the Green Transformation Development Committee.

The climate change and other environmental issues discussed in these committees are reported to and deliberated at the Corporate Policy Committee. The Board of Directors oversees the risk management by being regularly reported about important management risks which were initially reported and discussed at the Corporate Policy Committee. Environmental issues, including climate issues, are addressed at least four times a year. In this way, environmental management including climate change are integrated into our overall governance.

Environment & Plant Safety Committee

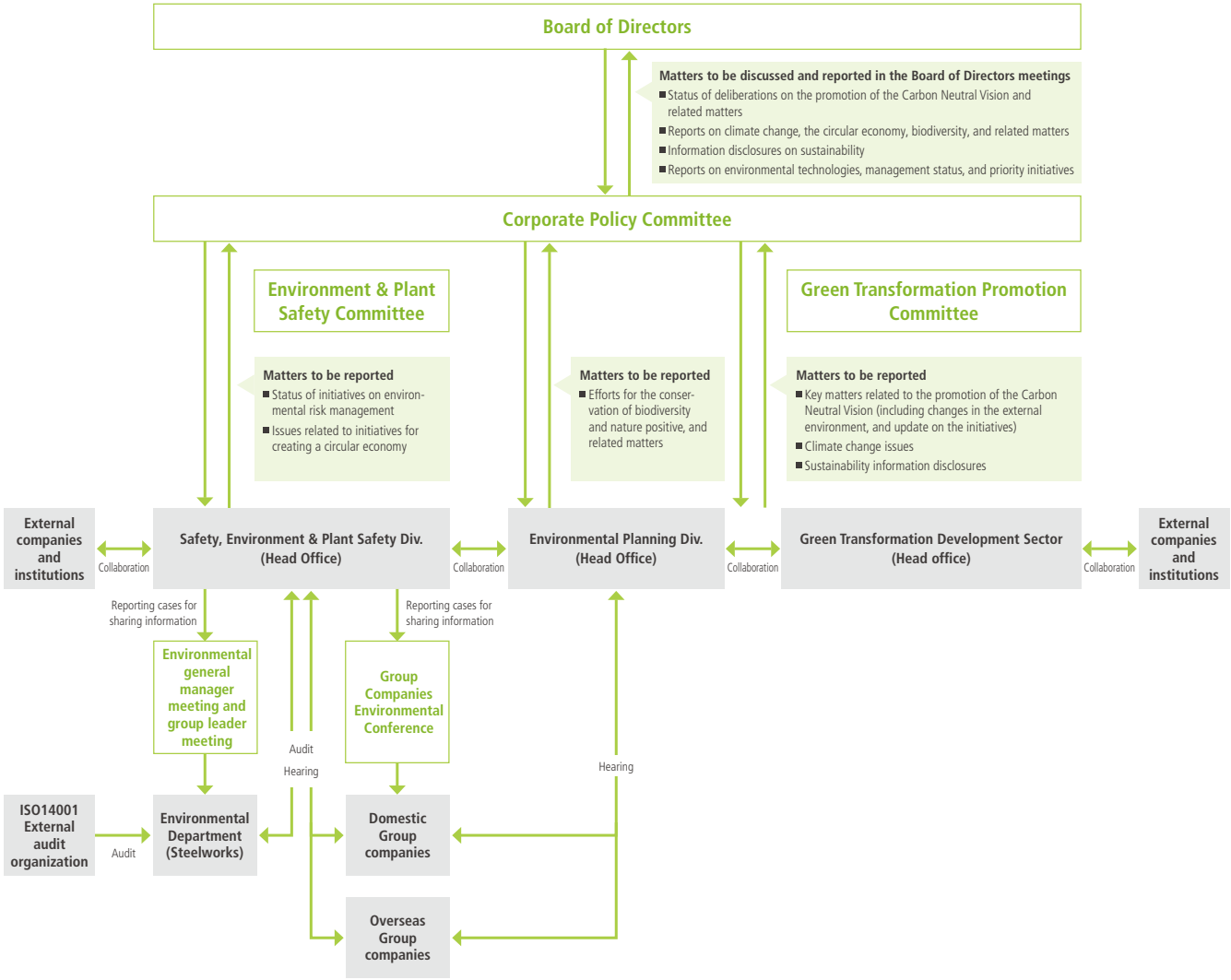
To manage environmental risks related to air, water, waste etc., as well as responses to the creation of a circular economy, the Environment & Plant Safety Committee is chaired by the Representative Director and Executive Vice President responsible for environment and plant safety, with other executive officers serving as members. The committee is held on a semiannual basis.

In addition to the Committee, risk reduction is further promoted through regular meetings by environmental directors and managers from all steelworks, as well as through specialized meetings led by experts in each field.

Green Transformation Promotion Committee

The Green Transformation Promotion Committee, co-chaired by the Representative Director and Executive Vice President responsible for GX (policy issues) and the Representative Director and Executive Vice President responsible for GX (technical issues), addresses efforts such as promoting our Carbon Neutral Vision, responding to external developments related to climate change issues, and advancing sustainability information disclosure. Other Representative Directors and Executive Vice Presidents, Directors, and Executive Officers serve as members, and the committee is convened as necessary.

[Management and Governance System]



Work at maintaining and improving the level of environmental management

We have established environmental management systems at all domestic steelworks in accordance with ISO 14001, headed by the manager responsible of each site, and undergo regular audits by ISO certification agency.

Internal audits and management reviews by the General Manager are conducted annually. Furthermore, the Safety, Environment & Plant Safety Div. (Head Office) audits each steelworks and plant, including cross-checks conducted by environmental personnel from other steelworks.

For group companies, including overseas operations (62 companies subject to environmental oversight), the Safety, Environment & Plant Safety Div. (Head Office) engages in direct hearings to promote improvements in management practices.

Internal audit (hearings)

Internal audit (on-site patrol)

Group-wide Environmental Risk Management

In addressing environmental risks, we have positioned the theme of our group-wide initiatives as "Promoting a back-to-basics approach to strengthen group-wide environmental management." Based on annual plans approved by the Corporate Policy Committee and the Board of Directors, we oversee the execution of initiatives addressing issues, including "environmental risks related to air and water," "enhancing management practices through audits and hearings," and "strengthening environmental management capabilities and fostering human resource development."

Among the Group companies in Japan, Nippon Steel has identified 42 companies (as of April 2025) as those with significant environmental burden and holds environmental liaison meetings for them semiannually.

In addition, we utilize the internal portal site to share information on the latest trends in environmental regulations, case studies of environmental initiatives, and lessons learned from incidents with domestic and overseas group companies, thereby advancing the reduction of environmental risks.

Costs associated with environmental conservation (Environmental accounting)

We have adopted environmental accounting as a guideline for corporate activities to grasp the costs associated with environmental conservation.

However, calculating the monetary value produced by environmental conservation effects is difficult because the calculation requires numerous assumptions. For this reason, we evaluate them in terms of environmental conservation performance and report the results in this document and on our website.

[Environmental conservation costs]

(¥bn)

Item		FY2024 performance	
		Capex	Total expenses
Pollution Prevention Costs	Air pollution control (including measures against dust), etc.	7.0	34.2
	Water pollution prevention	9.6	11.2
	Soil pollution prevention, and noise and vibration control	1.7	0.6
Global Warming Prevention Costs	Energy saving measures	1.9	5.0
Costs of Recycling Resources	Recycling of resources and generated materials	—	50.6
	Industrial waste treatment (including PCB, coal ash, etc.)	—	16.3
	Business-related general waste treatment, etc.	—	0.5
Environmental Management Activities Cost	Construction of EMS and acquisition of ISO14001 certification	—	0.02
	Monitoring and measurement of environmental burdens	—	1.2
	Personnel expenditures related to environmental measures, etc.	—	3.0
Research and Development Costs	Development of Eco Products	—	7.4
	Development of products which have low environmental burden during manufacture, etc.	—	19.2
Social Activity Costs	Beautification and greening of offices	—	1.4
	Supporting environmental organizations, etc.	—	0.1
Other Environmental Costs	Environmental fines, etc.	—	3.5
Total		20.2	154.3

Environmental Risk Management

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

Protect the air environment

Air pollution control

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

Emissions of SOx (sulfur oxides) in FY2024
11 (10^6 Nm^3/year)

Emissions of NOx (nitrogen oxides) in FY2024
22 (10^6 Nm^3/year)

Click here for historical data on SOx and NOx emissions
Data Book P.25

Prevention of scattering of raw materials and dust

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

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

Windbreak net at yards

A windbreak net is installed to reduce the strength of wind and restrain the scattering of raw materials.

Electric dust collectors

Dust collectors with bag filters

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

Wet-type desulfurization equipment

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

Active coke dry-type desulfurization equipment

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

Low NOx regenerative burners

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

Spraying of water and chemical in coal yards

Water and chemical are sprayed on piles of iron ore and coal to restrain the scattering of raw materials.

Sprinkler trucks

Road cleaning trucks

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

Click here for details https://www.nipponsteel.com/en/sustainability/env/env_risk/air.html

Protect the water environment

Control of water intake and reduce water discharge in works

In addition to reducing water consumption in our business activities, we seek to make effective use of water resources and control wastewater by installing facilities such as water purification and cooling systems, while maintaining and improving their performance. As a result, approximately 90% of the industrial water used in all our steelworks is reused through recycling.

Although none of our domestic operational sites are classified as "high risk" under the WRI Aqueduct water stress assessment, some steelworks are equipped with dedicated reservoirs to prepare for potential water intake restrictions. When necessary, these reservoirs are also used to provide supplemental water for agricultural purposes, thereby helping to alleviate regional concerns about water.

Nippon Steel's industrial water usage
(excluding power generation facilities) in FY2024
Recycled water: **5.3** billion tons/year) /
Water intake (excluding seawater): **0.6** billion tons/year

Click here for historical data on water usage and intake by source
Data Book P.24

Addressing water quality risks

To comply with the Water Pollution Prevention Act and to preserve the quality of the marine and other receiving environments, we conduct monitoring and control of wastewater quality. In addition, to prevent abnormal wastewater from being released outside our steelworks in the event of operational problems, we have installed automatic wastewater monitoring systems, containment dikes, shut-off gates, and emergency storage tanks. Furthermore, to address localized heavy rainfall, we have implemented a variety of flood control and leakage prevention measures, including large-scale storage tanks, embankments, and water barriers and impermeable sheets.

We also actively pursue "unmaterial" measures to maintain the effectiveness of these facilities, such as inspections and repairs, the development of standard operating procedures for handling abnormal wastewater, and training to verify functionality and reinforce operational procedures.

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

Measures for water purification

Water discharge coagulating sedimentation treatment equipment

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

Pressurized flotation system

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

Activated sludge treatment equipment

Organic matter is decomposed and eliminated by bacteria.

Filtration equipment (secondary treatment)

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

Rainwater effluent treatment facility

Undissolved residue from rainwater is coagulated and settled, and eliminated.

Measures for prevention of abnormal water discharge

Water discharge automatic monitoring equipment

The water quality of water discharge is automatically monitored.

Water discharge closing gate

Water discharge flow is shut in case of trouble.

Repair of the damaged area of embankment

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

Checking of embankments

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

Click here for details https://www.nipponsteel.com/en/sustainability/env/env_risk/water.html

Management of discharged chemical substances

Nippon Steel appropriately manages and tries to improve the production, handling, and discharge or disposal of chemical substances in accordance with PRTR Law*1, CSCL*2, and other laws concerning the management of chemical substances as well as the procedures employed.

According to PRTR Law, we thoroughly manage the material balance of subject chemical substances, which includes the amount handled, the amount discharged into the environment, the amount disposed, and the amount used as products. In complying with CSCL, we identify and provide notification of the amounts of production and sales of the targeted chemical substances.

Nippon Steel also takes the lead in promoting use of alternatives to using steelmaking materials and equipment that contain hazardous materials such as polychlorinated biphenyl (PCB) and mercury. According to safe handling standards, we systematically replace or dispose of possibly hazardous parts and materials, given the time limit for disposal or the expiration date, stipulated for each area.

Management of discharge based on PRTR Law

In 1999, two years before the enforcement of PRTR Law, Nippon Steel began surveying chemical substances according to the voluntary control manual developed by the Japan Iron and Steel Federation (JISF). At present, in accordance with PRTR Law, we monitor the 515 chemical substances, which have revised by the law, and try to control their discharges and improve the way we manage it. We properly submitted reports in fiscal 2024 in accordance with the revised PRTR Law that came into effect on April 1, 2023.

Reports in accordance with PRTR Law (FY2024)

Reported substances: **59**

Emissions/discharges: **323** t/year (air),
22 t/year (public water bodies)

Waste transferred off-site: total **19,953** t/year*

* The majority consists of metals such as manganese and chromium, as well as silicon carbide used in bricks and grinding wheels.

Click here for historical data on emissions/discharges by steelworks
Data Book P.25

We also manage and reduce volatile organic compounds (VOCs*3), which are considered the cause of photochemical oxidants and airborne particles. We achieved our target of a 30% reduction compared to FY2000 levels in FY2009 and have since maintained emissions at a low level.

Emissions of VOC (volatile organic compound) in FY2024

521 t/year	Target	1,106 t/year or below

Click here for historical data on VOC emissions.
Data Book P.25

Voluntary emissions management

Dioxin

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

Benzene, tetrachloroethylene, dichloromethane

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

Benzene emissions in FY2024

73 t/year	Target	172 t/year or below

Click here for historical data on benzene emissions
Data Book P.25

*1 PRTR Law: An abbreviation of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register)
*2 CSCL: An abbreviation of the Act on the Regulation of Manufacture and Evaluation of Chemical Substances (Chemical Substances Control Law)
*3 VOC: Volatile organic compounds (VOC): Organic chemical compounds emitted into the atmosphere in the form of gases, which are considered to be the source of undesirable airborne particles and photochemical oxidants, which became subject to control under the Air Pollution Control Act of 2004, as amended.

Appropriate treatment of industrial waste

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

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

Soil risk management

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

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

Response to Climate Change —TCFD information disclosure

The Nippon Steel Group recognizes that climate change is an important issue that affects the survival of humankind, and that it may have a serious impact on the business environment and business performance. In order to conduct business in a sustained manner, we are working to reduce the impact of climate change through initiatives to reduce CO_2 emissions throughout the supply chain.

Information disclosure according to recommendations of the TCFD

Given the international community's commitment to achieve the long-term goals of the Paris Agreement, Nippon Steel recognizes climate change as one of the most critical global challenges. We support the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and, in line with these recommendations, are advancing the disclosure of information on the impacts of climate change on our business activities.

	TCFD's recommendations and supporting recommended disclosures	Reference page
Governance	Disclose the organization's governance related to climate-related risks and opportunities.	P.85
Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	P.91-92
Risk Management	Disclose how the organization identifies, assesses, and manages climate-related risks.	P.85
Metrics and Targets	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	P.86-87

Governance concerning climate change

Nippon Steel recognizes climate change as one of its important managerial issues. As this issue may have a significant impact on our business environment and management, we have established the Green Transformation Promotion Committee, the level of which is equivalent to the Board of Directors. The Committee sets strategies, risk management policies, annual budgets, business plans, and performance targets related to climate-related issues, as well as deliberating and supervising the progress of them.

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

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

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

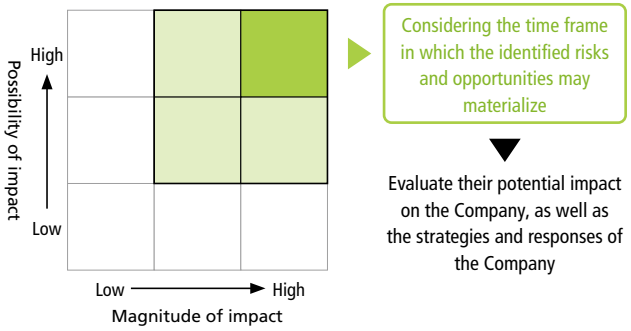
Management of climate-related risks

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

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

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

[Identification and analysis of significant climate-related risks and opportunities]



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

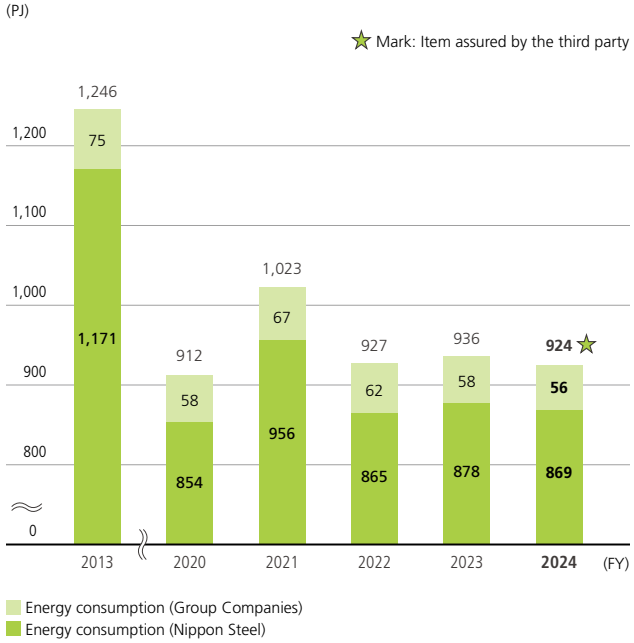
Nippon Steel has been working on energy conservation from diverse points: efficient using of energy generated in the steelmaking process (i.e., power generation from recovered by-product gas and waste heat); making operational improvements in each process; renovating older coke ovens and other equipment; introducing high-efficiency power generation facilities and oxygen plants; and employing reheating furnaces with the regenerative system.

In FY2024, despite a slight decline in production, we advanced energy-saving measures, resulting in a modest reduction in both energy consumption and energy-derived CO_2 emissions.

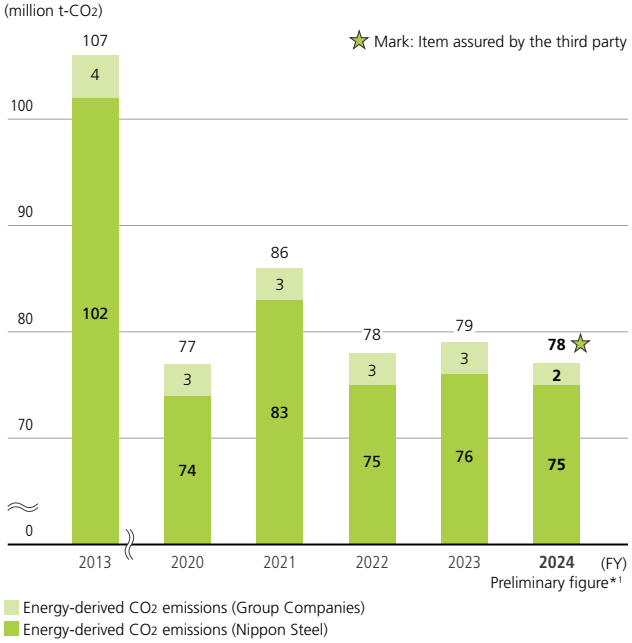
Our energy-derived CO_2 emissions accounted for 95% of our GHG emissions.

Breakdown of the Company's GHG Emissions
Data Book P.22

[Energy consumption]



[Energy-derived CO_2 emissions]



The Group's CO_2 emissions reduction target

Nippon Steel has set its CO_2 emission reduction targets under the "Nippon Steel Carbon Neutral Vision 2050," aiming to reduce total CO_2 emissions by 30% from 2013 levels by 2030 and achieve carbon neutrality by 2050.

We have also established, as the Nippon Steel Group, medium- to long-term CO_2 reduction targets to address climate change at major steelmaking bases in Japan and overseas, where emissions are particularly high.

Furthermore, we will take timely and flexible measures to climate change while expanding our business both domestically and overseas, in light of, among others, international trends in climate change and trends in each country regarding laws, systems, and disclosure standards.

P.49 "CO_2 Emission Targets of Our Group"

[Boundary of data collection]
Nippon Steel*2, *3, EAF subsidiaries (Osaka Steel, Sanyo Special Steel, Nippon Steel Stainless Steel, Oji Steel, Tokai Special Steel, Nippon Steel Structural Shapes Corporation, Tokyo Kohtetsu, Ovako, Sanyo Special Steel Manufacturing India, and Standard Steel), and three Sanso Center companies*4
The data collection period used is each company's accounting period. As Ovako has changed its fiscal year-end, Ovako's fiscal 2021 results cover a period from January 1, 2021 to March 31, 2022 (15 months).

[Calculation method]
Calculation for the Company and its domestic subsidiaries is based on the methodology of the Carbon Neutrality Action Plan.
Overseas subsidiaries follow local regulations or guidelines for calculation.

[Conversion factor]
The Company and its domestic subsidiaries use the "Table of heat generation and carbon emission coefficient by energy source" (revised March 14, 2025) of the Agency for Natural Resources and Energy, METI.
Overseas subsidiaries use relevant emission factors according to local regulations or guidelines.

*1 Preliminary figure: The amount of CO_2 per unit of purchased electricity from each of the general power companies in Japan in fiscal 2024 is assumed to be the same amount as in fiscal 2023.
*2 Excluding energy consumption and CO_2 emissions associated with the IPP operation by the steelworks.
*3 The amounts of energy consumption required for and CO_2 emissions from production of coke purchased by Nippon Steel are included in the aggregate.
*4 Concerning the three Sanso Center companies, the amounts of energy used and CO_2 emitted for production of oxygen purchased by Nippon Steel Group are included in the aggregate.

CO_2 emissions in the value chain

CO_2 emissions 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 "Green Value Chain Platform of the Ministry of the Environment" and other methods are as follows.

Scope1, 2

★ Marks: Items assured by the third party

(FY)	CO_2 emissions (thousand t-CO_2) 2013	2020	2021	2022	2023	2024	Calculation method
Scope1 Direct emissions from owned sources associated with use of fuel	89,578	63,170*3	71,311*3	63,403*3	64,020*3	**63,672*1** ★	Based on "Carbon Neutrality Action Plan." See the boundary of data collection stated on the right.
Scope2 Indirect emissions from the generation of purchased energy	13,825	11,035	12,458*3	11,912*3	12,425*3	**11,423*1** ★	
Scope1+2	103,403	74,205*3	83,768*3	75,315*3	76,445*3	**75,095*1** ★	
(CO_2 emissions per ton of crude steel: t-CO_2/t)	1.89	1.97	1.88	1.92	1.93	**1.96**	
Crude steel production*4 (consolidated-base, 10,000 tons)	5,474	3,766	4,445	3,913	3,913	**3,864**	

Scope3 All indirect emissions that occur in the value chain of the reporting company

★ Mark: Item assured by the third party

(FY)	CO_2 emissions (thousand t-CO_2) 2022	2023	2024	Calculation method
1 Purchased goods and services	12,939	11,995	**11,413** ★	Calculated using method*5 on the right for purchased iron ore, coking coal, coke, and oxygen
2 Capital goods	1,503	1,571	**2,005**	[Amount of capital expenditures] × [Emission factor]
3 Fuel and energy-related activities not included in Scope 1 or 2	293	257	**285**	[Amount of electric power procured and fuel used] × [Emission factor]
4 Upstream transportation and distribution	638	611	**585**	[Transportation distance reported in the Energy Saving Law document] × [Emission factor]
5 Waste generated in operations	5	5	**4**	[Amount of waste] × [Emission factor]
6 Business travel	4	4	**4**	[Number of employees] × [Emission factor]
7 Employee commuting	13	13	**13**	[Number of employees] × [Emission factor]
15 Investments	1,193	1,124	**1,334**	[Emissions by subsidiaries and affiliates that emit GHG of over 10,000 tons] × [Equity stake of each company]

Scope1, 2

[Boundary of data collection]
Nippon Steel*2 and EAF subsidiaries (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 the general power companies in Japan in fiscal 2024 is assumed to be the same amount as in fiscal 2023.
*2 Excluding CO_2 emissions associated with the IPP operation by the steelworks.
*3 Due to a review of the summary values and changes in coefficients and other factors, the figure for this past year was revised retroactively.
*4 This does not include G/GJ steel.

[Conversion factor]
The Company and its domestic subsidiaries use the "Table of heat generation and carbon emission coefficient by energy source" (revised March 14, 2025) of the Agency for Natural Resources and Energy, METI. Overseas subsidiaries use relevant emission factors according to local regulations or guidelines.

Scope3

[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]

[Source of emission factor]
"Emissions unit value database for accounting of greenhouse gas emissions throughout the supply chain (ver. 3.5)" (March 2025, Ministry of the Environment)
"Table of heat generation and carbon emission coefficient by energy source" (revised March 14, 2025) of METI, Agency for Natural Resources and Energy

[Note on figures covered by third-party assurance]
GHG emissions quantification is subject to uncertainty when measuring activity data, determining emission factors, and considering scientific uncertainty inherent in the Global Warming Potentials.

Efforts to reduce Scope 3 emissions

Dialogues with raw material suppliers

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

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

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

Reduction of CO_2 emissions through logistics optimization

In fiscal 2024, Nippon Steel maintained a high modal shift rate of 98%. We are also working to reduce CO_2 emissions by raising efficiency in logistics including the use of larger vessels and by introducing hybrid cargo vessels equipped with lithium-ion batteries. As of June 2025, the number of our cargo vessels that have been rated the highest in the Coastal Ship Energy Conservation Rating of the Ministry of Land, Infrastructure, Transport and Tourism has reached 26.

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

[Logistics sector's ton-kilometer achievements for FY2024]

(Reference)

	Transportation quantity: 10,000 tons/year		Million ton-kilometers/year		g-CO_2/ ton-kilometer
Ship	1,622	(57%)	10,756	(91%)	39
Railway	6	(0%)	36	(0%)	25
Truck and trailer	1,283	(43%)	1,072	(9%)	211
Total	2,911	(100%)	11,864	(100%)	

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

Efforts to adapt to climate change

In addition to taking actions to mitigate climate change, we are considering the potential impact of climate change to appropriately prepare for risks and capture business opportunities.

Preparation for risks

To prevent the risk of operations and shipments being suspended due to abnormal weather and other reasons, our steelworks are implementing countermeasures against wind and flood damage, including measures to prevent cranes and other heavy machinery from overturning, building levees, and reinforcing embankments and gradients.

Furthermore, to prevent colored water tainted with iron ore powder from flowing directly into the ocean from the steelworks by localized heavy rain, we are strengthening our water pollution prevention facilities, including installing large water storage tanks and increasing wastewater treatment capacity.

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

Capturing business opportunities

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

For example, we have developed and provided for actual use various types of products and product utilization technologies in the civil engineering field. They include hat-type sheet piles (contributing to national resilience in a wide range of ways, including measures against liquefaction of river levees, water leakage, and tsunamis reaching coastal levees), linear-type steel piles (having a high-tensile strength at the joints, being suitable to cell-type quays, erosion-control dams and water shut-off work, and contributing to measures for sand embankments and against landslides at the time of heavy rain or a typhoon), and a method of preventing subsidence by use of sheet piles.

Transfer and diffuse decarbonization technologies overseas

With the understanding that the transfer of Japan's advanced energy-saving technologies to overseas can be effective ways to globally reduce CO_2 emissions, Nippon Steel is participating in many energy-saving and environmental initiatives in Japan and overseas. For example, we work with the World Steel Association and directly with countries such as China and India.

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

As a core member of the Japan Iron and Steel Federation (JISF), Nippon Steel is involved in multinational projects such as those for the Environment Committee of the World Steel Association to expand Japan's advanced environmental protection and energy-saving technologies to overseas.

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

Joint meetings of public and private steel-related parties

In public-private steel-related joint meetings, we share the technologies customized list, the results of assessment of steel mills, and introduce detailed technical information and financing schemes, in order to realize the early transfer of energy-saving technologies to emerging countries. By fiscal 2024, joint meetings have been held 13 times in India and 17 times in six ASEAN countries. In 2024, we held the "FY2024 Public and Private Collaborative Meeting between Indian and Japanese Iron and Steel Industry" with India and co-hosted an AJSI seminar with the Economic Research Institute for ASEAN and East Asia (ERIA). This seminar was held as part of the Southeast Asia Iron and Steel Institute (SEAISI) event, the "2024 ASEAN Iron and Steel Forum: Sustainable Steel and Green Construction," where policies and private-sector initiatives toward carbon neutrality were shared.

The technologies customized list

We identify the appropriate technologies for each country and region, and in addition to detailed technical information, we conduct the assessment of steel mills, and provide the technologies customized list, which complies with information such as on suppliers, for reference. For the ASEAN countries, the technologies customized lists of 4.1 version for blast furnace (BF) steelmaking and 4.0 version for electric arc furnace (EAF) steelmaking have been released before now. In FY2023, for India, the 5.1 version for BF steelmaking and the 5.0 version for EAF steelmaking were released.

The technologies customized list

Assessment of steelworks

Experts from the Japanese steel industry visit the steel mills overseas to propose energy-saving technologies, provide operational improvement advice based on the operational conditions of the facilities, and conduct energy-saving assessments of steel mills using the international standard ISO14404. Up to fiscal 2024, we had carried out the assessment of 14 steel mills in India and 18 mills in six ASEAN countries.

Activities as a Climate Action member

Nippon Steel participates in the Climate Action Program of the World Steel Association, which uses universal methods to calculate and report on the CO_2 emitted by steelworks. As a Climate Action member (data provider), our 18 years of contribution have been highly recognized.

Climate Action DATA PROVIDER certificate

Contribution to reduction of CO_2 emission on a worldwide scale

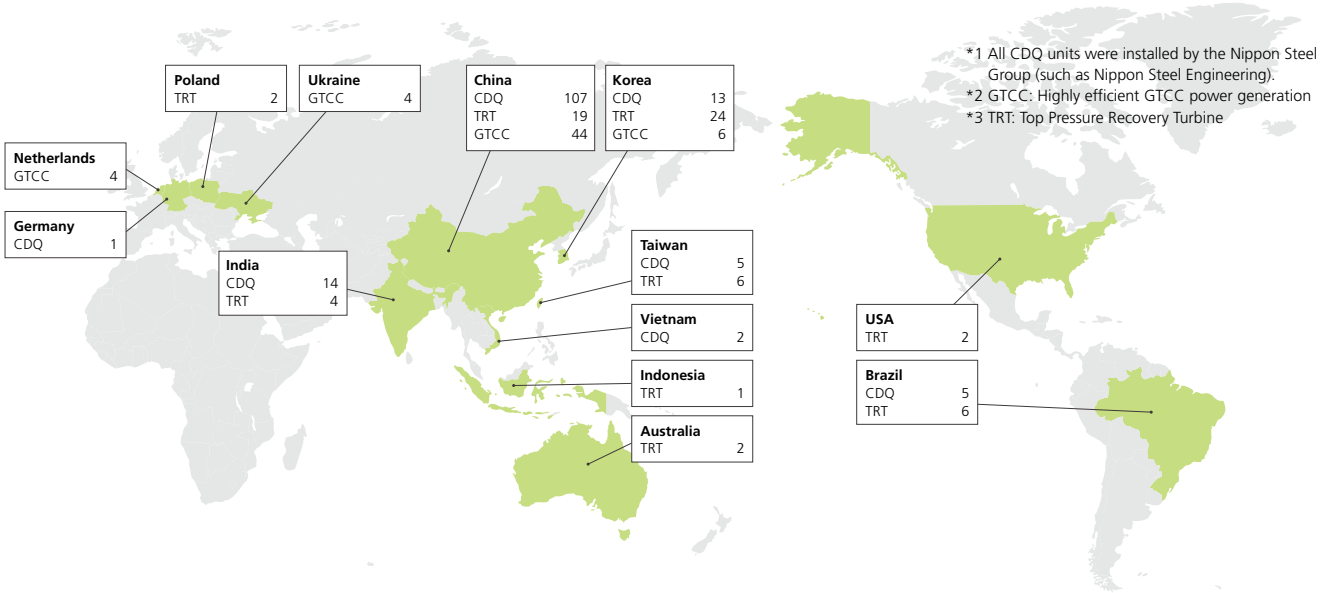
Japan's steel industry can contribute to the reduction of CO_2 emissions on a worldwide scale by transferring its advanced energy-saving technologies to emerging countries. The reduction effects of CO_2 emissions by transfer of Japanese steelmakers' energy-saving technologies to overseas have amounted to 77.67 million tons of reduction in CO_2 emissions per year in total.

(10,000 t-CO_2/year)

	Number of units	CO_2 emissions reduction
CDQ*1	147	3,138
GTCC*2	58	2,545
TRT*3	66	1,195
Oxygen Converter Gas collection	22	821
Sintering waste heat recovery	7	98
Oxygen Converter Gas waste heat collection	8	90
Total	**308**	**7,767**

(FY2023)

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



*1 All CDQ units were installed by the Nippon Steel Group (such as Nippon Steel Engineering).
*2 GTCC: Highly efficient GTCC power generation
*3 TRT: Top Pressure Recovery Turbine

TOPICS

Climate change measures in the resource recycling and biodiversity fields

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 fiscal 2022, we calculated the CO_2 fixation effect in a seaweed bed development project, on which we have been working over the past nearly 20 years, applying for J-Blue Credit™ certification jointly with the Mashike Fishery Cooperative Association (Mashike, Hokkaido). J-Blue Credit™ was certified and issued for 49.5 t-CO_2 — the amount of CO_2 absorbed and fixed (blue carbon) over the five years (2018 – 2022).

J-Blue Credit™ Certificate

Further, in fiscal 2023, we submitted applications with joint applicants in Mashike-cho and Tomari-mura in Hokkaido, as well as in Kimitsu City, Chiba Prefecture, and J-Blue Credit™ for 33.3 t-CO_2 were certified and issued as the amount of CO_2 absorbed and fixed.

Also in fiscal 2024, we conducted demonstration tests of seaweed bed development in 32 sea areas nationwide, conducting continuous surveys of the changes in iron concentration in seawater before and after the test, as well as the growth status of seaweed. In addition to the acquisition of these basic data, we are working to advance seaweed bed development technology by providing theoretical support through scientific approaches, such as off-line testing using the "Sea Laboratory" (marine environment simulator) at the Research & Engineering Center of the R&D Laboratories (Futtsu City, Chiba Prefecture) and model analysis that reproduces actual sea conditions.

We will continue these initiatives utilizing our technologies, and expanding seaweed bed development activities nationwide so as to contribute to the reduction of CO_2 emissions through blue carbon.

Large water tank Sea Laboratory

Blue carbon
https://www.nipponsteel.com/en/sustainability/env/biodiversity/sea.html

Click here for other contributions in the field of resource recycling
Recycling of waste plastics P.95
Maximum use of steel scrap P.97
Blast furnace cement P.94

Our strategy for climate-related risks and opportunities

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

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

[Reference scenario]

1.5°C/2°C scenario	IEA "Global Electric Vehicle Outlook 2025" IEA WEO2022 NZE2050 IPCC Special Report on the impacts of global warming of 1.5°C IEA WEO2018 SDS IEA ETP 2017 B2DS
4°C scenario	IEA WEO2018 NPS IPCC AR5 RCP

TCFD scenario analysis

Scenario	Factors (risks and opportunities)	Events (expectations and concerns of stakeholders)	Impact on Nippon Steel (opportunities in ■, risks in ■)	Nippon Steel's strategy (including future responses)
1.5°C/2°C scenario	**Transition factor 1** Advance in electric vehicles (EVs)	World annual EV sales: 40 million units, 42% market share in 2030 (vs. 6.6 million units, 9.0% market share in 2021)*	**Opportunities in demand growth for our steel products** ■ Increase in the global total number of cars and resultant increase in steel demand despite a decline in the share of steel demand for cars equipped with internal combustion engines due to the growth of EVs' share of the new car market ■ Increase in demand for high-performance steel products — our area of strengths, such as electrical steel sheets for EVs	● Capture growing demand by strengthening the global supply of electrical steel sheets P.93 "TOPICS"
	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) P.93 "TOPICS" ● Capture demand for CFRP and other products in cooperation with a Group company (Nippon Steel Chemical & Material Co.)
	Transition factor 3 Shift to low-carbon steel (steel that generates low CO_2 emissions in production)	Accelerating shift to low-carbon steel due to change in customers' demand	**Opportunities in demand growth for low-carbon steel** ■ Some shift from converter steel to EAF steel with low CO_2 emissions in production ■ Continued increase in demand for BF steel and converter steel due to insufficient increase in EAF steel to satisfy growing worldwide demand, caused by the limited supply of scrap	● Acquire the SuMPO EPD (former EcoLeaf) environmental label for more products ● Accelerate the Carbon Neutral Vision (innovative technology development, including high-grade steel production in large-sized EAFs and hydrogen steelmaking) P.36 ● Promote the use of direct reduced iron and other measures to reduce CO_2 emissions in existing processes ● Provide low-CO_2 steel NSCarbolex™ Neutral
		Higher needs for decarbonization in steelmaking process	**Fundamental review of steelmaking process is necessary to achieve decarbonization** ■ Potential to gain a great competitiveness against global peers if we can advance technological development and investments for realization of the process ■ Increase in investment burden and operating cost for the introduction of super innovative technologies	● Facilitate the development and implementation of innovative technologies by utilizing government support such as the Green Innovation Fund, the GX Economy Transition Bonds as part of "investment promotion measures," and the strategic materials and production base tax system. P.36-43 ● Strengthening initiatives for the formation of the GX steel market (with costs shared across society) P.44-47

* For source for EV-related data, refer to the IEA Global Electric Vehicle Outlook 2025. EVs include battery electric vehicles (BEVs) and plug-in hybrid vehicles (PHVs).

Scenario	Factors (risks and opportunities)	Events (expectations and concerns of stakeholders)	Impact on Nippon Steel (opportunities in ■, risks in ■)	Nippon Steel's strategy (including future responses)
1.5°C/2°C scenario	**Transition factor 4** Higher needs for energy-efficient products and technology	Eco-friendly technology solution to boost demand	**Opportunities in demand growth for eco-friendly technology** ■ Increased demand for products that realize energy savings in the processing by customers ■ Increased demand for products that contribute to energy savings in use of end products ■ Increase in profits through the provision of the Group's technology solutions that enable energy saving in steelmaking process	● Expansion of NSCarbolex Solution, a brand that offers products that realize energy conservation in customers' manufacturing processes, products that contribute to energy conservation in using their end products, and products that contribute to energy transformation in society P.48 ● 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 a group company (Nippon Steel Engineering), into emerging countries P.89
	Transition factor 5 Higher needs for products and solutions associated with a society based on renewable energy and hydrogen	Ratio of renewable energy in world power generation: 88% in 2050 (vs. 28% in 2020) World production of hydrogen: 490 mn tons in 2050 (vs. 90 mn tons in 2020)*	**Opportunities in demand growth for products of our Group** ■ Profit growth by provision of the Group's products and solutions that support a renewable-energy-oriented society ■ Profit growth by provision of the Group's products and solutions that support a hydrogen-oriented society	● Enhance the Group's product menu for the renewable-energy society and expand sales in Japan and overseas e.g., high corrosion-resistant steel sheets for solar power generation mounts, steel plates and steel anchor chains for offshore wind power generation, and steel pipes for geothermal and biomass power generation ● Enhance the Group's product menu for the hydrogen society and expand sales in Japan and overseas e.g., HYDREXEL™ stainless steel for high-pressure hydrogen environments
	Transition factor 6 Increase in cost caused by adoption of carbon pricing (CP)	Incremental introduction of carbon pricing (CP) measures	**Increasing burdens on our cost due to CP introduction** ■ The GX Promotion Act requires companies to introduce CP while securing time required to work on technology development and capital investment for decarbonization. Although the impact of CP is not expected to be so significant for the time being, our cost burden will increase depending on the design of the emissions trading system (GX-ETS) and the circumstance of shifting the burden of CP to purchasing electricity charges, etc.	● Reduce CO_2 emissions through the expanded usage of direct reduced iron, the production of high-grade steel using large EAFs, the advancement of reduction in CO_2 emissions in existing processes, and the advancement and implementation of innovative technologies such as hydrogen steelmaking ● Continue to 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 ● Request the government to design the GX-ETS in a manner that takes into account the circumstances of the steel industry, including measures such as free allocations and responses to carbon leakage
4°C scenario	**Physical factor 1** Abnormal weather to suspend raw material suppliers' operation	Difficulty in procuring 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** ■ Systematic adoption of BCP measures. Limited risks in production disruption caused by natural disaster. Excessively abnormal weather may result in suspension of operation, etc.	● Continually adapt measures in consideration of long-term trends Measures against typhoons and heavy rain, measures to prevent crane overturns, measures against earthquakes and tsunamis (securing emergency evacuation places, embankment reinforcement, etc.)
	Physical factor 3 Heightened needs for solutions for "national resilience" against natural disasters	Natural disasters caused by abnormal weather	**Demand growth of steel for national land resilience** ■ Profit growth by providing Group's products and solutions for national resilience against earthquakes, tsunamis, heavy rain, typhoons, etc.	● Enhance the Group's product menu and expand sales in Japan and overseas, e.g., steel-slit dams and NS ECO-PILE™ method

* For data on renewable energy and hydrogen, refer to the IEA World Energy Outlook 2025 NZE2050 Scenario.

TOPICS High-efficiency electrical steel sheets that reduce energy loss in electric devices

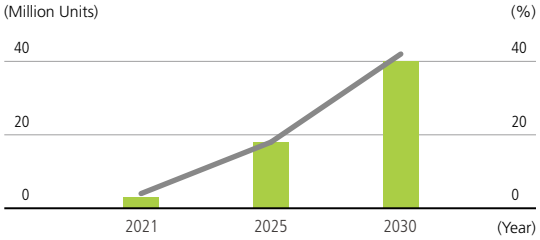
One of the most economically viable means to realize a carbon-neutral society is to upgrade high-efficiency non-oriented (NO) and grain-oriented (GO) electrical steel sheets. These products are used in motors for hybrid and electric vehicles as well as in transformers for power transmission and distribution, helping to reduce energy loss. The use of these products contributes to the reduction of CO_2 emissions when using hybrid cars, EVs, and home electric appliances and to efficient transmission of generated power.

Expanding production capacity of high-efficiency electrical steel sheets

In response to the increasing demand and upgrade request for these electrical steel sheets used in EVs and other products, we decided to implement measures to improve manufacturing capacity of high-efficiency non-oriented (NO) electrical steel sheets in the Setouchi Works Hanshin Area (Sakai) and the Kyushu Works Yawata Area. We have also previously announced measures to improve manufacturing capacity and quality of the electrical steel sheet in the Kyushu Works Yawata Area and the Setouchi Works Hirohata Area.

The total amount of investment into these measures will be approximately 213 billion yen in cumulative total and the investment is expected to be fully effective in the first half of fiscal 2027. The manufacturing capacity of non-oriented (NO) electrical steel sheets for eco-friendly cars is also expected to increase by about five times from the current capacity.

[World annual sales of EVs]
(Net Zero Emissions by 2050 Scenario)



Unit sales of EVs (left axis) Market share of EVs (right axis)
Prepared by Nippon Steel based on the IEA "Global Electric Vehicle Outlook 2025"

TOPICS Response to meet needs for lightweight materials that reduce environmental burden (NSafe™-AutoConcept)

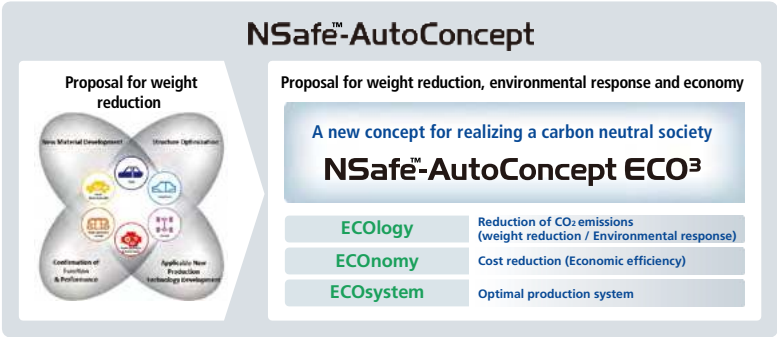
Nippon Steel has contributed to reduction in body weight and improvement in the safety performance of automobiles by developing advanced materials, as well as processing technologies and evaluation technologies to realize components and their structures that maximize material performance. In 2019, we started to make proposals on the NSafe™-AutoConcept (NSAC), a comprehensive solution for the development of next-generation steel vehicles to cope with the coming carbon neutral era. We are thus working with our customers to develop advanced vehicles.

Reductions in CO_2 emissions and enhanced collision safety are needed for automobiles and for that purpose, both bodyweight reduction and high strength are desired. Such needs can be satisfied by ultra-high-tensile steel sheets for vehicle bodies such as 2.0 GPa hot stamping materials, 1470 MPa cold high-tensile sheets, and 980 MPa hot-rolling high-strength steel plates for chassis.

We have made these high-tensile steel lineups practical and have reduced the body weight of steel cars by 30% with our proposals on structure and processing method as well as various evaluation technologies. This has enabled steel cars to have a similar weight to that of all-aluminum cars and the provision of higher collision safety performance.

Moreover, we began proposing NSafe™-AutoConcept ECO^3 (NSAC Eco-cubic), a new concept that has deepened the NSAC's weight reduction technologies. This has enabled us to make optimal solution proposals adapted to customers' forward-looking automaking (e.g., proposal of parts integration, using steel) from the perspectives of CO_2 emissions reduction through weight reduction and LCA; cost reduction; and optimal production systems, to meet diverse customer needs in the midst of more innovative automaking, including rapidly advancing electrification of vehicles.

(Photograph: an example of component integration using steel; door ring structure and rear module integration)



Example of NSAC ECO^3 proposals

Creation of a Circular Economy (Recycling-based Society)

Steel is a flexible material that can be repeatedly recycled: it is a perfect example of a circular economy.
Nippon Steel strives for the greatest efficiency possible, including minimization or elimination of waste, in the use of our energy and limited resources, in every process of steelmaking. By utilizing this steelmaking process, we also work to recycle internally generated by-products so that we can realize zero emissions. We are also actively engaged in recycling of waste generated in society or by other industries.

Efficient use of resources and energy

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

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

Promote internal zero emissions

By-products generated and final disposal

In the iron and steel-making process, over 600 kg of by-products, such as steel slag, dust*1, sludge*2, and used refractory bricks, are generated for each ton of crude steel produced. In fiscal 2024, Nippon Steel produced 34.30 million tons of crude steel and generated 20.42 million tons of by-products. We are committed to recycling these by-products both in and outside the Company, maintaining the high recycling rate of 99%.

For the final disposal amount, we will continue efforts to reduce generation of by-products toward achieving the fiscal 2025 target.

*1 Fine dust collected with a dust collector
*2 Semi-solid slurry recovered from industrial water discharge or sewage treatment

Nippon Steel's final disposal amounts

257 thousand tons/year | Target for 2025 | 263 thousand tons/year or less

Click here for Nippon Steel's final disposal amounts in the past.
Data Book P.25

[By-products and recycling (FY2024)]

By-product	Amount generated	Recycling application	Recycling rate
Blast furnace slag	10.63 million tons	Blast furnace cement, fine aggregate, road base, etc.	100%
Steelmaking slag	4.41 million tons	Road base, civil engineering materials, fertilizer, etc.	98%
Dust	2.65 million tons	Raw materials for use in-house and also zinc refining	99%
Sludge	340 thousand tons	Raw materials for in-house use	90%
Coal ash	450 thousand tons	Cement raw materials, construction materials	100%
Used refractory bricks	190 thousand tons	Reuse, etc.	51%
Others	1.75 million tons	In-house use, others	100%
Total	20.42 million tons	Total recycling rate	99%

Recycling of dust and sludge

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

Effective use of steel slag

Almost all the amount of the steel slag is utilized as products such as cement and road materials. The use of steel slag helps reduce the amount of natural crushed stone excavated and leads to energy saving during cement manufacturing. As a result, it is a "designated procurement item" under the Act on Promoting Green Purchasing and has been certified as a recycled product by some local governments.

Moreover, as steel slag contains nutrition that helps plants grow, it is also widely used as fertilizer, contributing to improving farming productivity.

Approximately 80% of blast furnace slag is used for cement. Blast furnace cement is a mixture of pulverized blast furnace slag with ordinary Portland cement, contributes to a 40% reduction of CO_2 emissions during cement manufacturing by omitting the burning process. The blast furnace cement also excels in long-term strength and is registered as Eco Mark-certified product.

Among steelmaking slag products, Geo-Tizer™ is used to be mixed with soft soils on land (mud, such as surplus excavated soil from construction sites or farmland soil). This enhances compressibility of soils without solidifying excessively, thus improving soft soils into those that can be re-excavated. Compared to conventional soil-improvement materials such as cement and lime, it produces less dust, is more cost-effective, and can significantly reduce CO_2 emissions.

Nippon Steel's steelmaking slag products, KATAMA™ SP, has the property of solidifying on its own when it reacts with water. By utilizing this property, it is used for simple pavement such as forest roads and farm roads, as well as for weed preventive pavement for mega-solar panel installations and other purposes.

Calcia modified soil — a mixture of calcia modifier, which is made from steelmaking slag, and dredged soil — has been used to backfill deep-dug seabed areas and create shallow bottoms and tideland, contributing the improvement of marine environment.

In addition, Nippon Steel's Vivary™ Unit, which are composed of steel slag and humus made from waste wood, provides iron needed for seaweeds to flourish, promoting regeneration of an area of the sea bed that had lost much of its living organisms.

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

We recycle 100% of waste plastics collected from ordinary households through chemical recycling by using a coke oven in accordance with the Containers and Packaging Recycling Law.

Specifically, waste plastics are used as hydrocarbon oil (40%), coke furnace gas (40%), and part of coke (20%). Our method of using a coke oven has an extremely high recycling efficiency and a great processing capacity, contributing to a circular economy in each region.

In recent years, synthetic fiber and food tray are also recycled in the same way. Furthermore, as the Plastic Resource Recycling Promotion Law enacted in fiscal 2022 calls for collection not only of container packaging plastics but also products made of plastics in bulk collection, we are also recycling plastics collected in bulk.

In addition, we are also working hard to develop technologies for expansion of treatment to meet the increasing plastics processing needs in the future. The total cumulative amount processed in fiscal 2000–2024 was approximately 4.23 million tons, equivalent to 13.74 million tons in terms of reduction in CO_2 emissions (the amount of annual CO_2 absorption* in artificial cedar forests in an area as large as 340,000 Tokyo Domes). This expanded use of waste plastics has been incorporated in our "Carbon Neutral Vision 2050" measures to combat climate change, and is presented as one of the examples of the efforts of Nippon Keidanren (Japan Business Federation) member companies' activity in its "Recycling Economic Partnership."

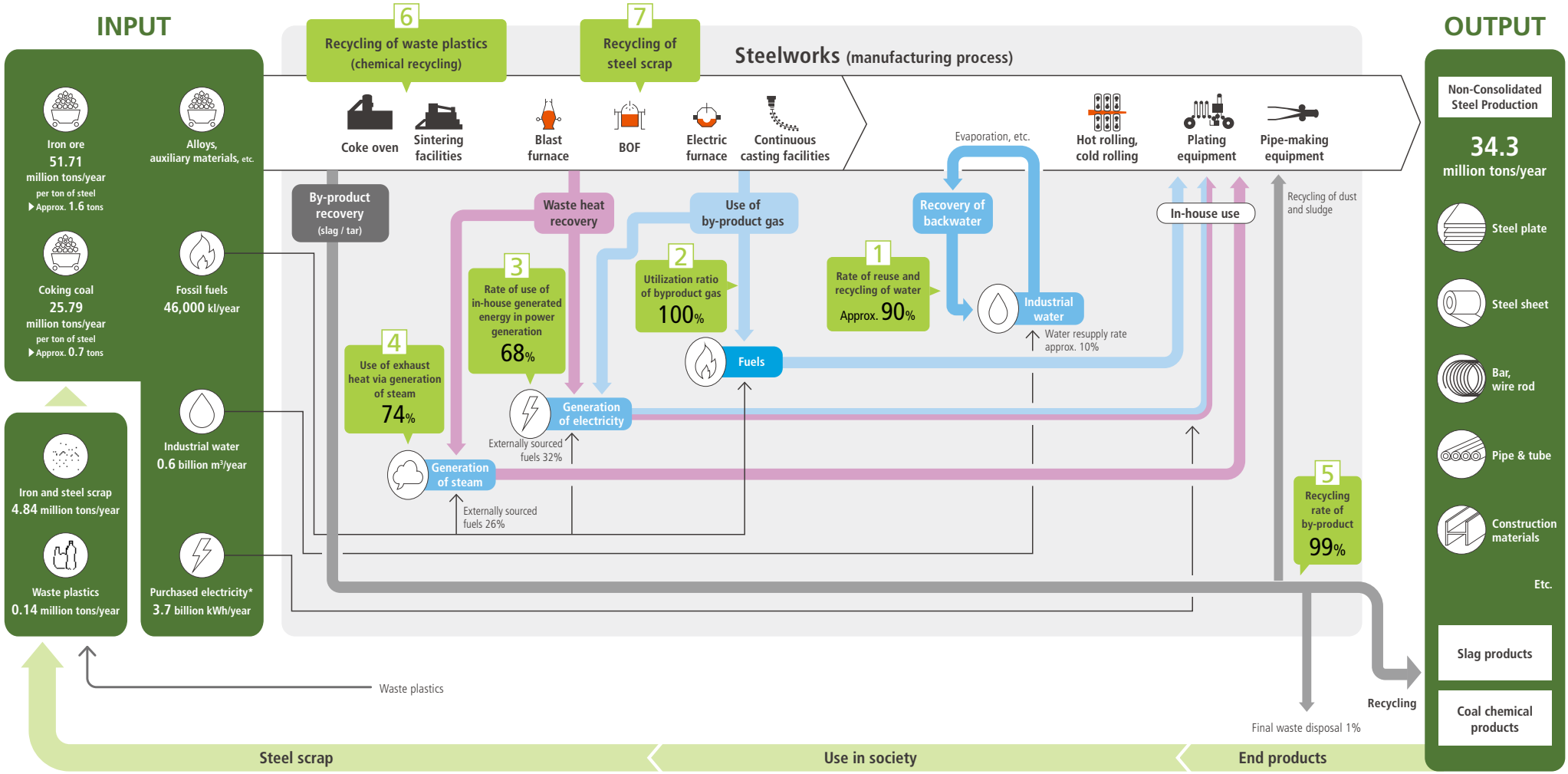
* One hectare of artificial cedar forest absorbs approximately 8.8 tons of CO_2 per year (source: the website of the Forestry Agency).

[Chemical recycling of waste plastics]

Thermal decomposition enables 100% effective re-use of plastics

Energy Material Balance

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



Numbers represent FY2024 performance * Purchased electricity (kWh) excludes electricity purchased from Cooperative Thermal Power Companies

1 Water Resources

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

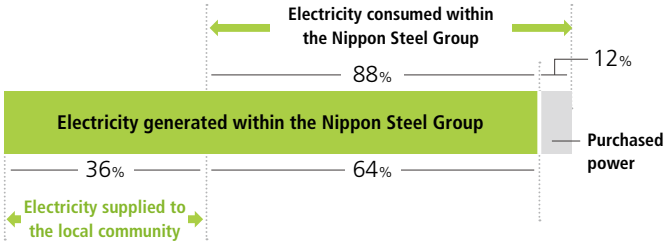
2 By-product gas

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

3 Power

Nippon Steel itself generates 88% of the electricity it uses at steelworks, 68% of which is from internally generated energy sources such as exhaust heat and by-product gases. In the future, we will also consider making more efficient facilities and switching fuel in order to further lower carbon generation.

[Nippon Steel Group's* Electricity Supply and Demand Balance (FY2024)]



- **The Group internally generates 88% of the electricity it uses.**
- **The Group supplies 36% of internally generated electricity to the local community.**

* Including cooperative thermal power companies and affiliated electric arc furnaces

4 Use of exhaust heat

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

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

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

CDQ

5 By-product

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

6 Waste plastics

Plastic containers and packaging collected from households nationwide, are fully recycled by a chemical processing method using coke furnaces.

7 Recycling of steel scrap

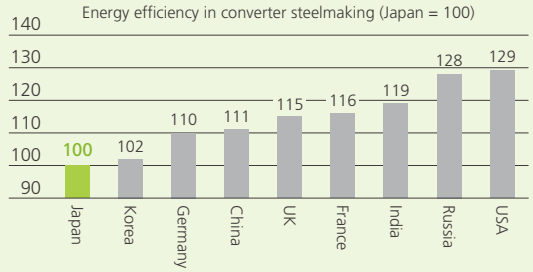
We recycle steel scrap generated in steelmaking and processing processes, as well as steel scrap recovered after use in society, as raw materials for producing new steel products.

In fiscal 2024, we used 4.84 million tons of steel scrap.

Recycling steel scrap is one of the important measures to achieve carbon neutrality. By maximizing the use of steel scrap resources generated in Japan, we aim to significantly reduce CO_2 emissions in the steelmaking process.

[Energy efficiency in steelmaking by country (2019)]

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



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

Biodiversity Conservation and Nature Positive

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

Efforts for conservation of biodiversity and nature positive

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

Keidanren Initiative for Biodiversity

Policy for the initiatives

As a member of Keidanren, we comply with the Keidanren Declaration for Biodiversity and Guidelines.

Recognizing both that our business activities greatly rely on nature's gifts, and that biodiversity is vital for realizing a sustainable society, we are well aware of the relationships of our business activities with biodiversity and are pledged to respond to challenges rooted in diverse local features, in order to build a society in harmony with nature.

As a member of the international community, we also recognize that initiatives aimed at building a society in harmony with nature are closely related to global issues of measures to deal with climate change and the creation of a circular economy. We aim to realize a sustainable society through integrated environmental corporate management which includes these initiatives in business activities.

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

In March 2023, we participated in the 30 by 30 Alliance for Biodiversity established by the Japanese government based on the rationale of the Kunming-Montreal Framework adopted at CBD COP15 held in 2022, and has since been contributing to its activities.

30by30

The alliance is a coalition of volunteers working in the public and private sectors to conserve and protect at least 30% of their own country's land and sea areas by 2030 (30 by 30), with the goal of halting and reversing biodiversity loss by 2030 (nature positive).

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

Responding to nature-related information disclosure

TNFD Taskforce on Nature-related Financial Disclosures

Today, the state of nature is said to be deteriorating at the fastest pace in human history, raising concerns about the possibility that many of nature's essential services benefitting society (ecosystem services) may deteriorate.

Scientists say that this natural degradation is attributable directly to the pressure on nature caused by human activities, such as changes in how nature is utilized, how resources are exploited, how climate changes and pollution affect the world's society, and the effects of invasive alien species in the land, freshwater, and oceanic areas.

We also recognize that our core business activities of steel production have impact on nature. Therefore, we have registered as a TNFD Adopter and are assessing and analyzing the relationship between steel production and nature, in line with the TNFD's recommended approach, and incorporating it's result into our business activities.

Specific initiatives

Creation of Hometown Forests

Reproducing "the grove of a village shrine" and nurturing biodiversity at our steelworks

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

This was the first project by a private company in Japan to create a forest that harmonizes with the local landscape and is based on an ecological approach. At present, our forests in aggregate have grown to total around 850 ha (about the size of 180 Yankee Stadiums).

Wild birds and animals visit the forests at our steel works sites across Japan. Wild birds and animals inherent to the land return to the forests. Thus, the "Creation of Hometown Forests" helps conserve biodiversity, and sequester CO_2.

Kyushu Works (Oita Area)

Creation of Sea Forests

Implemented in 70 spots in Japan to improve sea desertification

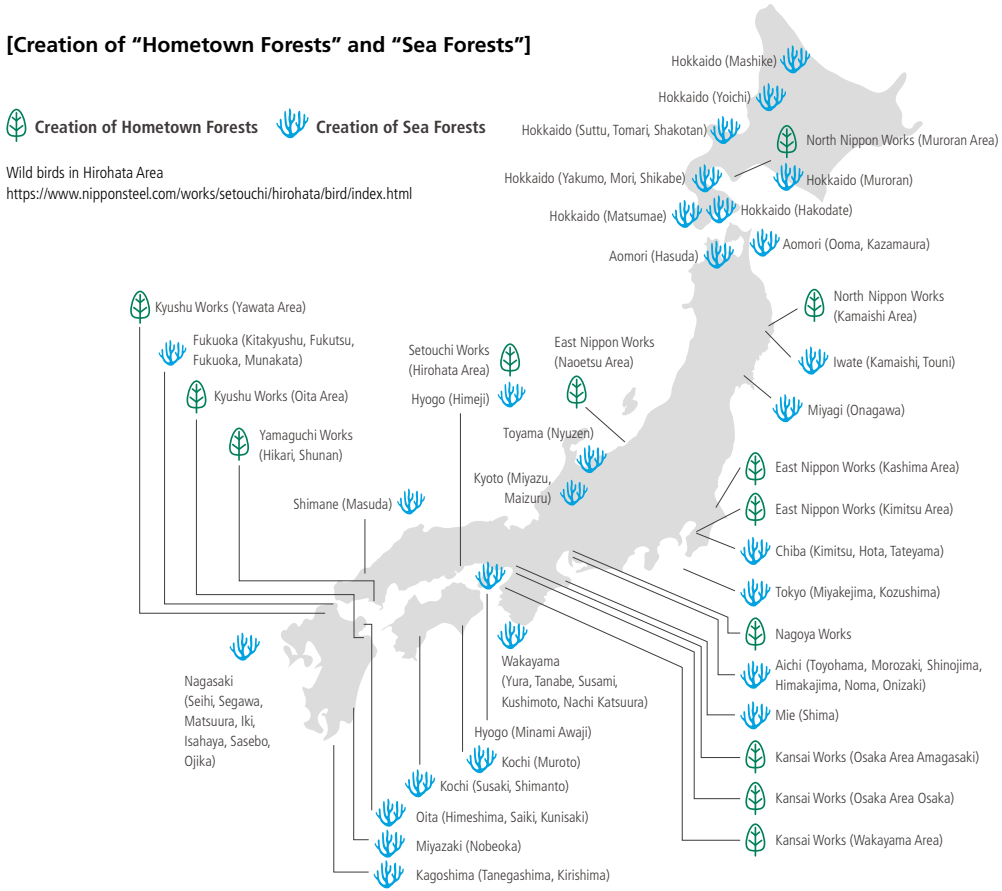
With the aim of solving the supply deficiency of iron, which is said to be one of the causes of sea desertification which loses seaweeds and makes the seabed barren, Nippon Steel has developed the Vivary™ Unit, iron fertilizer, via joint research with Tokyo University and uses it to promote the regeneration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

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

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

Mashike Town, Hokkaido

[Creation of "Hometown Forests" and "Sea Forests"]



Wild birds in Hirohata Area
https://www.nipponsteel.com/works/setouchi/hirohata/bird/index.html

[Some animal inhabitants of the Hometown Forests]

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

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

Gray heron

Buzzard

Japanese dace

Bulbul

White-tailed skimmer

Little tern

Duck

Raccoon

Participation in community projects

Participation in ecological preservation activities in the community

Since 2012, the Nagoya Works of Nippon Steel has participated in the Inochi-wo-Tsunagu (Life Sustaining) Project, which has been organized by a local students' planning committee, 12 partner companies, the Eco-Asset Consortium and the Japan Ecologist Association of Support (NPO). This project seeks to develop an ecosystem network that connects green spaces of company sites. To thereby increase the potential of the connected areas, we engage in a variety of collaborative activities to promote biodiversity conservation. These initiatives include joint awareness-raising events and the development of animal pathways (corridors) that allow wildlife to move between habitats.

In October 2023, this project, a joint initiative involving 11 companies including the Nagoya Works of Nippon Steel, governments, students, experts, and NPOs, was certified as a "symbiosis with nature site" by the Ministry of the Environment. In fiscal 2024, the past activities were recognized and this project won the Prime Minister's Award under the Green City Award program.

Contribution by use of by-products

Steel slag repurposed for rice cultivation

Steel slag, a by-product of steelmaking, contains nutritional matter that helps plants grow. It is therefore used as a fertilizer for rice cultivation, dry-field farming, and pasture grass. Silica contained in steel slag promotes photosynthesis by keeping stems upright and improving their light receiving orientation, while iron is effective in preventing root rot and leaf blight. The steel slag also contains phosphoric acid, manganese, boron, and various other components of fertilizer. Nippon Steel donated converter slag fertilizers to cooperate with research by the Tokyo University of Agriculture for salt removal in farmland in the Soma area of Fukushima Prefecture, which was devastated by the earthquakes and tsunami of March 2011. The slag fertilizers have proved effective in rapid and efficient salt removal. The restoration of rice fields also works to restore habitats for birds, frogs, and various other living things.

COLUMN

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

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

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

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

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

Dr. Shinichi Suzuki

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

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

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

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

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

Taskforce on Nature-related Financial Disclosures

Disclosure approach in line with the TNFD Final Recommendations

We conduct an evaluation and analysis in line with the LEAP approach recommended by the TNFD and disclose nature-related information accordingly.

[Evaluation and analysis process]

Scoping Selection of projects to be evaluated

Discovery of contact points with nature and identification of priority areas

L **Locate** Location assessment and identification of vulnerable areas
- Assess vulnerable areas
- Identify high-risk areas

E **Evaluate** Evaluation of dependencies and impact relationship at sector-level
- Evaluation of the dependencies and impact relationship between business activities and nature
- Determine critical dependencies and impact relationship

Identify and analyze risks and opportunities

A **Assess** Assessment of critical risks and opportunities
- Analyze risks and opportunities
- Analyze critical risks and opportunities
- Consider management approach

Set up strategies, targets, and KPIs

P **Prepare** Strategy development and management by metrics and targets
- Plan strategies based on analysis results
- Consider target setting and progress management
- Review disclosure content

[TNFD Disclosure Recommendations]

1 Governance
Governance of nature-related dependencies and impacts, and risks and opportunities

2 Management of risks and impacts
A process used to identify, assess, prioritize, and monitor nature-related dependencies and impacts, and risks and opportunities

3 Strategy
Impacts of nature-related dependencies and impacts, and risks and opportunities on business models, strategies, and financial planning

4 Metrics and Targets
Metrics and targets used to assess and manage critical nature-related dependencies and impacts, and risks and opportunities

1 Governance

In the Company, issues related to nature-related dependencies and impacts, as well as risks and opportunities, are reported and discussed at the Corporate Policy Committee and the Board of Directors, together with other environmental policy issues such as climate change countermeasures and the creation of a circular economy and are supervised by the Board of Directors.

2 Management of risks and impacts

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

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

3 Strategy

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

TNFD Taskforce on Nature-related Financial Disclosures

[Risk Analysis Results]

Detail	Critical dependencies/ impact		Risk type	Factors and events	Impact on Nippon Steel	Nippon Steel's strategy
Direct operation Production activities in steelworks	Water pollution (Impact)		Physical (Acute)	Pollution of the surrounding water environment and water contamination accidents caused by wastewater or leakage of steelworks	● Increased costs for additional wastewater treatment. ● Suspension of the production process if the existing processing facility cannot handle it ● Possibility of penalties or fines due to exceeding the baseline	[Target] No serious violations of environmental laws and regulations and no environmental accidents ● Consider water pollution caused by wastewater and leaks as a risk that can occur at all steelmaking sites, regardless of whether they are located in areas where there is a risk of impact on the ecosystem. Implement hardware/software measures assuming their occurrence across the company. <Hardware measures> Automatic wastewater monitoring equipment, wastewater shut-off gates, emergency water tanks, etc. <Software measures> Inspection and repair, drafting of work standards, operation confirmation, and training of procedures (See the P.83 for details of measures for the water environment) ● Have a system in place to promptly report environmental events at each business site to the head office. Report the status of such events twice a year to the Environmental Technology and Management Committee chaired by the executive vice president in charge. Also, report to and be supervised by the Board of Directors.
Indirect operation (Upstream supply chain) Mining activities of iron ore and coking coal	Utilization of the terrestrial ecosystem (Impact)		Physical (Acute)	Temporary suspension of business activities caused by the destruction of land, including the operating area, by the mining activities of a supplier	● Deterioration of corporate image and a decrease in product sales due to procurement of raw materials from the supplier in trouble ● Decrease in product production due to limited procurement of raw materials in case of a suspension of a supplier's business activities	● Have a system in place that allows us to continue our business, with diversified material sourcing as a comprehensive risk countermeasure, by increasing the amount of procurement from other suppliers even in case of temporary suspension of procurement from one supplier ● Checking the status of suppliers' nature-related activities in future engagements with suppliers, recognizing that some of the activities of suppliers have an impact on nature **Examples of activities of suppliers of raw material (Vale)** <Terrestrial ecosystems> ● Enhanced measures to eliminate dangerous tailing dams by 2025 <Water Resources> ● Target to achieve 27% reduction in freshwater use by 2030 (2017 baseline), prioritizing regions with the highest water stress ● 83% use of recycled water (2024 FY result) Vale ESG portal/Sustainable mining/Nature
	Utilization of the terrestrial ecosystem (Impact)	Utilization of water resources (Impact)	Transition (Market)	When a supplier causes problems such as land destruction or excessive use of water resources, or fails to properly disclose to investors, despite investors' increased ESG investment associated with higher awareness of the use of terrestrial ecosystems and water resource conservation: ● Decline in the supplier's brand value ● Supplier's withdrawal from the business due to their deteriorating financing		
			Transition (Reputation)	When a supplier causes a water-related problem or fails to properly disclose it to local residents or environmental organizations, despite their increased interests in the use of terrestrial ecosystems or water resource conservation: ● Decline in the supplier's business continuity in the target regions due to criticism from local residents and environmental organizations ● Decline in the reputation of the supplier due to news and other information		

[Opportunity Analysis result]

Detail	Critical dependencies/ impact	Opportunity type	Factors and events	Impact on Nippon Steel	Nippon Steel's strategy
Various nature-related activities operated directly by the Nippon Steel Group	Nature in general (Impact)	Transition (Products and services, reputation)	Increase in demand for eco-friendly products due to increasing social interest in and needs for the conservation of nature and biodiversity	● Increase in production by expanding the lineup of eco-products and strengthening the steelmaking system, and increase in earnings from environmentally friendly products	**Natural restoration and expansion of supply of a variety of nature-positive and eco-friendly products** ● Improvement of marine environment and regeneration of seaweed beds using steel slag as raw material (marine fertilizer: Vivary™ Unit) ● High ductility steel plates for hulls that reduce the risk of environmental damage such as oil spills by improving marine safety Application example of high ductility steel plates to VLCC ● Development and provision of steel materials that do not contain substances causing environmental burden such as lead and hexavalent chromium
			Increased impact of nature and biodiversity conservation activities on the corporate image due to increasing social interest in and needs for the conservation of nature and biodiversity	● Improved corporate image and increase in product sales by effectively disseminating activities related to the preservation of nature and biodiversity	**Enhanced PR for the above products (sales activities, academic conferences, events, commercials, etc.)** ● Presentation on the Creation of Sea Forests at COP28 Chika Kosugi, Advanced Technology Research Laboratories, R&D Laboratories, Nippon Steel as a panelist at the Japan Pavilion ● Award from an external organization (Expansion of the use of wood biomass made from local thinned wood)
		Transition (Reputation)	Increasing attention from stakeholders, including local residents, regarding the conservation of nature and biodiversity	● Implementation of initiatives related to the preservation of nature and biodiversity and effective communication to build good relationships with local communities and improve preparedness for business continuity	● Establishment of management standards based on ecological methods, under our Basic Environmental Policy, to promote the creation of Hometown Forests ● Contribute to the restoration of ecosystem services (fishery harvest) through the Creation of Sea Forests ● Promotion of environmental activities such as dialog and participation in local activities by steelworks, and participation in 30 by 30 activities Parantica sita identified in our green areas

4 Metrics and targets

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

Taskforce on Nature-related Financial Disclosures

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

No.	Driver of nature change	Indicator	Nippon Steel's disclosure (Direct operation: Steelworks)
C2.1	Pollution/pollution removal	Wastewater discharged	Volume of water discharged by destination (m^3) Data Book P.24
C3.0	Resource use/replenishment	Water withdrawal and consumption from areas of water scarcity	No manufacturing base located in areas of water scarcity Data Book P.24 Volume of water withdrawal and consumption by source (m^3)

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

No.	Category	Metric	Nippon Steel's disclosure (Direct operation: Steelworks)
C7.2	Risks	Description and value of significant fines/penalties received and litigation action in the year due to the negative nature-related impacts	None
C7.3	Opportunities	Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type of opportunity, with reference to a government or regulator green investment taxonomy or third-party industry or NGO taxonomy, where relevant	1.4 billion yen (costs for beautification and greening of steelworks) P.81

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

Detail	Indicator	Target	Progress management method	Results for FY2024
Water pollution	Serious violations of environmental laws and regulations and environmental accidents	Zero	Development of communication and reporting systems, internal audits, and interviews	Zero
Water Resources	Water circulation rate	Stable rates at high levels	Internal audits and hearings	The water re-use rate: Approx. 90% P.97

Safety

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

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

We promote a risk assessment when planning a new project and regularly conduct safety and risk evaluation for existing projects, to prevent accidents and reduce risks. We also seek for the intrinsic safety of equipment and take countermeasures against human error. We also actively promote the use of IT in safety measures, such as introducing safety surveillance cameras or helmet-mounted cameras, or determining worker location data via GPS. Moreover, we conduct an analysis of actual accidents for the prevention of similar accidents and make effective examples of accident-preventive measures spread promptly. As a result of continuing these efforts, our safety performance in 2024 shows that the number of accidents accompanied by lost work time was 14 for the company*1 (including fatal cases of one), 18 for our cooperating companies (including fatal cases of one), and the comprehensive lost time injury frequency rate was 0.18 (vs. Japan's steel industry average of 0.79). We will continue to strive for a safe work environment with the safety wellness targets for FY2025, which are zero fatalities/severe accidents and less than 0.10 as the comprehensive accident frequency rate.

Lost time injury frequency rate in FY2024

0.18	Target	0.10 or less

*1 employees for the company: all people employed by Nippon Steel (including seconded employees as well as temporary and part-time workers), and those dispatched to Nippon Steel.

[Lost time injury frequency rate in 2024]

Nippon Steel	0.18
All domestic industries*2	2.10
Domestic manufacturing industries*2	1.30
Domestic steel industries*2	0.79
Domestic steel industries (JISF members)*2	0.36
World steel industries (WSA members)*3	0.70

*2 JISF "Safety Management Overview, 2023"
*3 WSA "Safety and health 2022 metrics report"

$$\text{Lost time injury frequency rate} = \frac{\text{Number of lost-time work accidents}}{\text{Total number of hours worked by all employees}} \times 1{,}000{,}000$$

Details available here Data Book P.31

Acquisition of third-party certification

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

Acquisition of ISO (JIS Q) 45001 certification

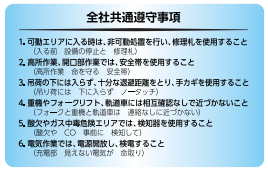
FY2019	Kansai Works Wakayama Area
FY2020	Amagasaki Area and Osaka Area of Kansai Works; Nagoya Works; Kyushu Works Oita Area; East Nippon Works Kashima Area
FY2021	Naoetsu Area and Kimitsu Area of East Nippon Works, North Nippon Works Muroran Area, Setouchi Works Hirohata Area
FY2022	North Nippon Works Kamaishi Area, Kyushu Works Yawata Area
FY2023	Setouchi Works Hanshin Area

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

Safety initiatives

Six Fundamental Safety Rules for Company-Wide Compliance

Nippon Steel has established the Six Fundamental Safety Rules for Company-Wide Compliance as our most important guidelines for ensuring safe operations. These Six Safety Rules are designed to address the most frequent causes of past accidents and to avoid risks that could lead to serious consequences in the event of an incident. We have prepared a guidebook that presents work situations of non-compliance with these rules, along with actual accident cases, to enhance understanding of the Six Safety Rules among both our employees and those of our cooperative companies.



Ensuring safety through pre-work TBMs (toolbox meetings)

To ensure safe operations, it is essential to establish clear working procedures and assign roles to workers before commencing any task. While operation standards are defined for routine work, these standards are often not in place for infrequent or unexpected non-routine work. Before starting any non-routine work, a TBM is conducted in advance; however, implementation methods vary. To enhance work safety, we have developed the TBM Guidebook, which highlights key points for conducting TBMs and provides practical examples of both TBM and KY (Kiken Yochi – hazard prediction).

Safety training

We are committed to enhancing training programs aimed at preventing accidents. These include safety and health training for newly appointed managers at manufacturing worksites (mandatory for all eligible personnel; 49 managers in FY2024) and hazard experience training, which enables workers to simulate workplace risks utilizing VR-based equipment. In addition, we conduct annual safety and health training for safety and health personnel from our Group companies and major cooperative companies (67 participants in FY2024). These programs are designed to improve knowledge about our safety and health initiatives, the procedures for implementing safety and health management methods such as internal audits, and the relevant occupational safety and health laws and regulations.

COLUMN Hazard prediction training using e-learning

To eradicate workplace accidents, it is essential not only to enhance organizational safety management standards, but also for each worker to maintain a strong awareness of potential hazards and continuously improve their behavior. To strengthen hazard recognition skills, we provide ongoing hazard prediction training via e-learning to all Nippon Steel employees and cooperative company workers engaged in manufacturing operations. This training can also be conducted via smartphones, enabling participation anytime and anywhere.

"You are about to transport parts stored on a rack using a crane. What potential hazards exist, and what preventive measures should be taken?"

Safety and Health Management Structure, etc.
https://www.nipponsteel.com/en/csr/sdq/safety.html

Disaster prevention

Our manufacturing values place the highest priority on safety, environmental protection, and disaster prevention. In addition to advancing equipment measures for disaster prevention, we are committed to achieving zero serious accidents by taking proactive steps to mitigate potential risks and by ensuring swift and appropriate initial responses in the event of an emergency. Furthermore, through continuous enhancement of both equipment-based countermeasures and training for natural disaster preparedness across the entire Group, we aim to ensure safe, secure, and stable production activities.

Disaster risk reduction activities

Our disaster prevention initiatives focus on:

1) Ensuring compliance with disaster prevention laws and regulations, and conducting risk assessment activities to prevent accidents.
2) Implementing measures to thoroughly prevent recurrence of incidents and ensuring appropriate on-site initial responses to mitigate damages when an incident occurs.
3) Regularly monitoring the execution of disaster prevention management activities.

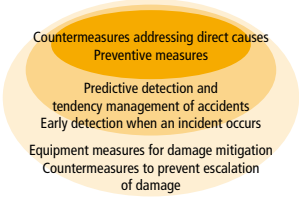
Through these efforts, we remain committed to establishing autonomous disaster prevention activities, driven primarily by the manufacturing sites at each steelworks.

Serious disaster-related accidents*1 (2024)

0	Target	0

*1 Fatalities or accidents that caused impacts on production monthly

[Our approach to equipment measures for disaster prevention (three-tiered defense approach)]



Actual number of serious disaster-related accidents available here
Data Book P.32

[Specific initiatives]

1 Compliance with disaster prevention laws and regulations

- Development of frameworks based on disaster prevention laws and regulations, and execution of appropriate fire protection measures
- Inspection and maintenance of equipment for disaster prevention to ensure effectiveness in the event of an emergency

2 Disaster prevention risk assessment (Measures to mitigate existing risks and preventive actions against potential risks)

- Identification and assessment of risks, management of residual risks, and formulation of permanent countermeasures at manufacturing sites, in line with company-wide guidelines, through risk assessment as a preventive approach

3 Recurrence prevention measures

- Equipment measures based on the three-tiered defense approach (recurrence prevention, predictive detection of precursors and tendency management, and mitigation measures in the event of occurrence)
- Preserving awareness of past incidents and accidents (panel presentations in training facilities, and sessions for employees to learn about past accidents during training and others)

4 Enhancement of initial response

- Verification of initial response procedures through practical training simulating disasters (Systematic implementation of practical training at each workplace across all plants: training simulating nighttime and holiday scenarios, training simulating work at heights, joint training including Group companies and others)
- Enhancement of firefighting skills of in-house fire defense function in cooperation with fire departments (Joint training with fire departments, leader education programs and others)

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

- Promotion of measures in preparation for earthquakes: 1) human injury prevention, 2) area damage prevention, and 3) production maintenance.
- Preparation of emergency measures and evacuation procedures, as well as training drills, to mitigate damage in the event of natural disasters.

(Example) Review of assumptions for the Nankai Trough Earthquake
Comprehensive inspection of initial response to Tsunami warnings and advisories (July 2025)

6 Auditing disaster prevention

- Factory monitoring by the disaster prevention organization at each steelworks for verification on the status of disaster prevention activities at the manufacturing work front.
- Check-up on the implementation status of disaster prevention management of all steelworks by the disaster prevention department at the head office.

7 Third-party monitoring toward enhancing safety competency in steelworks

- Assessment of steelworks by an NPO, Japan Industrial Safety Competency Center*2

8 Disaster prevention management for group companies

- Holding of regular information-sharing meetings to enhance coordination for disaster prevention management. Individual audits of Group companies that have risks related to disaster prevention.

*2 Nonprofit Organization: Japan Industrial Safety Competency Center

Efforts to prevent the occurrence of accidents and damage mitigation measures

Compliance with disaster prevention laws and regulations (lectures delivered by fire department personnel)

Disaster prevention risk assessment (patrols conducted by managers)

Strengthening of initial response (firefighting drills under the guidance of fire department personnel)

2 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 involved in manufacturing and services are responsible for quality control and quality assurance to continuously improve quality.

The basic policy of quality assurance of the Nippon Steel Group

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

Activities aimed at strengthening the quality assurance system

Nippon Steel's quality management system is based on autonomous quality management activities by each steelwork, business unit, and group company including overseas ones. The Quality Management Division, in cooperation with the steelworks and business units, promotes quality compliance education, behavioral risk reduction activities, and the extraction and correction of quality risks through quality audits. Information on quality-related events is promptly shared across the Group and at appropriate times measures are launched to resolve issues through standardization, systemization, and automatization. These measures are then implemented to enhance the identification management of actual products and to improve reliability of testing and inspection.

[Specific activities]

1. Education on quality compliance

Employees of the Company and the domestic and overseas Group companies receive quality compliance education. It covers such topics as the importance of compliance with laws and regulations, the impact that our products and work have on society, quality risk management, and internal rules and standards. In addition, we conduct group discussions with the participation of all employees, using quality non-compliance cases that occurred in and out of the Company in the past as learning material. We also conduct quality-related e-learning programs and on-site quality lectures to foster a strong awareness of quality compliance.

Number of e-learning participants in FY2024: **71,296**

[Quality management education and quality lectures]

Group discussion session

Quality lecture in Vietnam

[Quality e-Learning] * Distributed to overseas group companies in five languages

2. Activities to reduce behavioral risks

Based on the analysis of the cause of past quality issues, we have established the Five Basic Rules of Quality Behavior, which all employees involved in quality assurance are expected to follow. We are actively working to embed these rules across the organization to promote their consistent practice. To improve the reliability of testing and inspection, we also introduce the systems, including quality design systems, automated data retrieval, identification management systems, and finished product quality judgement systems, in each process from order to shipment, thereby eliminating risks caused by human intervention. At the same time, we are strengthening the management practices, including initiatives to ensure psychological safety on the frontlines of quality control, and will continue to intensify these activities going forward.

[Five Basic Rules of Quality Behavior]

1. Routine Operations (Compliance Requirements)
   Confirm work procedures and perform tasks strictly in accordance with the procedure manual. Do not rely on verbal instructions.
   "Wait! Check the procedure before starting work!"
2. Change Management (Compliance Requirements)
   Review procedures for any changes, such as new tasks, modified processes, or infrequent operations.
   "Stay alert—first time, modified, or infrequent tasks require extra care."
3. Test and Data Entry (Compliance Requirements)
   Conduct tests and inspections properly and maintain accurate records. Do not advance processes using dummy entries.
   "Record results accurately—no corrections should be needed later."
4. Response to Quality Abnormalities (Compliance Requirements)
   Immediately stop work upon detecting any quality abnormality, then consult and report without delay.
   "If you find an abnormality or deviation, stop and report immediately."
5. Product Verification (Compliance Requirements)
   Verify each product individually, one by one. Do not check in bulk.
   "Verification must be one-by-one, with absolute certainty."

3. Quality audits

The Quality Management Div. performs periodic quality audits in the Company and the Group to highly earn the trust of customers. In addition to the audits carried out directly by the Quality Management Div. of the Head Office, we are also working to establish a reinforced system of autonomous audits performed by certified auditors assigned to each steelworks. Furthermore, we are working to raise the credibility of our quality management system by earnestly addressing guidance from external audits such as ISO 9001 and JIS certifications to improve the quality of our products.

Quality audit results for FY2024

Steelworks and areas: **23** audits Group company sites: **61** audits

Certification of Quality Management Div. (armband and badge)

Autonomous audit by certified auditors

4. Quality management system and standardization activities

Quality management system

All steelworks of Nippon Steel are ISO 9001 certified. By implementing the quality management system, we ensure that the processes used to provide products and services to customers are appropriately managed. We will efficiently proceed with activities to clarify each steelworks' quality policy and to improve quality continuously.

Standardization activities

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

3 Production and Supply Chain Management

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

Sustainable procurement efforts

Under the development of the global economy, strategic procurement activities are needed to consistently secure and sustain competitive manufacturing capabilities.

At the same time, it is becoming increasingly important for not merely our Company but also our entire supply chain to fulfill social responsibilities to realize a sustainable society. Against this background, we procure raw materials, fuels, equipment, and materials essential for steel production, with the aim of contributing to development of both customers and economy, and the realization of a more prosperous society through the stable supply of competitive steel products.

In terms of procurement of raw materials and fuels, we are sourcing from suppliers worldwide, including Australia, North America, South America, and South Africa, for a stable supply of more than 100 million tons of raw materials for the steelworks. The supply of materials is mainly iron ore and coal. In the procurement of equipment and materials, we purchase around one million product items — from gigantic facilities such as blast furnaces to office supplies — from thousands of suppliers. Through active dialogue with our suppliers, we build trustful relations with them while pursuing stable procurement strategies that anticipate future changes in social structures. In addition, we conduct the "Partner Awards" and "Partner Questionnaire" annually to further strengthen collaboration with our suppliers.

In July 2020, we made a declaration for the establishment of partnership relations with suppliers and other business partners to establish cooperative and co-existing relationships.

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

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

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

Partner Awards Ceremony

[Basic policy on equipment and materials procurement]

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

Consideration for reducing environmental impact in procurement activities

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

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

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

Efforts to stabilize production

We are focusing on stabilizing production, including the operation of blast furnaces and coke ovens, which have a particularly significant impact. Currently, the tapping ratio of the blast furnaces remains at a low level, and we are also focusing on developing operational plans under these circumstances. In such efforts to stabilize production, we also frequently use solutions using DX.

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

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

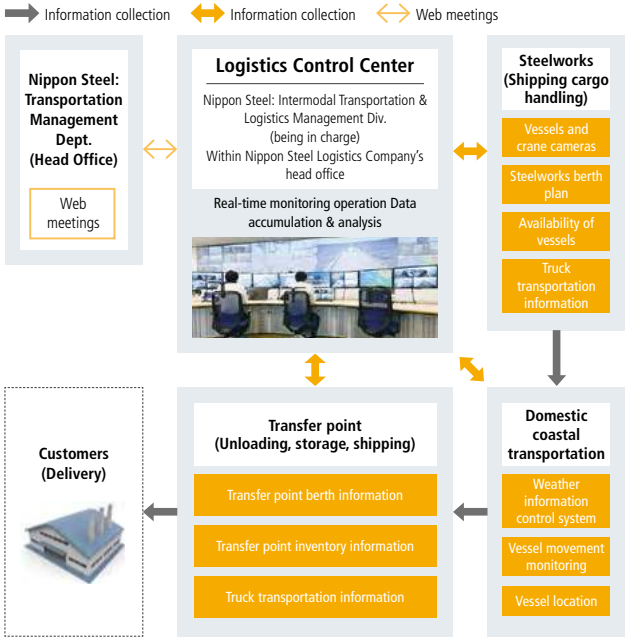
In addition, to deliver products that meet customer requirements on time, our head office unit in charge of overall management of sales and operations coordinates the relevant corporate-wide product manufacturing plans every day, while keeping track of sales and production. The process control units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

Integrated efficiency improvements of domestic logistics

As challenges such as the "2024 logistics issue" and the growing workforce shortage in domestic logistics become increasingly evident, the Nippon Steel Group has established a new division within Nippon Steel Logistics to consistently manage and supervise operations. This division is tasked with further improving efficiency by consolidating functions such as integrated logistics control and digital transformation (DX) planning.

Specifically, at the Logistics Control Center, we leverage the latest systems of domestic logistics control to consolidate the information needed for allocation and control of the domestic vessels, such as their location data, progress rate of quay cargo handling at the steelworks, and the status of inventory at transfer points. We then perform real-time monitoring and operation for the consolidated information. In addition, we are advancing company-wide management and supervision of truck transportation information, thereby improving efficiency across our integrated logistics network that includes domestic coastal vessels, transfer points, and transportation by truck—our primary transportation means.

[Function overview of the Logistics Control Center]



Improve productivity in domestic logistics

The Nippon Steel Group has commenced operations of Soumei, a roll-on/roll-off vessel* (RO-RO vessel) dedicated to steel products (hereinafter referred to as "the Vessel"), on the Kitakyushu–Sakai route.

The Vessel employs the roll-on/roll-off cargo-handling method, which saves labour force requirements at quaysides, while optimally integrating new technologies into existing port infrastructure. As a result, both loading capacity and cargo-handling efficiency have been improved by approximately 30%. In addition, various systems and equipment have been introduced to better accommodate seafarers' working conditions, thereby contributing to alleviating the workforce shortage in domestic logistics.

Furthermore, the Vessel has been selected by the Agency for Natural Resources and Energy of the Ministry of Economy, Trade and Industry, together with the Maritime Bureau of the Ministry of Land, Infrastructure, Transport and Tourism, to participate in the "Project for Promoting Innovative Coastal Shipping Operations and the Shift to Non-Fossil Energy." Specifically, it was adopted as a demonstration project for energy-saving small roll-on/roll-off vessels equipped with high-efficiency cargo-handling systems.

* Roll-on/roll-off vessels allow trailers to drive on and off the ship to load and unload cargo, enabling crane-free operations at quaysides and reducing labor requirements for cargo handling.

[High efficiency]
- Adoption of roll trailers (load capacity: 60 tons) enables the transportation of heavy cargo.
- A two-tier cargo structure has been introduced, equipped with a large elevator (210 tons per lift).

A roll trailer exiting via the rampway

Large elevator
(accommodates three roll trailers at once)

Human capital

We regard our personnel as the source of creation of sustainable value and position investment in human capital as a core driver of corporate growth, thereby advancing human capital management across the company.

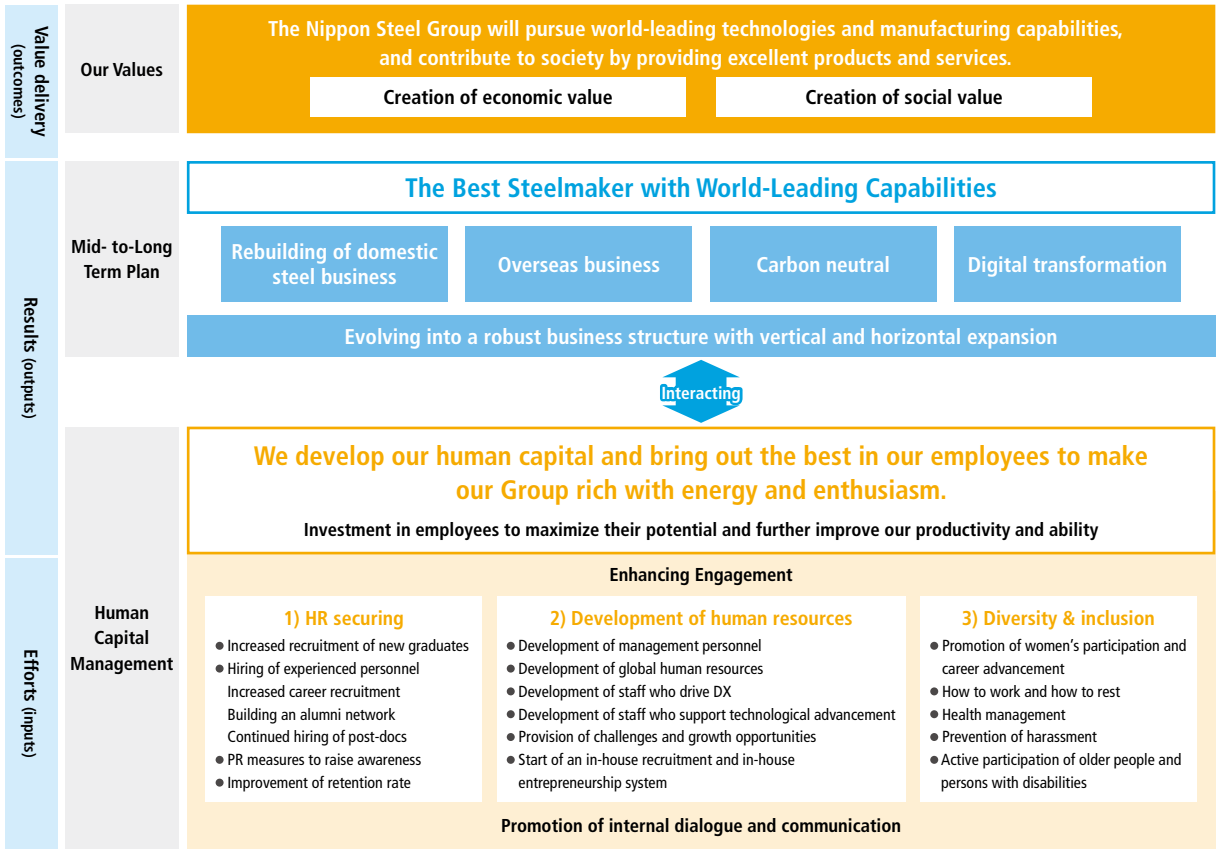
Human Capital Management Policy

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

With the aim of continually evolving to become "the best steelmaker with world-leading capabilities," we are also working to transform our business structure into a robust one with vertical and horizontal expansion, resilient to changes in the external environment, in addition to implementing the measures in the four pillars of our Medium- to Long-term Management Plan.

To successfully execute these business strategies, close alignment with our personnel strategies is essential. Accordingly, we are advancing three key initiatives: Human Resources Securing, Human Resources Development, and Diversity & Inclusion.

In addition, we are fostering an open and communicative workplace culture which is the foundation of these initiatives by promoting active dialogue across the organization. Through continued investment in people, we aim to fully unlock the full potential of our employees, thereby further enhancing their productivity and capabilities. We believe that these efforts will lead to the creation of both economic and social value and, ultimately, to the sustainable enhancement of corporate value.



HR securing

Securing human resources

Amid significant environmental changes, including intensifying competition for talent due to the recent population decline, diversification of individuals' career targets, and higher mobilization of labor market, securing human resources and further promoting employees' participation and advancement are critically important to realize our management strategies.

To strengthen our stable recruitment of new graduates that has been implemented so far, we are expanding internship programs, introducing new workshops, and increasing opportunities for plant tours. In addition to the recruitment of postdoctoral researchers with advanced expertise, we are also proactively hiring experienced professionals, including alumni. Since FY2024, we have introduced employee referral bonuses to encourage internal recommendations. In addition, we are implementing measures for publicity, such as commercial messages or advertising, to raise awareness of Nippon Steel from not only job applicants such as students but also a wide range of generations.

Furthermore, in FY2024 we implemented a substantial increase in starting salaries and, for two consecutive years, carried out significant revisions to employee's compensation packages at levels exceeding the current rate of inflation.

By maintaining industry-leading compensation standards, we aim to secure human resourses and promote employees' participation and advancement, which is one of our highest management priorities, and improve retention in our workplace.

Human resources development

Basic Policy for Human Resources Development

A goal of HR development is to create employees who can understand and implement our Corporate Philosophy and our Employee Action Guidelines. With this in mind, each employee is expected to take the initiative in developing their own capabilities while also actively engaging in the development of their subordinates.

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

[Basic Policy for Human Resource Development]

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

	Unit	FY2022	FY2023	FY2024
Number of education and training hours Achievements	hours/year per employee [ten thousand/year]	28 [80]	35 [99]	33 [94]

Development of management personnel

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

Development of management personnel

- Seminar for Group company executives
- Seminar for senior executives
- Seminar for executives
- Seminar for middle management

Development of human resources who support realizing management strategies

In accordance with the organizational strategy based on the Corporate Philosophy and Management Policy, the Nippon Steel Group uses an "HR Development PDCA" to effectively implement and establish the development of human resources. A development plan is formulated for each person to conduct OJT, which is aligned with the supervisor-subordinate dialogue based on the "Assignment Commitment Sheet." As of FY2025, we revised the Assignment Commitment Sheet and introduced one-on-one meetings between supervisors and subordinates to further enhance the effectiveness of dialogue. By improving both the quality and frequency of these interactions, we facilitate employees to develop and maximize their capabilities proactively and autonomously. Through these mechanisms, we are systematically fostering human resources capable of executing the strategies of each organization.

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

[Development of human resources who support realizing management strategies]

Development of heads of department/plant/mill	The training courses are provided to managers so that they can acquire a proper understanding of their responsibilities and authority as managers, acquire knowledge, skills, and mindset that contribute to enhancing management as supervisors and group management capabilities.	● Seminar for supervisor empowerment ● Training for newly appointed heads of department/plant/mill ● Training for manager candidates ● Training for supervisor candidates and follow-up training	● Training for newly appointed senior managers ● Training for newly appointed managers
Development of global human resources	● Setting criteria for English language skills to be reached at each level to raise the overall level of our group. ● For those whose job requires English skills, implementing a program aimed at raising their English proficiency so that they can perform their jobs overseas without translators or interpreters. ● For personnel dispatched to overseas, providing pre-assignment training ● Developing overseas local staff (implementing OJT and OFF-JT)	● Training for overseas dispatched personnel ● Training for administrative personnel ● Orientation prior to relocation overseas and including family members	● Training for English and local languages ● English advanced course ● Training for studying abroad
Development of staff who drive DX	● Delivering data science training to foster citizen data scientists capable of advanced data utilization ● Conducting digital management training for managers to promote DX and encourage them to change their mindset	● Various training activities to develop expert data scientists and data science users ● Training for citizen data scientists	
Development of staff who support technological advancement	Preparing courses to systematically learn the essential knowledge and technologies for steelmaking engineers, from fundamental to advanced technologies	● Technical skills training ● Technical courses	

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

Career development

We are strengthening initiatives to enhance employees' engagement by promoting open feedback culture, as well as by creating opportunities for challenge and development such as overseas assignments for mid-career and junior employees, etc. As part of these efforts, we launched in-house entrepreneurship and in-house recruitment systems in FY2023.

Through the in-house recruitment system, we support employees' career development while revitalizing the organization by facilitating individuals with fresh perspectives and diverse skills to transfer. The in-house entrepreneurship system aims not only to develop human resources through entrepreneurial experience but also to foster a culture that encourages employees to take on new challenges beyond existing frameworks.

Personnel development of operators and maintenance staff

The operators and maintenance staff continuously build up their skills in steelmaking and maintenance, starting when joining the Company, on the assumption of continued long-term employment to retirement, thereby providing the fundamental support for the Company's on-site manufacturing capabilities. Promoting smooth transmission of technology and skills is essential and a system has been built, which cultivates all employees who joined the company to become fully skilled. Therefore, after making the skill or skills to be acquired clear by making a list as skills matrix, through a supervisor-subordinate dialogue, a detailed skill development plan is developed and carried out. Training is conducted mainly through On-the-Job Training (OJT) for individuals, 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 OJT.

Off-the-job training (OFF-JT), which complements individual OJT, is used throughout the Company by organizing the minimum skills and knowledge required by each rank of employees of the Nippon Steel Group into a company-wide standard system. Through this, we work at education of workplace leaders to further increase their ability to add to and improve our knowledge base from the field ("field technology") and at measures to maintain and improve motivation of older people to continue working with health and motivation. Another area we focus on is to diversify recruitment sources (especially for female employees and mid-career recruitment), and we strive to create a workplace climate in which diverse personnel can be motivated and collaborate with each other through human rights awareness and harassment prevention.

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

Personnel treatment system

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

Diversity & Inclusion

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

Basic policy

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

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

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

[Status of employees (non-consolidated basis)]

	Men	Women	Total
Number of employees (March 31, 2025)	25,820	2,832	28,652
Number of new hires (April 2025)	642	120	762
Average years of service (March 31, 2025)	18.6 years	14.1 years	18.2 years
Average age (March 31, 2025)	40.9 years old	36.2 years old	40.5 years old
Turnover rate* (FY2024)	1.4%	2.9%	1.6%

* The rate of voluntary retirees to all employees

Promotion of women's participation and career advancement

What we have done so far

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

Internal childcare centers (As of April 2025)	Users of internal childcare centers (As of April 2025)
7 centers	138

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

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

	FY2023	FY2024	FY2025
Number of female employees in management positions (As of April)	65	70	91

Improved hiring and retention

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

The ratio of women in overall hiring (2025)

Office staff and engineers: Administrative staff	Office staff and engineers: Technical staff	Operators and maintenance personnel	Overall hiring
44%	16%	11%	16%

Support for employees' career development and work-life balance

We encourage female employees to develop and show their abilities by providing them with opportunities for career growth through efforts in anticipation of their various life events, and by actively promoting their advancement to managerial positions. As a training measure for the promotion of managers, we implement interactive online seminars for young employees with the aim of interacting with female senior employees, and career training for mid-level employees.

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

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

Restraint on long-work hours

To foster a workplace where diverse personnel can fully demonstrate their abilities, we are committed to reducing long working hours while managing appropriate working hours. Through these efforts, we are advancing initiatives in workstyle and business management that lead to higher value-added outcomes with greater efficiency.

In addition, we had set a goal of less than 2,000 hours on average for the total annual actual working hours, and have achieved it.

Enabling flexible ways of working and taking time off from work

From the viewpoint of performing at their best of individual abilities, all employees with their diverse attributes and circumstances ideally should make the most of their finite time available and pursue more flexible and diverse ways of working. Therefore, we are expanding our work system for that. Specifically, we utilized the remote work system and increased the number of workplaces covered by the "coreless flexible system," which eliminated the core time — an essential time period to work. We also revised the system to enable flexible working for employees who use shorter working hours for childcare, nursing care, etc.

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

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

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

In addition, programs for nursing care leave and time off for nursing care have been established to help employees continue working while attending to nursing care. Welfare leave can be also used for nursing care.

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

[Performance of ways of working and taking time off (FY2024)]

Average overtime hours per worker per month	24.9 hours
Ratio of paid holidays taken	80.0%
Average paid leave taken	16.0 days
Childcare leave users and utilization rates	700 men (77%) 130 women (100%)
Return ratio of female employees after childcare leave	96.9%
Users of the short-work hour system for childcare	188
Nursing care leave and vacation program users	18
Users of the short-work hour system for nursing care	6

Benefit programs

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

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

Basic policy

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

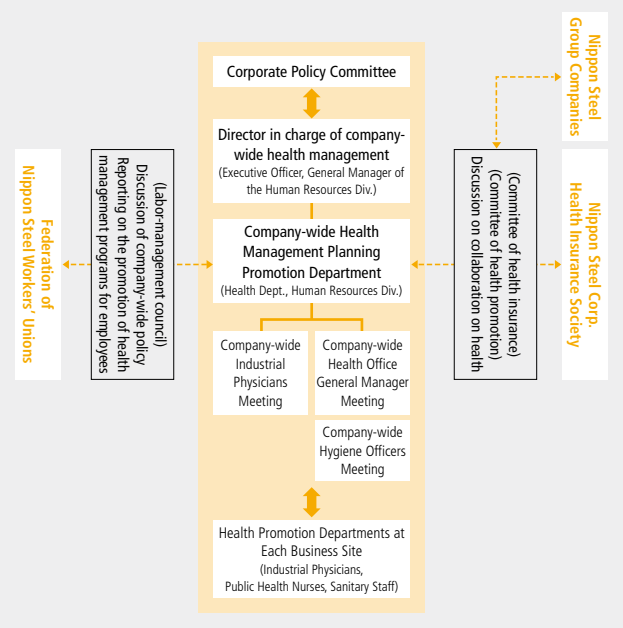
Nippon Steel's Basic Policy on Safety and Health Basic philosophy (excerpt)

Principles

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

April 1, 2019 Nippon Steel Corporation

[Organization for health promotion]



Promoting physical wellness

Cerebral cardiovascular disease control

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

Specified Health Guidance (2023)

Actual implementation rate	Target for 2025	Target implementation rate
92%		70%

Cancer disease control

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

In particular, regarding gastric and colorectal cancer, which are high risk diseases, we set the priority target (age and frequency for screening) based on medical evidence. We also set our target rate of screening attendance and encourage employees to take screening for early detection and treatment of cancer.

Actual rates of taking cancer examination (2024)

Gastric cancer screening	81%	Target for 2025	70%
Colorectal cancer screening	91%	Target for 2025	90%

[Initiatives to standardize manufacturing]

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

Promoting mental wellness

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

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

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

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

[Our mental health initiatives]

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

Prevention of harassment

We are strengthening efforts to prevent harassment in order to create a work environment where diverse human resources can fully demonstrate their abilities.

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

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

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

Empowerment of older people and persons with disabilities

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

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

Employment rate of persons with disabilities (June 2025)

2.62%

Respect for Human Rights

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

Basic policy

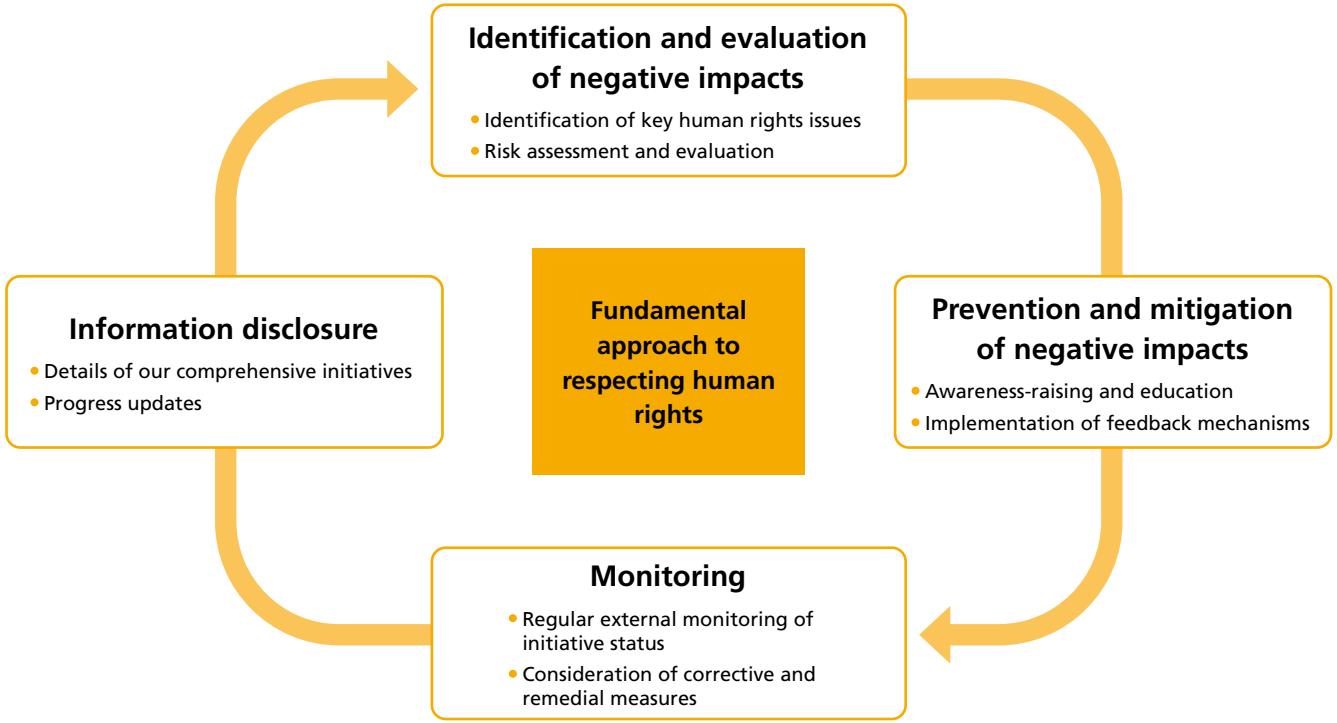
In compliance with the Universal Declaration of Human Rights and other international norms on human rights, the Nippon Steel Group respects our employees' diverse views and fully utilizes their individuality via effective communication and collaboration so as to create and deliver enhanced value. Based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

Informal gathering of employees of overseas operating companies and our employees

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

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

Efforts to prevent human rights abuses



<Response inside and outside the Nippon Steel Group>

Conduct human rights due diligence

Based on the establishment of the Human Rights Policy effective April 1, 2024, we have established a human rights due diligence system to identify negative impacts on human rights*1, prevent or mitigate them, and are working on continuous implementation and improvement. Specifically, in the mining sector, we conducted supplier surveys*2 in questionnaire format*3, covering five companies in FY2024 and twenty-five companies in FY2025.

Following analysis and review of their responses and publicly disclosed information, we engage in dialogue with each supplier regarding our assessment of their responses as well as their planned future initiatives.

*1 Risks related to forced labor, child labor, and occupational health and safety.
*2 Suppliers were selected based on factors such as the proportion of total purchase value, product category, and country of origin.
*3 The questionnaire was prepared with reference to the UN Global Compact.

<Actions taken by the Nippon Steel Group>

Addressing human rights risks

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

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

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

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

Prevention of forced or child labor

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

Compliance concerning salaries

We comply with the laws and regulations of each country and region regarding wages, including minimum wages, overtime pay, and equal pay for equal work. In addition, we are committed to paying workers a living wage that is necessary to maintain an adequate standard of living. With regard to bonuses, we regularly survey relevant matters, including the status of each country, region, and type of work, hold meetings with labor representatives, and appropriately reward employees by paying 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.

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

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

The number of recipients of training courses by rank on human rights (FY2024 results)

5,316

Mechanism of corrective actions

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

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

[Inquiry form concerning human rights]

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

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

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

Coexistence with Communities

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

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

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

The NPO's activities are based on a scientific mechanism according to which the ecological linkage of forests, villages, and the sea nurtures the blessings of the sea forest. In other words, the forestation leads to an increase in iron-humic acid that flows down rivers, and which enriches the growth of oysters and scallops near the river mouth.

Since 2012, we have participated in the NPO's tree planting activity at Murone Mountain in Iwate Prefecture. In 2025, 30 people, consisting of employees of Nippon Steel and Group companies, as well as their families, participated in the 37th round of tree planting activity.

Tree planting activity

Acceptance of teachers

We participate in the "Private Sector Training Program for Teachers" organized by the Japan Institute for Social and Economic Affairs, and every year we invite teachers from elementary and junior high schools in various regions to visit our production line, introduce our efforts in human resource development and environmental activities, and provide safety education using VR. In fiscal 2024, we welcomed 111 teachers at 8 manufacturing sites.

Training at Setouchi Works (Hirohata Area)

On-site classes

Our staff at each steelworks go to nearby elementary schools to provide on-site classes. At the Kyushu Works (Oita Area), a total of 308 students from five neighboring elementary schools attended science experiments between November and December 2024.

On-site class operations at the Kyushu Works Oita Area

Social interaction at festivals

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

Tokai Autumn Festival (Nagoya Works)

Kamaishi Festival (North Nippon Works Kamaishi Area)

Community cleanup activities

Various cleaning activities are carried out in the vicinity of each steelworks. Each year, we participate in a citywide coastal clean-up at the East Nippon Works Kashima Area in collaboration with local residents. In fiscal 2024, the event was held on July 6. In recognition of its long-standing coastal conservation efforts, the Kashima Area received the Coastal Merit Award from the National Association of Sea Coast in June 2024.

Cleaning of beach in Kashima city

Sports events

The Kansai Works Osaka Area (Amagasaki) hosted the 4th Nippon Steel Victory Cup Junior High School Girls' Volleyball Festival on August 24 and 25, 2024, with approximately 700 participants from local schools. Various other sports tournaments are also held at other steelworks.

Volleyball festival held at the Kansai Works Osaka Area (Amagasaki)

Support of music culture

Nippon Steel actively supports music culture, particularly through the work of the Nippon Steel Arts Foundation. The Foundation manages the Nippon Steel Kioi Hall in Tokyo, organizes performances of its resident chamber orchestra, and promotes traditional Japanese music. We also present the annual Nippon Steel Music Awards, which were established in 1990, to young classical musicians and individuals who have contributed to the development of classical music.

Nippon Steel Kioi Hall

Steelworks plant tours

As one of the ways to enhance dialogue with shareholders, institutional investors, and residents in local communities, we regularly hold business strategy briefing sessions and visits to steelworks in various areas. In fiscal 2024, approximately 90,000 people visited our steelworks.

Steelworks plant tours

Activities supporting sports as a form of social contribution

Nippon Steel manages or supports sports teams in disciplines such as judo, baseball, soccer, rugby, and volleyball, each deeply rooted in the local communities of its steelworks. These teams also contribute to their communities through various sports classes for children, coaching of junior teams, and making our athletic facilities available to local residents for games and training.

Nippon Steel Kashima Baseball Club

7 Corporate Governance

The following are the points we would like you to understand in this section

- 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 business of the Nippon Steel Group in order to achieve 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.

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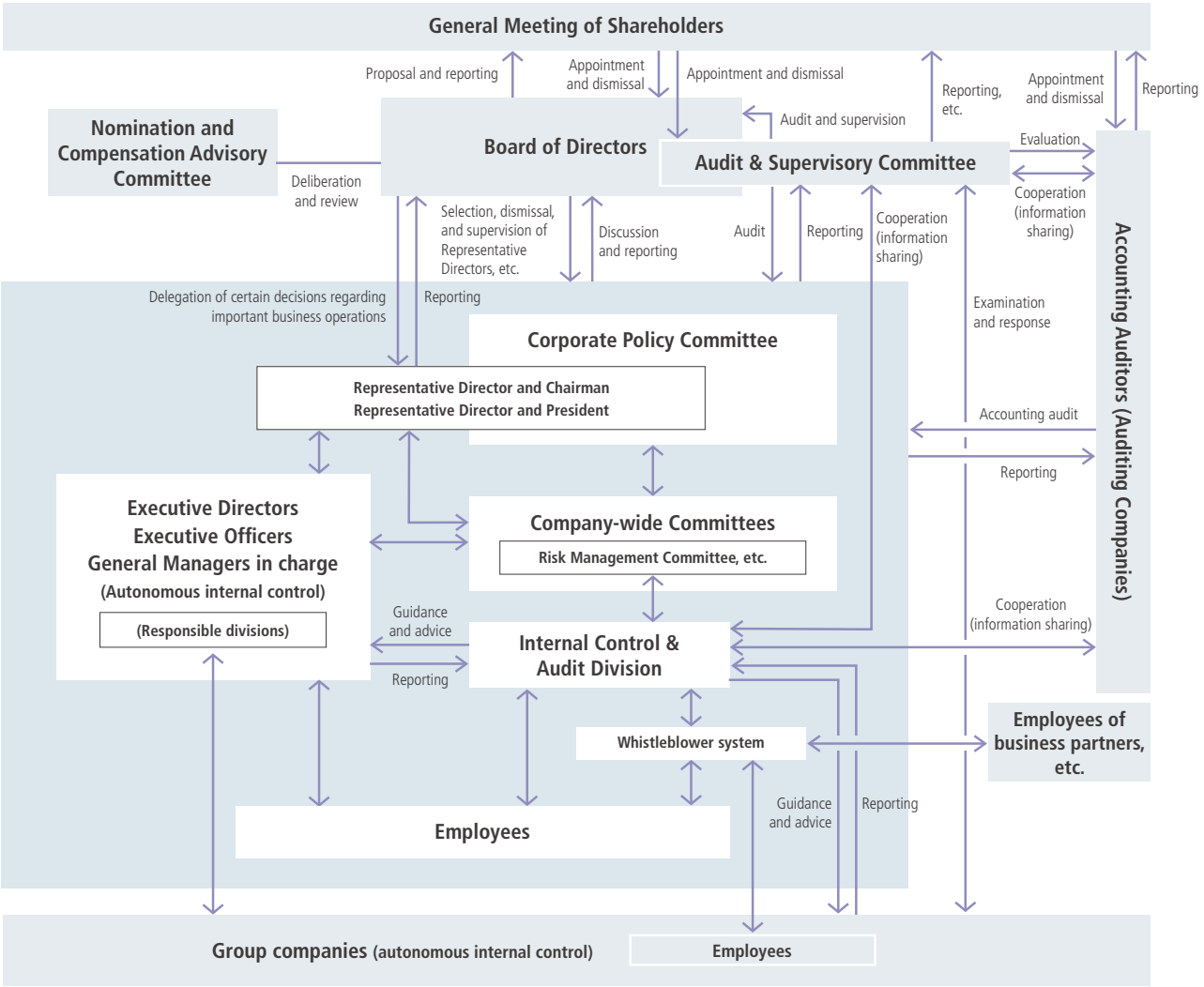
Corporate Governance

Basic Views of Corporate Governance

Nippon Steel adopts a Company with Audit and Supervisory Committee structure to enhance deliberations on formulating corporate policies and strategies by expediting management-related decision-making, prioritizing deliberation matters at the Board of Directors, and strengthening the supervisory function of the Board of Directors over management.



Corporate Governance Structure

Board of Directors

The Board of Directors is comprised of 15 members, of whom ten are Directors (excluding those who are members of the Audit & Supervisory Committee) and five Directors who are members of the Audit & Supervisory Committee. The Representative Director and President chairs the Board of Directors. Independent Outside Directors account for one-third of the members of the Board of Directors (five, including three women). 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 members of the Audit & Supervisory Committee hold voting rights for the resolution on the appointment and dismissal of Directors, the selection and dismissal of Representative Directors, and all other business execution-related decisions (except for those delegated to Directors). Furthermore, the Audit & Supervisory Committee has the authority to give its opinions at the General Meeting of Shareholders concerning the appointment and compensation of Directors (excluding Directors who are members of the Audit & Supervisory Committee). The voting rights and authority of the Audit & Supervisory Committee described above are intended to strengthen the supervisory function of the Board of Directors over management.

Furthermore, the Board of Directors delegates part of the decisions regarding the 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, environment issues, disaster prevention, and quality assurance.

Nomination and Compensation Advisory Committee

The Nomination and Compensation Advisory Committee is positioned as a place where we broadly deliberate on and consider all matters related to the nomination and compensation of our Directors, such as the composition of the entire Board of Directors and the Audit & Supervisory Committee, and the schemes and levels of compensation for Directors. The Committee is comprised of five members: Eiji Hashimoto, Representative Director and Chairman, Tadashi Imai, Representative Director and President, and Tetsuro Tomita, Kuniko Urano, and Kenji Hiramatsu, who are Outside Directors. This committee is chaired by the President and held twice a year as a general rule (scheduled for May and December in FY2025).

Corporate Policy Committee

The Corporate Policy Committee is comprised of the Representative Director and Chairman, the Representative Director and President, the Representative Directors and Executive Vice Presidents, and other members to deliberate on essential matters related to the management of Nippon Steel and its Group companies (held every week as a general rule). 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. For reference, Nippon Steel incorporates an executive officer system to enhance management efficiency through expedited decision-making and to clarify the division of responsibilities.

Company-wide Committees

As deliberative bodies preceding the Corporate Policy Committee and the Board of Directors, we have established company-wide committees by purpose and field, which are chaired by respective Executive Vice Presidents. (As of April 1, 2025, we have a total of 18 company-wide committees, including the Ordinary Budget Committee, Equipment Budget Committee, Investment and Loan Committee, Risk Management Committee, Green Transformation Promotion Committee, and Overseas Business Strategy Committee.)

[Number of meetings held in FY2024]

Board of Directors	Audit & Supervisory Committee	Nomination and Compensation Advisory Committee
18 times	16 times	Three times

Initiatives implemented to date to enhance corporate governance

June 2006	• Reduction of the number of directors outlined in the Articles of Incorporation from 48 to 15* (* The number was increased to 20 when Nippon Steel & Sumitomo Metal was established in 2012) • Introduction of an executive officer system • Introduction of limited liability contracts with external auditors
June 2014	• Appointment of outside directors (two) • Introduction of limited liability contracts with outside directors
June 2015	• Introduction of limited liability contracts with full-time auditors
October 2015	• Establishment of the Nomination and Compensation Advisory Committee
June 2018	• The number of outside directors was increased to three (including a female director)
June 2020	• Transition to a company with an audit and supervisory committee

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. Full-time members of the Audit & Supervisory Committee and Outside Directors, who are members of the Audit & Supervisory Committee and possess extensive experience and profound insight in their respective specialized fields, are systematically implementing audit activities while maintaining close coordination with the Internal Audit Division. The Audit & Supervisory Committee strives to enhance the effectiveness of its audit activities by reviewing the previous fiscal year's audit activities and reflecting points of improvement in the following fiscal year's audit plan.

The priority audit policies and matters for FY2025 are as follows.

[Priority audit policies and matters]

(1) Status of development and operation of internal control systems

Concerning the status of the development and operation of the internal control systems in the entire consolidated group (such as safety and health, environmental control, disaster prevention and BCP, and quality control and assurance), the Committee must address diversifying and globalizing risks with limited resources, by ensuring 1) the effectiveness of "autonomous internal control" to control and improve department-specific operations under the leadership of the general manager in charge and 2) the status of initiatives by each Administration Division (the second line) and Internal Audit Division (the third line) that are responsible for planning and promoting the efforts described in the above 1).

(2) Progress status in various initiatives under the Management Plan

- Progress status of the Medium- to Long-term Management Plan
- Progress status of securing talented human resources, promoting empowerment and diversity, and inclusion
- Progress status of business innovation and efficiency enhancement

[Main activities of Audit & Supervisory Committee]

- Attendance at important meetings
- On-site audits and tours at steelworks and other facilities
- Hearing the report from executive directors, employees, and others on the execution of their duties
- Communication and information exchange with group companies that contribute to enhancing group governance
- Hearing the report from accounting auditors
- Formation of opinions regarding the appointment and compensation of Directors (excluding those who are members of the Audit & Supervisory Committee)

Internal control systems

According to the Basic Policies on Internal Control Systems, which was resolved by the Board of Directors, and the Internal Control Basic Regulations, Nippon Steel is structured based on autonomous internal control activities by internal divisions and group companies. The Internal Control & Audit Division, in close cooperation with functional divisions in charge of risk management in respective fields, formulates annual plans concerning internal control and risk management, places checking and auditing schemes in place, regularly monitors the status of internal control across the entire Group, and strives for continuous improvement. To foster a healthy and open organization, we emphasize workplace dialogue and regularly confirm employees' awareness of compliance and internal control activities through questionnaire surveys. Furthermore, as a measure to supplement internal control, we set up and operate whistleblower and consultation desks internally and in external specialized organizations, which are accessible to officers, employees, and their families of Nippon Steel and its Group companies, as well as employees of our business partners. There were 437 whistleblower and consultation cases in FY2024 (441 in FY2023).

Risk management

We deliberate on the status of risk management initiatives at company-wide committees chaired by executive vice presidents for each purpose and field, and then report them to the Corporate Policy Committee and the Board of Directors. In addition, we deliberate on and approve the status of initiatives for overall internal controls including matters related to risk management in each field (labor safety, harassment, human rights, environment, disaster prevention, quality assurance, financial reporting, information security, etc.) at the Risk Management Committee, which is held every quarter, chaired by the Executive Vice President in charge of internal control. We also report essential matters to the Corporate Policy Committee and the Board of Directors. Nippon Steel's Board of Directors oversees the management of significant business risks through these mechanisms.

Thorough compliance

Adherence to relevant laws and regulations, and building an appropriate relationship with government and public institutions

Based on its Corporate Philosophy and Code of Conduct, Nippon Steel developed company rules and guidelines for the prevention of bribery for domestic and foreign public officials, compliance with the Anti-Monopoly Act, environmental regulations, and the protection of personal information. We also provide thorough instructions to officers and employees on compliance with laws, regulations, and other rules.

Appropriate tax payment

Nippon Steel is making appropriate tax declarations and payments in compliance with relevant laws and regulations in all countries where it operates. On the other hand, we are striving for tax burden optimization by maintaining transparent, constructive communications with local tax authorities, while eliminating tax avoidance practices.

Policies and procedures for nominating director candidates and appointing and dismissing senior management members

Policies for nominating director candidates and appointing senior management members

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. We believe appointing the President and other senior management members is one of the most critical roles and 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 for nominating director candidates and appointing senior management members

Nippon Steel shall resolve the nomination of director candidates and the appointment of senior management members at the Board of Directors following deliberations at the Nomination and Compensation Advisory Committee. According to the policies described above, the Committee deliberates on and considers these matters from multiple angles, considering the size of the entire Board of Directors and the Audit & Supervisory Committee, as well as the balance of candidates who constitute these managerial functions. In addition, we shall discuss the nomination of director candidates who are members of the Audit & Supervisory Committee at the Board of Directors, after obtaining prior consent from the Audit and Supervisory Committee.

Procedures for dismissing the President and other senior management members

When any grounds for disqualification of directors as stipulated by law arise concerning the President or other senior management members, Nippon Steel shall dismiss them from their positions by a resolution of the Board of Directors. Furthermore, when the President or other senior management members are suspected of misconduct or breach of trust, and when significant impediments arise to the continuation of their duties, Nippon Steel shall be able to dismiss them from their positions by a resolution of the Board of Directors, as well as deliberations and considerations at the Nomination and Compensation Advisory Committee, as needed.

Policies on determining the amount of compensation for directors

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

Basic policies and compensation structure

The compensation for Directors (excluding directors who are members of the Audit & Supervisory Committee and outside directors) shall consist of 1) fixed monetary compensation, 2) performance-based monetary compensation, and 3) performance-based stock compensation. The fixed monetary compensation and the performance-based monetary compensation are paid monthly. We determine the base amounts for these two types of compensation by the director's position (the amounts of compensation paid when our consolidated performance reaches a certain level), considering the levels commensurate with the required capabilities and responsibilities. Regarding the performance-based monetary compensation, we shall determine the amount of compensation for each director after an adjustment within a certain range based on our consolidated performance, without exceeding the limit approved by the General Meeting of Shareholders. The performance-based stock compensation shall be based on a trust-based stock compensation plan. Based on the stock delivery regulations established by the Board of Directors, we shall award each director (excluding a director who is a member of the Audit & Supervisory Committee and an outside director) points based on his/her position and the company's consolidated performance, considering the levels commensurate with the required capabilities and responsibilities. Upon the director's retirement, in principle, we shall deliver through a trust the number of stocks equivalent to the number of points awarded (which are acquired by the trust using money we contribute). The compensation for outside directors (excluding directors who are members of the Audit & Supervisory Committee) shall be paid monthly only in the form of fixed monetary compensation. We shall determine the amount of monthly compensation for each director within the limit approved by the General Meeting of Shareholders, considering the levels commensurate with the required capabilities and responsibilities.

Policies on performance-based compensation

As the benchmark indicator for performance-based monetary and stock compensations for Directors (excluding directors who are members of the Audit & Supervisory Committee and outside directors), we shall use the underlying consolidated business profit and loss, which clearly reflects the Group's operating performance. This indicator takes into account the revenue targets in the Medium- to Long-term Management Plan from the perspective of delivering an appropriate amount of compensation according to the performance for the period. (This indicator is obtained by subtracting the inventory valuation differentials from the consolidated business profit, which we understand represents our Group's real earning power.)

Policy on the ratio of compensation by type

Regarding the ratio of the fixed monetary compensation, performance-based monetary compensation, and performance-based stock compensation, we shall raise the ratio of performance-based compensation (i.e., performance-based monetary and stock compensation) to grant each director appropriate incentives based on his/her position and performance. For the Representative Director and Chairman and the Representative Director and President, we set the ratio of [fixed compensation (fixed monetary compensation) to performance-based compensations (performance-based monetary compensation + performance-based stock compensation)] at around 5/5 for the base amount (the amount to be paid when achieving an underlying consolidated business profit of ¥600 billion). We shall change this ratio within the range of 3/7 to 10/0, depending on the company's performance. In addition, we set the performance-based stock compensation for these two at around 40% of the performance-based monetary compensation.

Method for determining individual compensation

Regarding the specific amounts and details of the fixed monetary compensation, performance-based monetary compensation, and performance-based stock compensation for each director (excluding a director who is a member of the Audit & Supervisory Committee), Nippon Steel shall resolve them at the Board of Directors following deliberations at the Nomination and Compensation Advisory Committee, where the majority of participants are outside directors.

Directors who are members of the Audit & Supervisory Committee

The compensation for directors who are members of the Audit & Supervisory Committee shall be paid monthly only in the form of fixed monetary compensation. We shall determine the monthly compensation for these directors within the limit approved by the General Meeting of Shareholders, taking into account the details of duties and other factors based on their position and whether they are full-time or part-time.

Methods for compensation policy decisions

We determine the policies for Directors (excluding directors who are members of the Audit & Supervisory Committee) at the Board of Directors following considerations at the Nomination and Compensation Advisory Committee. On the other hand, we determine the policies for Directors who are members of the Audit & Supervisory Committee through consultations among directors who are members of the Audit & Supervisory Committee. The Committee is engaging in a broad discussion on these policies based on survey results by external organizations on compensation levels for directors of other companies, including the appropriateness of our compensation systems and levels for directors.

[Total amounts of compensation for directors in FY2024]

(Compensation and others from April 2024 to June 2024)

Officer classification	Number of members (persons)	Total amount (yen)	Total amount by compensation type (yen)		
			Monthly compensation	Non-monetary compensation, etc.	Other types of compensation
Directors (excluding directors who are members of the Audit & Supervisory Committee)	10	309,710,000	309,710,000	—	—
Outside directors among these directors	2	8,640,000	8,640,000	—	—
Directors who are members of the Audit & Supervisory Committee	5	43,280,000	43,280,000	—	—
Outside directors among these directors	3	12,960,000	12,960,000	—	—
Total	15	352,990,000	352,990,000	—	—

The above includes a director (who was not a member of the Audit & Supervisory Committee) and five directors who were members of the Audit & Supervisory Committee (three of whom were outside directors), who all retired upon the conclusion of the 100th Ordinary General Meeting of Shareholders held on June 21, 2024.

(Compensation and others from July 2024 to March 2025)

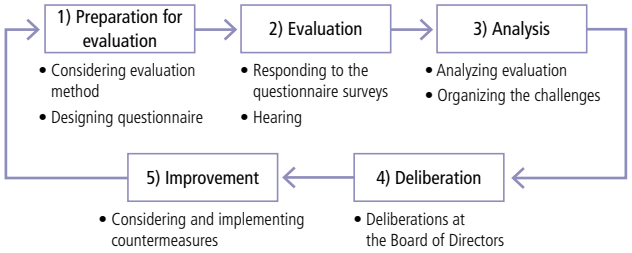
Officer classification	Number of members (persons)	Total amount (yen)	Total amount by compensation type (yen)		
			Fixed compensation	Performance-based compensation	Non-monetary compensation, etc.
Directors (excluding directors who are members of the Audit & Supervisory Committee)	10	1,801,710,000	738,630,000	1,063,080,000	—
Outside directors among these directors	2	29,880,000	29,880,000	—	—
Directors who are members of the Audit & Supervisory Committee	5	157,230,000	157,230,000	—	—
Outside directors among these directors	3	44,820,000	44,820,000	—	—
Total	15	1,958,940,000	895,860,000	1,063,080,000	—

Analysis and evaluation of the effectiveness of the entire Board of Directors

Nippon Steel is analyzing, evaluating, and improving the effectiveness of the Board of Directors to enhance its effectiveness as follows.

1. Evaluation process

We are evaluating the effectiveness of the Board of Directors through the following process: 1) preparation for evaluation, 2) evaluation, 3) analysis, 4) deliberation, and 5) improvement. Regarding 2) evaluation, we quantitatively analyze the number of matters, deliberation time, and each director's attendance rate, as well as the number of comments brought up and reported to the Board of Directors, for comparison with those in the previous fiscal years. We are also conducting questionnaire surveys and interviews with each director to understand his/her specific challenges.



2. Effectiveness evaluation in FY2024

Nippon Steel evaluated the effectiveness of the entire Board of Directors in FY2024 (at the Board of Directors meeting held in May 2025). As a result, we confirmed that proposals brought up and reported to the Board of Directors (including the formulation of management policies and strategies, essential matters from the perspective of business strategies, issues related to risk management, progress in carbon neutrality, diversity, and inclusion initiatives, and measures for securing talented human resources and promoting empowerment) had been appropriately explained in accordance with the Companies Act and internal regulations. We also verified that both internal and external directors asked questions and deliberated on these proposals from a diverse viewpoint and from the perspective of the medium- to long-term corporate value enhancement. Taking all things into consideration, we concluded that the Board of Directors had been working effectively.

Furthermore, based on the opinions of each director obtained from the effectiveness evaluation in FY2024, we will continue to strive for the improved operation of the Board of Directors and prioritize deliberations to enhance its effectiveness further. To this end, we will continue to improve meeting procedures and utilize other platforms outside the Board of Directors to facilitate broader information sharing and exchange of opinions.

[Major deliberations at the Board of Directors in FY2024]

- Formulation of management policies and strategies
- Essential matters related to business strategies
- Status of Group companies (financial soundness evaluation, etc.)
- Status of initiatives for safety, environment, disaster prevention, and quality
- Status of initiatives toward carbon neutrality
- Status of initiatives for diversity and inclusion
- Measures for securing talented human resources and promoting empowerment
- Appointment of representative directors, nomination of director candidates, and appointment of senior management members
- Analysis and evaluation of the effectiveness of the Board of Directors
- Status of development and operation of internal control systems
- 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. Besides, from the perspective of further enhancing the effectiveness of the Board of Directors and based on the opinions of directors obtained from the effectiveness evaluation in FY2024, we will continue to strive to improve the structure, content, and method of provision of materials for the Board of Directors and enhance and activate deliberations by prioritizing matters subject to deliberation and reviewing the operational procedures.

Significance of holding 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 the medium- to long-term corporate value of the Group. In addition, to comply with relevant laws and regulations and ensure reliable financial reports and effective and efficient operations, Nippon Steel is developing and appropriately operating its internal control systems suitable for the Group's businesses, striving for their continuous improvement. Based on this basic policy, Nippon Steel and its Group companies share business strategies as a unified group, while taking into account the business characteristics of each Group company. With respect to the control of the Group companies, we establish basic rules in the Group Company Management Regulations to ensure appropriate operations of the control. At the same time, each Group company is building and developing its internal control system based on autonomous internal control, enhancing various internal control-related initiatives backed by our support, guidance, and advice. Furthermore, to ensure its independent decision-making, each listed subsidiary has a structure in which independent outside directors account for at least one-third of its total board members. Therefore, we understand that these subsidiaries are managed autonomously. Regarding the condition of transactions between the parent and subsidiary companies, we determine it reasonably based on general contract terms with other customers and market prices. Our listed subsidiaries confirmed that they did not harm the interests of any company. When it comes to our subsidiaries listed on the Prime Market of the Tokyo Stock Exchange, we establish a system to set up a special committee when significant parent-subsidiary transactions or actions take place. Currently, Nippon Steel has four listed subsidiaries: NS Solutions Corporation, Osaka Steel Co., Ltd., Krosaki Harima Corporation *, and Geostr Corporation. (Significance of holding each listed subsidiary is stated in the Corporate Governance Report, Chapter I. 5. Other special circumstances that may significantly impact corporate governance)

* On August 1 of this year, we announced the commencement of a tender offer for the full subsidiarization of this company.

Corporate Governance Report
https://www.nipponsteel.com/en/company/governance/system/pdf/cg_report.pdf

We judge the appropriateness of these companies being listed subsidiaries from the perspectives of 1) significance for Nippon Steel, 2) significance for our subsidiaries, and 3) the necessity of being publicly listed companies. We judge the perspectives of 1) and 2) on a case-by-case basis because they vary depending on each subsidiary. Regarding the perspective of 3), our judgment must be based primarily on several factors, including enhanced presence in the industry, securing talented human resources, creditworthiness in business, procurement of growth capital, and strong motivation for growth driven by wrestling the rigor of the stock market.

Particularly when significant changes occur in our business environment or group strategies, we make timely judgments on the relationships with our listed subsidiaries and execute capital policies as needed. There are cases where we executed capital policies in the past, such as NS Trading Co., Ltd. and Sanyo Special Steel Co., Ltd., which went private. Even when our holding of listed subsidiaries is considered appropriate at present, its appropriateness may not necessarily be maintained in the future. Therefore, flexibly responding to changes is fundamental to the management of our group company.

System that promotes group management

For all subsidiaries and affiliated companies, Nippon Steel implements not only internal controls but also the formulation of consolidated management plans and PDCA-based management of consolidated financial statements. As one such example, for all group companies, including listed subsidiaries, we conduct a management soundness assessment at least once a year under quantitative criteria based on financial data, whose results we report to the Corporate Policy Committee. We also report the results to the Board of Directors once a year.

Significance of holding listed affiliated companies

Nippon Steel holds nine listed affiliated companies primarily for their contribution to the company's consolidated profits. Those companies are Godo Steel Ltd., Topy Industries Ltd., Kyoei Steel Ltd., Nippon Denko Co., Ltd., Nichia Steel Works, Ltd., NS United Kaiun Kaisha, Ltd., Nippon Coke & Engineering Co., Ltd., Sanko Metal Industrial Co., Ltd., and Sanyu Co., Ltd. Takasago Tekko K.K. All these companies constitute part of the steelmaking business segment of Nippon Steel's portfolio. Although Nippon Steel sends an auditor to some of these companies to ensure appropriate risk management, there are no matters requiring approval of Nippon Steel, nor any agreements related to governance with any one of these companies. Moreover, since Nippon Steel's ratio of voting rights does not reach a majority at any company, we understand that the independence of each company is ensured and that the risk of conflicts of interest is minimal.

Strategic shareholdings

Policy on strategic shareholdings

From the standpoints of sustainable growth and corporate value enhancement in the medium- to long-term, Nippon Steel believes it is extremely important to maintain and develop the trust and collaborative relationships with its broad range of business and alliance partners both in Japan and overseas that it has cultivated through its business activities in the past. We shall continue strategic shareholdings if they are judged to contribute to maintaining and strengthening the business foundation between us and our business and alliance partners whose shares we have, enhancing the earning power of both parties, and eventually, corporate value enhancement of Nippon Steel and its Group companies. On the other hand, we intend to sell the shares of business partner companies with which we have confirmed that the above objectives can be achieved without strategic shareholdings after thorough discussion with them.

Verification of the appropriateness of strategic shareholdings

Nippon Steel confirms the appropriateness of all strategic shareholdings by scrutinizing specifically whether the purpose of each shareholding is appropriate and whether the benefits and risks associated with holding are commensurate with the cost of capital. In this process, we verify the appropriateness of strategic shareholdings whose market values exceed a certain amount at the Board of Directors annually. The total market value of the strategic shareholdings verified at the Board of Directors accounted for around 80% of the total market value of those held by Nippon Steel on a consolidated basis (as of March 31, 2025). The number of stock brands of the strategic shareholdings held by Nippon Steel on a non-consolidated basis was 495 as of October 1, 2012, when Nippon Steel & Sumitomo Metal was established. However, the number decreased to 236 as of March 31, 2025 (the total value on the balance sheet was ¥223.2 billion).

P.66 "Changes in Holdings"

Basic policy on the exercise of voting rights for strategic shareholdings

Nippon Steel exercises its voting rights for strategic shareholdings by comprehensively evaluating whether the related agenda item of the General Meeting of Shareholders of a company whose shares we hold contributes to the corporate value enhancement of Nippon Steel and the company. Specifically, Nippon Steel shall exercise its voting rights by formulating its voting rights exercise criteria that stipulate judgment guidelines depending on the types of agenda items, such as the appropriation of surplus funds and the appointment of directors and auditors, as well as comparing these criteria with the above-described results of verifying the appropriateness of strategic shareholdings.

Policy for dialogues with shareholders and investors

With a view to achieving sustainable growth and improving its corporate value in the medium- to long-term, Nippon Steel is taking various measures to promote constructive dialogues with shareholders. The Director responsible for Corporate Communications and the Director in charge of Accounting and Finance are responsible for overall dialogue with shareholders and investors to enhance various initiatives, in collaboration with other internal divisions, including the Corpoate Communications and the Accounting & Finance Division. Specifically, we strive to proactively provide information to shareholders and respond sincerely to their questions and comments at the General Meeting of Shareholders. We also regularly invite shareholders to our local management business briefings and plant tours in various locations. In addition, we are engaged in dialogue with institutional investors through opportunities such as briefing sessions concerning our management strategies, details of our businesses, accomplishments, approaches to sustainability issues, etc. We engage in dialogue with appropriate specialists depending on the nature of our explanation. In addition, we have been strengthening our initiatives for individual shareholders in recent years. Our senior management members, including the President, and an officer in charge of IR, join these dialogue opportunities, as needed. Our senior management members and internal divisions share the opinions of shareholders and investors obtained through these initiatives, as needed. We also regularly report and provide feedback on the results to the Board of Directors.

Factory tours

Management Briefing Session

Board of Directors (as of July 2025)

Directors

Representative Director, Chairman and CEO

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; Project Leader of Usiminas Project, Global Business Development Sector of NSC
Jun. 2016: Representative Director and Executive Vice President and Head of Global Business Development of NSC
Apr. 2019: Representative Director and President of NSC
Apr. 2024: Representative Director, Chairman and CEO of NSC

Representative Director, President and COO

Tadashi Imai

Apr. 1988: Joined Nippon Steel Corporation (NSC)
Apr. 2016: Executive Officer and Head of Works, Nagoya Works of NSC
Jun. 2020: Managing Director, Member of the Board of NSC
Feb. 2022: Managing Director, Member of the Board and Project Leader, Thailand Iron and Steel Project, Global Business Development Sector; Deputy Project Leader, Zero-Carbon Steel Project; Deputy Project Leader, Next-Generation Hot Strip Mill Project of NSC
Apr. 2023: Representative Director and Executive Vice President, Head of Green Transformation Development, and Deputy Project Leader, Next-Generation Hot Strip Mill Project of NSC
Apr. 2024: Representative Director, President and COO of NSC

Representative Director, Vice Chairman and Executive Vice President

Takahiro Mori

Apr. 1983: Joined Nippon Steel Corporation (NSC)
Jun. 2016: Vice President of Usinas Siderúrgicas de Minas Gerais S.A -USIMINAS
Apr. 2020: Managing Executive Officer, Head of Unit, Plate Unit, Pipe & Tube Unit, Project Leader, VSB Project, Global Business Development Sector of NSC
Apr. 2021: Executive Vice President, Head of Global Business Development, Project Leader of India Iron and Steel Project, Global Business Development Sector of NSC
Jun. 2021: Representative Director and Executive Vice President, Head of Global Business Development, and Global Business Development Sector of NSC Project Leader of India Iron and Steel Project
Apr. 2024: Representative Director, Vice Chairman and Executive Vice President Head of Global Business Development; Project Leader of India Project, Global Business Development Sector; Project Leader, USS Project of NSC

Representative Director and Executive Vice President

Naoki Sato

Apr. 1983: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Managing Executive Officer and Head of Kashima Works of NSC
Apr. 2020: Executive Vice President and Head of Works, East Nippon Works of NSC
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 NSC
Apr. 2024: Representative Director and Executive Vice President Deputy Project Leader, India Project, Global Business Development Sector; Deputy Project Leader, Thailand Iron and Steel Project, Global Business Development Sector; Deputy Project Leader, USS Project of NSC

Representative Director and Executive Vice President

Takashi Hirose

Apr. 1986: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Executive Officer, Head of Unit, Plate Division of NSC
Apr. 2019: Managing Executive Officer; Head of Unit, Plate Division; Vice Head of Unit, Flat Products Division of NSC
Apr. 2020: Managing Executive Officer; Head of Unit, Flat Products Unit; Project Leader of Shanghai-Baoshan Cold-rolling & Coated Sheet Products Project, Global Business Development Sector of NSC
Jun. 2022: Representative Director and Executive Vice President; Head of Unit, Flat Products Unit; Deputy Project Leader, Next-Generation Hot Strip Mill Project of NSC
Apr. 2024: Representative Director and Executive Vice President, Deputy Project Leader, Next-Generation Hot Strip Mill Project of NSC
Jun. 2025: Representative Director and Executive Vice President, Deputy Project Leader, USS Project, Deputy Project Leader, Next-Generation Hot Strip Mill Project of NSC

Representative Director and Executive Vice President

Hirofumi Funakoshi

Jul. 1987: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Executive Officer of NSC
Apr. 2019: Executive Officer and Head of Division, Corporate Planning Division of NSC
Apr. 2022: Managing Executive Officer, and Vice Head of Green Transformation Development of NSC
Jun. 2023: Representative Director and Executive Vice President of NSC
Jun. 2025: Representative Director and Executive Vice President of NSC, Deputy Project Leader, USS Project of NSC

Representative Director and Executive Vice President

Hiroyuki Minato

Apr. 1989: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Executive Officer and Head of Division, Technical Administration & Planning Division of NSC
Apr. 2020: Executive Officer and Head of Works, Muroran Works of NSC
Apr. 2021: Managing Executive Officer and Head of Muroran Works of NSC
Jun. 2024: Representative Director and Executive Vice President Project Leader, Next-Generation Hot Strip Mill Project; Project Leader, Electric Furnace Project of NSC
Jun. 2025: Representative Director and Executive Vice President of NSC, Deputy Project Leader, USS Project, Project Leader, Next-Generation Hot Strip Mill Project; Project Leader, Electric Furnace Project of NSC

Representative Director and Executive Vice President

Nobuhiro Fujita

Apr. 1989: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Executive Officer; Head of R&D Laboratories, Head of Steel Research Laboratories of NSC
Apr. 2021: Managing Executive Officer; Head of R&D Laboratories, Head of Steel Research Laboratories of NSC
Apr. 2024: Senior Managing Executive Officer; Head of R&D Laboratories, Head of Steel Research Laboratories of NSC
Apr. 2025: Executive Vice President; Head of R&D Laboratories of NSC
Jun. 2025: Representative Director and Executive Vice President; Head of R&D Laboratories, Deputy Project Leader, USS Project of NSC

Outside Director
Independent Director

Director, Member of the Board

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 NSC
Apr. 2024: Advisor of East Japan Railway Company

Outside Director
Independent Director

Director, Member of the Board

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 NSC

Directors who are Audit & Supervisory Committee Members

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

Kazumasa Shinkai

Apr. 1987: Joined Nippon Steel Corporation (NSC)
Apr. 2018: Executive Officer and Head of Division, General Administration Division of NSC
Apr. 2021: Managing Executive Officer and Head of Division, General Administration Division of NSC
Apr. 2023: Managing Executive Officer of NSC
Jun. 2024: Director, Member of the Board (Senior Audit & Supervisory Committee Member) (Full time) of NSC

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

Eiji Sogo

Apr. 1989: Joined Nippon Steel Corporation (NSC)
Apr. 2019: Executive Officer and Head of Division, Human Resources Division of NSC
Apr. 2022: Managing Executive Officer and Head of Division, Human Resources Division of NSC
Apr. 2023: Managing Executive Officer of NSC
Jun. 2024: Director, Member of the Board, (Senior Audit & Supervisory Committee Member) (Full time) of NSC

Outside Director
Independent Director

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

Kenji Hiramatsu

Apr. 1979: Joined Ministry of Foreign Affairs of Japan
Nov. 2015: Ambassador of Japan to the Republic of India
Jan. 2016: Ambassador of Japan to the Republic of India and Ambassador of Japan to the Kingdom of Bhutan
Sep. 2019: Ambassador of Japan to the Kingdom of Spain
Nov. 2022: Retired from the Ministry of Foreign Affairs of Japan
Dec. 2022: Chairman of the Institute for International Strategy, The Japan Research Institute, Limited
Jun. 2024: Director, Member of the Board (Audit & Supervisory Committee Member) (Outside Director) of NSC

Outside Director
Independent Director

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

Aiko Sekine

Apr. 1981: Joined Citibank, N.A., Tokyo Branch
Sep. 2006: Partner of Arata Audit Corporation (currently PricewaterhouseCoopers Japan LLC)
Jul. 2016: Chairman and President of Japanese Institute of Certified Public Accountants
Jul. 2019: Advisor of Japanese Institute of Certified Public Accountants
Sep. 2020: Professor of Waseda University, Faculty of Commerce
Jun. 2024: Director, Member of the Board (Audit & Supervisory Committee Member) (Outside Director) of NSC

Outside Director
Independent Director

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

Sumiko Takeuchi

Apr. 1994: Joined Tokyo Electric Power Company, Incorporated
Jan. 2012: Director and Senior Fellow of Specified Nonprofit Corporation, International Environment and Economy Institute
Oct. 2018: Co-representative of U3 Innovations LLC
Apr. 2020: Specially Appointed Professor of Tohoku University
Jun. 2024: Director, Member of the Board (Audit & Supervisory Committee Member) (Outside Director) of NSC

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 in the table on the right.

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)										
Eiji Hashimoto	Representative Director, Chairman and CEO	●			●		●	●	●	
Tadashi Imai	Representative Director, President and COO	●			●	●			●	
Takahiro Mori	Representative Director, Vice Chairman and Executive Vice President	●	●				●	●		
Naoki Sato	Representative Director and Executive Vice President				●	●			●	
Takashi Hirose	Representative Director and Executive Vice President	●					●	●		
Hirofumi Funakoshi	Representative Director and Executive Vice President	●		●	●				●	
Hiroyuki Minato	Representative Director and Executive Vice President				●	●			●	
Nobuhiro Fujita	Representative Director and Executive Vice President				●	●			●	
Tetsuro Tomita	Director (Outside Director)	●		●	●			●		
Kuniko Urano	Director (Outside Director)			●	●				●	
Directors who are Audit & Supervisory Committee Members										
Kazumasa Shinkai	Senior Audit & Supervisory Committee Member (full-time)			●	●		●		●	
Eiji Sogo	Senior Audit & Supervisory Committee Member (full-time)	●		●	●		●			
Kenji Hiramatsu	Audit & Supervisory Committee Member (Outside Director)				●			●	●	●
Aiko Sekine	Audit & Supervisory Committee Member (Outside Director)		●		●			●		
Sumiko Takeuchi	Audit & Supervisory Committee Member (Outside Director)				●				●	●

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

— Roundtable Discussion of Outside Directors —

To Realize Nippon Steel's Vision

We have five Outside Directors of Nippon Steel here to discuss the characteristics of our Board of Directors, the contributions they can make by leveraging their respective expertise and experience, and their expectations for Nippon Steel's Vision.

Characteristics of our Board of Directors

Tomita: I became an outside director five years ago, when the business environment was extremely challenging. I recall that Nippon Steel announcing a plan at that time to generate revenue by reducing its domestic crude steel production capacity to 40 million tons. However, it later successfully restructured the domestic steel business and then realized the acquisition of U. S. Steel. I have the utmost respect for the leadership of the management team members.

Our Board of Directors is characterized by Executive Vice Presidents, who are also Directors and explain agenda items themselves. Generally, executive officers or general managers explain agenda items at many companies, but at Nippon Steel, Executive Vice Presidents responsible for respective business operations do that job. While western-style corporate governance reforms have been a mainstream trend worldwide, I do not believe that a formal separation of executive and supervisory functions is the best approach. From my experience with serving as president and then chairman of a railway company, I am keenly aware of the difficulty of that approach. I believe the Board of Directors should do more than serve as a supervisory body. Instead, it should be a place where even the executives actively participate in candid discussions about various issues. In this sense, Nippon Steel is a company in which integrated executive and supervisory functions enable essential and productive discussions.

Urano: Expressing our opinions by completely separating supervision and execution might make it difficult to formulate agenda items in the first place. Our Board of Directors strikes a balance between supervisory matters related to governance and executive matters such as growth and business strategies. Also, the secretariat does an excellent job setting the scope and depth for matters to be discussed. Such thoughtfulness is very helpful to me. Furthermore, the secretariat also provides a comprehensive preliminary explanation and answers my questions with concrete data. This allows me to focus on substantive discussions at the Board of Directors. What I emphasize is why the executive side has reached that decision. As we can easily fall into a pitfall when things go smoothly, I make sure that agenda items have been thoroughly studied from multiple perspectives. So, I am always conscious of thinking from my own perspective without blindly accepting expert opinions.

Hiramatsu: As resolution matters submitted to the Board of Directors are meticulously constructed in every detail, it is nearly impossible to add more value to them. I strive to resolve my questions during the preliminary briefing and emphasize the conveyance of my opinions, insights, and expertise-based information to the Board of Directors. Since the Board of Directors is a place for making decisions, not for a question-and-answer sessions, it does not feel as hectic as other meetings. However, I have the impression that agenda items are sincerely and thoroughly discussed. As a member of the Audit & Supervisory Committee, I consciously maintain a neutral perspective by keeping a certain distance from the executives.

Sekine: It is said that the separation between management supervision and execution at the Board of Directors is not clearly defined in many Japanese companies. Furthermore, their governance is structured in various forms, such as a company with a board of company auditors, a company with an audit and supervisory committee, and a company with a nominating committee. Under these circumstances, I believe that how management supervision should be performed, and which form of governance structure is best vary depending on each company's management style and culture, which we cannot determine uniformly. Instead, it is essential to enhance the effectiveness of governance in a manner appropriate to that company.

At our Board of Directors, the Executive Vice President explains an agenda item, with the Chairman and President present, which fosters an atmosphere where everyone can express candid opinions. I believe this atmosphere enables substantive, in-depth discussions, leading me to think that the current governance structure fits well with Nippon Steel's organizational culture. In this context, I think an essential role of outside directors is to deepen discussions at the Board of Directors from the external viewpoint of "how the company is recognized by society," not only from the internal perspective that the executive side has been discussing, but also from the objective perspective of those who are not involved in execution.

Takeuchi: As other members said, agenda items brought up to the Board of Directors are very carefully prepared. However, no matter how carefully you prepare something, there are no guarantees in business. In such a violently changing time, what may seem like the best solution from one perspective may often turn out otherwise when viewed from another. I believe outside directors have the role of sensing early signs of changes in society and the market, informing them internally, and offering opinions from a perspective different from that within the company.

I perceive Executive Vice Presidents present at our Board of Directors with a sense of considerable tension. We seldom see heated debates at our Board of Directors. It may be because the agenda items have been thoroughly deliberated in the preceding Corporate Policy Committee. So, I have my say with the hope that a comment from an outside director may spark up discussions there.

Roles of outside directors

Tomita: According to my experience, although outside directors are not necessarily well-versed in the company's businesses. However, they often point us to new perspectives based on their extensive experience and knowledge, and I have gained significant insight from them. Feedback from an external perspective, which is often overlooked inside the company and is extremely valuable for those engaging in executing operations internally. I understand that providing advice from this a perspective is one of the primary responsibilities of outside directors.

Meanwhile, Japanese companies have long prioritized employee engagement, considering management from a medium- to long-term perspective. This management style makes a lot of sense to me. No matter how impressive your business plans are, if your employees do not follow these plans or are exhausted, you cannot produce the desired results. While meticulously considered topics are brought up to our Board of Directors, the agenda items to be reviewed represent only a fraction of the daily issues arising in the fields of our Group, which has more than 100,000 employees. For this reason, I am checking audit and compliance reports in detail with a strong interest in employee engagement. It is not easy to manage and lead such a large number of employees and maintain thorough governance. Therefore, I intend to make use of my own experience to contribute to the company's management from this perspective as well.

Urano: I have experience working as a production management manager at a company in the heavy, capital-intensive industry, where "safety, quality, and reliability" are tenaciously emphasized, like Nippon Steel. So, I understand very well how difficult it is to penetrate governance into every corner of the production fields."How could this happen despite such thorough governance?" Such things happen all the time. This is precisely why incorporating an outside perspective is so important. On the other hand, the answers to solve problems lie on the front lines, whether in the R&D field, production field, or sales field as an interface with customers. Therefore, enhancing front-line capabilities is essential for the company's sustainable growth. I am sure the Administrative Division and main office staff are well aware of this point. However, even if you know it in your head, there are many things you cannot realize unless you stand on the front lines. Therefore, I believe that checking for such awareness at the front lines is also an important perspective for outside directors.

Hiramatsu: I have been involved in the core of foreign policy at the Ministry of Foreign Affairs for over 40 years. I have no corporate management experience. However, I have engaged in numerous negotiations with the United States and also worked locally in India for about four years. Nippon Steel has realized a partnership with U. S. Steel and is currently gaining a foothold in India for business expansion. Given this situation, our coordination and negotiations with governments and relevant authorities around the world will remain essential in the future. Over many years, I have engaged in international negotiations and developed an understanding of how Japanese companies are recognized globally. I believe my experiences in this area could provide valuable insights for Nippon Steel's global expansion.

On the other hand, I used to say at the Ministry of Foreign Affairs, "Avoid one-way discussions." As Mr. Tomita said earlier, I felt that different perspectives and opinions often lead to discoveries and better conclusions. In that sense, while the Board of Directors is a place for making decisions, I believe it would be better if it became a place where opinions are exchanged more actively.

Sekine: With many years of experience as an accounting auditor and certified public accountant, people believe that I am skilled with numbers and tend to approach things from a numerical perspective. However, auditing is not all about looking at numbers. It is essential to understand the company's actual situation and make judgments from an outside, independent perspective. To this end, I place great importance on touring the fields for direct interviews with employees. From that experience, what I feel as an outside director is that penetrating governance into every corner of the fields is not as easy as it sounds. While the Board of Directors discusses major policies, even minor carelessness in the fields could generate a considerable risk that might undermine the company's overall credibility. Even if we provide clear instructions on governance, they become meaningless if misconduct or other impropriety occur

due to their insufficient penetration into the fields. Therefore, as a member of the Audit & Supervisory Committee, I consider it one of my roles to closely monitor even minor issues in the fields and discuss them with the Board of Directors or other relevant parties.

Takeuchi: My area of expertise is green transformation (GX), but it does not simply mean I try to reduce greenhouse gas emissions. This is an economic growth strategy aimed at enhancing efficiency and building a more sustainable society by integrating it with the transformation of industrial structure and locations, as well as digital transformation (DX). In this context, I place great importance on three points. The first point is "communication." As the industrial structure undergoes significant changes in the future, I consider that it will become increasingly important to proactively engage in dialogue with people outside the steel industry and cooperate with them toward social reforms. Nippon Steel has long been engaged in overseas businesses, making it relatively good at coexisting with different cultures. However, as that experience is limited to the steel industry, we need to change both the quality and quantity of our communication to integrate with foreign cultures from now on. I also believe we must pay attention to "tacit understanding," which is often inherent in large, highly homogeneous companies. Therefore, it is crucial to assess from an external perspective whether effective communication is fostered between management and the fields.

The second point is to urge the executive side to further sharpen its sensitivity to "negative information." In many cases, information about accidents and incidents is reported to the Board of Directors only after the cause has been investigated. However, I will encourage sharing bad news as quickly as possible.

The third point is a "sense of speed." All agenda items are meticulously prepared and brought to the Board of Directors. As a result, the company can move extremely quickly once decisions are made. On the other hand, I am concerned that those agenda items may necessitate additional steps in preliminary preparations. I also serve as an outside director for a startup company. That company moves forward with a sense of speed, like "Try it first, and fix it immediately if it does not work." In rapidly changing situations, no matter how detailed your plans are, things often do not go as planned. Therefore, it is essential to enhance our sense of speed and flexibility. The time and manpower spent on preparations are costs. So, I will emphasize the importance of striking a balance between a sense of speed and meticulousness from an external perspective.

Nippon Steel's Vision

Tomita: Under the leadership of our top management, Nippon Steel is changing courses to pursue full-scale global expansion. I hope the vision of "aiming to become the world's best steelmaker in ten years" will serve as a driving force to not only revive Nippon Steel but also Japan's industrial competitiveness, which has declined during the so-called "lost 20 or 30 years." Despite the limited growth in Japan, Nippon Steel is expanding into the United States, India, Thailand, and Europe. Therefore, I believe the groundwork has been sufficiently laid for the vision of "100 Million Tons, 1 Trillion Yen." I also think the message of Chairman Mr. Hashimoto, "We will return profits earned to our employees," is superb. As I said earlier, I believe enhanced employee happiness and engagement create a virtuous cycle of growth and profit distribution. I hope Nippon Steel spreads its wings around the world and utilizes its technical expertise and field capabilities for the sake of Japan's industrial community.

Urano: It is wonderful to see the leadership's commitment to "carbon neutrality," as well as the discontinuous goal of "100 Million Tons, and 1 Trillion Yen," permeate through all employees. In addition, I am always impressed by their thoroughness in anticipating various scenarios far ahead to prepare to act immediately when opportunities arise. Moreover, the company needs to communicate regularly and clearly with the fields on how they should adapt to changes. This ensures that everyone, including the fields, can move forward smoothly when the time comes to accelerate.

Now that the acquisition of U. S. Steel has been completed, I sincerely hope the company will launch a model that demonstrates, "This is Nippon Steel's global management."I want Nippon Steel to operate in each region, leveraging the Group's strengths without compromising on the policies, technology, and quality that we must protect, while respecting the value and culture of the region. As growth opportunities continue to expand for both the company and its employees, I hope Nippon Steel will continue to strive to create an environment that allows not only our Japanese employees but also global colleagues to share the joy of success.

Hiramatsu: Nippon Steel is a leader of the Japanese industrial community and actively operates around the world, which is of great importance for Japan's diplomacy and the revival of its industrial competitiveness. Given this fact, the company's vision of "100 Million Tons, 1 Trillion Yen" is an achievable goal. Now that the acquisition of U. S. Steel has been finalized, I believe Nippon Steel can set an even higher goal. Given the availability of sufficient management resources, I would like to encourage Nippon Steel to strive for a higher level, demonstrating an overwhelming global presence under the leadership of top management.

I believe the key to future growth lies in India. This country has a population of 1.4 billion and is expanding at an annual growth rate nearing 7%, with its infrastructure development still in its early stages. The potential demand for steel is enormous. Of course, we should focus on creating synergies with U. S. Steel in the short term as the top priority. However, I believe the steel market in India will eventually surpass that in Japan. I still visit India almost every month, experiencing its growth firsthand. I am always willing to give my advice for the company. I desire for Nippon Steel to succeed in India for the sake of Japan as well.

Sekine: The vision of "100 Million Tons, 1 Trillion Yen" sounds very comprehensible and is memorable to me. On the other hand, as is the case with the merger of U. S. Steel, Nippon Steel has the guts to get the job done meticulously. The company precisely set up goals that seem mere wishes at first glance, and clears them one after another. As other members said, steel is the foundation of industry, and it can help Japan's industrial community regain its vitality. I do hope that Nippon Steel will steadily make significant achievements toward the realization of this vision.

I am embarrassed to say this, but I had only the image of Nippon Steel as "a company that produces iron in big blast furnaces." However, I later learned that it has highly competitive advantages, including the possession of advanced technologies that other companies cannot replicate and the ability to meet customers' detailed needs. However, as Ms. Takeuchi said, pursuing "meticulousness" in manufacturing to the extreme might result in unnoticed inefficiencies in the company. Chairman Mr. Hashimoto said, "There is still room for further efficiency enhancement." He is right. Structural reform of the domestic steel business has not been completed yet. To help Nippon Steel strive for its goals, I will continue to offer advice from an outside perspective to the best of my ability.

Takeuchi: Nippon Steel is a company that "delivers on its promises." The growth of steel is crucial to social growth. So, I feel excited about the vision of "100 Million Tons, 1 Trillion Yen."

On the other hand, the "realization of a carbon-neutral society" is an extremely difficult challenge. Green transformation comes at significant costs. Without a system that fairly and evenly distributes the costs internationally and across industries, there is no hope for achieving carbon neutrality in the entire society. However, when it comes to bearing such costs, any country, company, and consumer would want to avoid the burden in their hearts.

As carbon neutrality is my area of expertise, please allow me to

add a few comments. Steel companies often face harsh criticism from society due to environmental concerns. Given the magnitude of CO_2 emissions, their reactions are not a surprise. However, while I observe various industries and companies as a government committee member, I consider Nippon Steel to be a company that is extremely serious about addressing such concerns. My biggest surprise after becoming an outside director is the fact that Nippon Steel is this serious about GX. Carbon neutrality is not a simple matter that the emergence of special technologies or product designs can accelerate. Instead, the entire society is asked how much burden and pain it can bear to realize the environmental "value that benefits everyone."Since consumers can hardly recognize this value, the government's institutional designs would play a crucial role. However, such institutional designs often end up with "God and the devil are in the details."Nippon Steel always examines every detail and conveys its candid opinions even to the government. For this reason, the company may sometimes look like a "resistance force." However, I learned that it was because the company is serious about its initiatives toward carbon neutrality, not about greenwashing.

On the other hand, the addition of U. S. Steel to our Group companies also means a significant increase in the generation of its global environmental impact. This calls for Nippon Steel to further commit to and develop strategies for environmental protection. At the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP) and other international conferences, the parties are shifting to a phase where actionable plans are valued over less substantive carbon neutrality declarations. Given this background, I believe the world's expectations for Nippon Steel will continue to grow further. I have very high expectations of Nippon Steel's initiatives as it is one of the few companies capable of providing concrete solutions for a decarbonized society.

8 Basic Information

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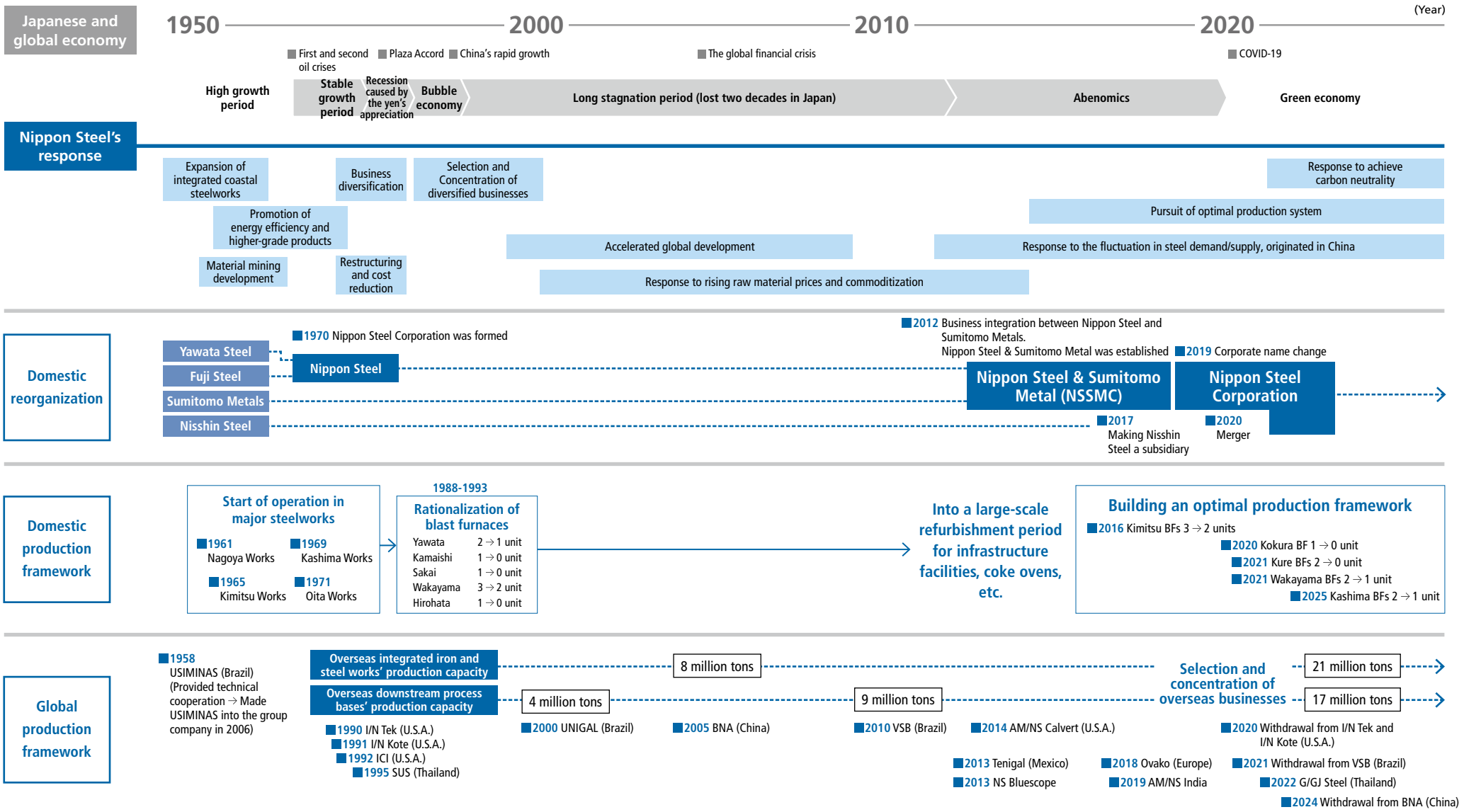
History of Our Development

The Nippon Steel Group 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.



Overview of the Group's Business

The Nippon Steel Group's business structure consists of steelmaking, engineering, chemicals and materials, and system solutions.
The steelmaking and steel fabrication business covers the upstream and downstream of the steel industry value chain, as well as domestic and overseas markets. Nippon Steel Corporation, the operating holding company, is engaged in the core domestic steelmaking business, while group companies are engaged in the overseas steelmaking business, raw materials business, and other steel businesses which comprise functional, trading, secondary processing, stainless steel, and electric arc furnace.
The "Three non-steel companies" engaged in the engineering, chemical and materials, and system solutions, perform a supporting function in Nippon Steel's value chain of the steelmaking business and also operate businesses outside the Group by utilizing the technologies, products, and services that have been cultivated in the value chain.
We share important strategies throughout the Group and aim to maximize the value of the Group.

(As of March 31, 2025)

Segment		Business overview	Number of Group companies		Number of employees (consol.)
Steelmaking business	1 Domestic steel business	Steel products of the six mills in Japan are sold for domestic and export markets. This is a core business of the Nippon Steel Group as these mother steelworks efficiently produce high-grade steel for contributing to solving social issues.	1 company (Nippon Steel Corporation)		28,652
	2 Overseas steel business	We have crude steel production capacity of 42 million tons and steel production capacity of 54 million tons at overseas manufacturing bases of approximately 50 consolidated subsidiaries and equity method affiliates in at least 16 countries. We are developing our business per two models: an integrated steelworks and a downstream processing base.	Consolidated subsidiaries (U. S. Steel, G/GJ Steel, NS-SUS, etc.) Equity method affiliates (AM/NS India, etc.)	452 companies	68,061
	3 Raw material business	We have invested in mines that produce iron ore, coking coal, and other raw materials used in the steelmaking business. This business contributes to the stability of the earnings structure by securing stable procurement of high-quality raw materials and mitigating the impact of fluctuations in raw material market prices on consolidated results.	Iron ore: Robe River, etc. Coking coal: EVR JV, Blackwater, etc.		
	4 Steel group companies	Other group companies support the steelmaking and steel fabrication business, from upstream to downstream in a variety of areas in the steel industry's value chain and enhance the value of these businesses. They consist of "functional" (equipment and construction, materials and equipment, subcontractors, slag recycling) companies, trading companies, and secondary processing, and electric arc furnace companies.	(NS TEXENG NS TRADING, NS COATED SHEET, Sanyo Special Steel, etc.)		
5 Three non-steel companies Engineering and construction		We support infrastructure in Japan and overseas in a variety of fields, including the construction of plants related to the environment and energy, skyscrapers, and huge steel structures.	34 companies (Nippon Steel Engineering, etc.)		5,115
Chemicals & materials business		In addition to the coal chemicals business, by recycling by-products generated in the steelmaking business, we will contribute to the realization of a prosperous society and the well-being of the global environment through advanced chemical and material technologies in the chemicals business and the functional materials business.	19 companies (NIPPON STEEL Chemical & Material, etc.)		3,317
System solutions business		With its track record of supporting the huge operation systems of steelworks 24 hours a day, 365 days a year, this business provides optimal and stable systems utilizing cutting-edge IT on behalf of a wide range of customers in the manufacturing industry as well as in finance, distribution, and the public sector.	23 companies (NS Solutions, etc.)		8,700
Total			530 companies (Nippon Steel, 419 consolidated subsidiaries, 110 equity method affiliates)		113,845

1 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 our large-scale blast furnaces, coastal steel mills, and also exceptional facilities and operating technologies, which have established an efficient and reliable production and supply system for high-grade steel. 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 broader range of applications and 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 steelmakers, with leading technology in the field of high-grade steel.

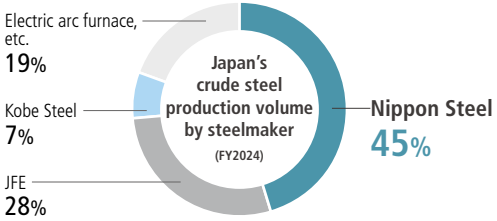
Production share

Nippon Steel is Japan's top steelmaker, dominating roughly half of the market.

In global terms, former Nippon Steel had the No. 1 share of crude steel production from 1970 to 2000 (except 1998 and 1999). Subsequently, there were consolidations and reorganizations of global steelmakers, and the rise, consolidation, and reorganizations of Chinese steelmakers, along with China's rapid growth in steel demand and production volume. In 2024, Nippon Steel became the world's No. 4 in crude steel production.

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

[Japan's crude steel production volume by steelmaker]



[(Reference) World ranking in crude steel production volume]

2000: 850 million tons

1	Nippon Steel	28.4
2	POSCO	27.7
3	Arbed	24.1
4	LNM	22.4
5	Usinor	21.0
6	Corus	20.0
7	ThyssenKrupp	17.7
8	Baosteel Group	17.7
9	NKK	16.0
10	Riva	15.6
11	Kawasaki Steel	13.0
12	Sumitomo Metals	11.6
21	Bethlehem	9.1
24	LTV	7.4
34	Iscor	5.5
	TATA	
	Nisshin Steel	3.3

2007: 1,348 million tons

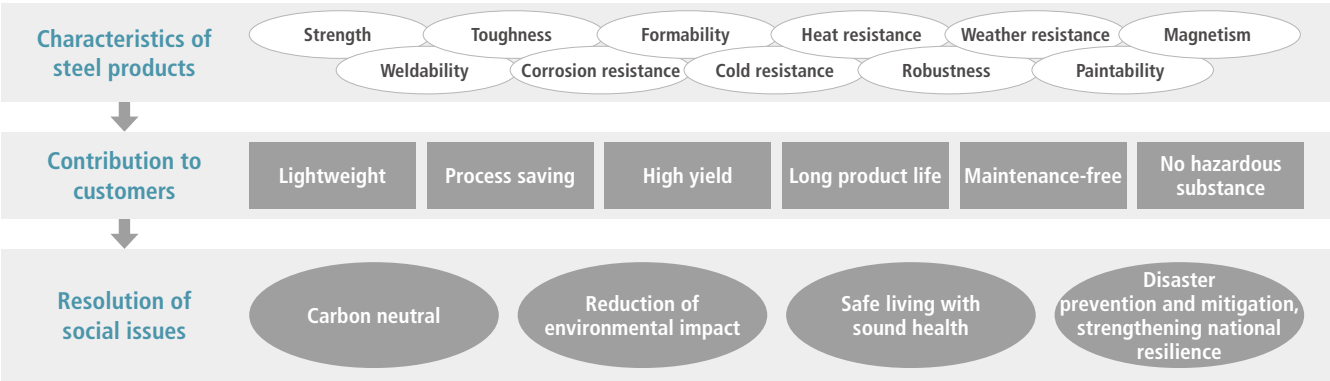
1	ArcelorMittal	116.4
2	Nippon Steel	35.7
3	JFE	34.0
4	POSCO	31.1
5	Baosteel Group	28.6
6	TATA	26.5
7	Angang Group	23.6
8	Jiangsu Shagang Group	22.9
9	Tangshan Iron and Steel Group	22.8
10	U.S. Steel	21.5
20	Sumitomo Metals	13.8
	Nisshin Steel	3.5

2024: 1,885 million tons

1	China Baowu Steel Group	130.1
2	ArcelorMittal	65.0
3	Angang Group	59.6
4	Nippon Steel	43.6
5	HBIS Group	42.3
6	Jiangsu Shagang Group	40.2
7	Jianlong Group	39.4
8	POSCO	38.0
9	Shougang Group	31.6
10	TATA	31.0

(source: worldsteel)

[Ways in which the supply of high-grade steel can contribute to solving social issues]



Sales

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

In terms of Nippon Steel's sales by industry, the manufacturing sector for domestic customers and exporters 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 in 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 based on the long-term trust relationship, 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 the supply of materials, responding to their needs. Moreover, we have established an overseas supply network of steel products, to satisfy the 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 the needs of our customers who are 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.

Strong presence in emerging Asia

Roughly 50 to 60% of the steel products Nippon Steel products in Japan are shipped domestically, with the remaining 40 to 50% exported to other countries. 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 the advantages of Nippon Steel.

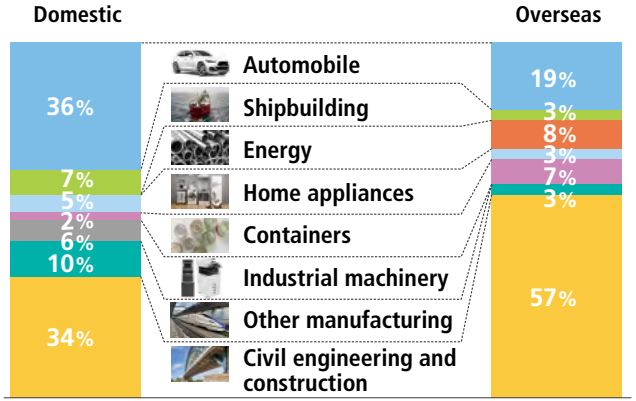
Sales contracts of steel products

Our contracts to sell steel products to customers can be categorized into two types: direct contract-based sales and spot market sales.

In the case of direct contract-based sales, a customer gives a specific order (price, volume, specifications, etc.) to Nippon Steel, then we produce and sell steel products that meet the specifications and needs of the customer, based on the order. A trading company, as an intermediary, is involved in contracts. The sales price of the steel product is determined through direct negotiations with a customer.

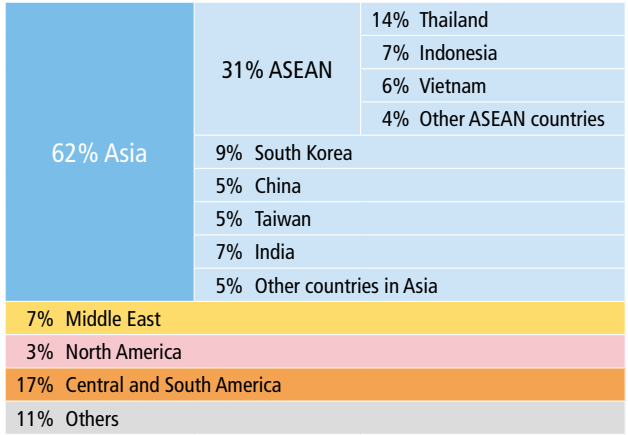
A spot market sales contract is a deal wherein a steelmaker sells steel products to a distributor or a trading firm without end users being specified. The distributors and trading firms stockpile the steel products which are purchased at their own responsibility and risk and sell them through their own sales efforts, considering the market and other conditions.

[Shipment breakdown by demand sector]



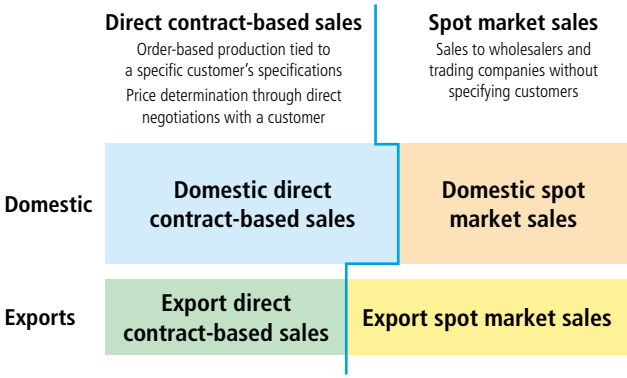
* Based on non-consolidated order intake volume in FY2024 (excluding semi-finished products)

[Composition by export destination]



* Based on non-consolidated order intake volume in FY2024

[Nippon Steel's types of contracts for sales of steel products]



Production

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 steelmaking 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 to 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

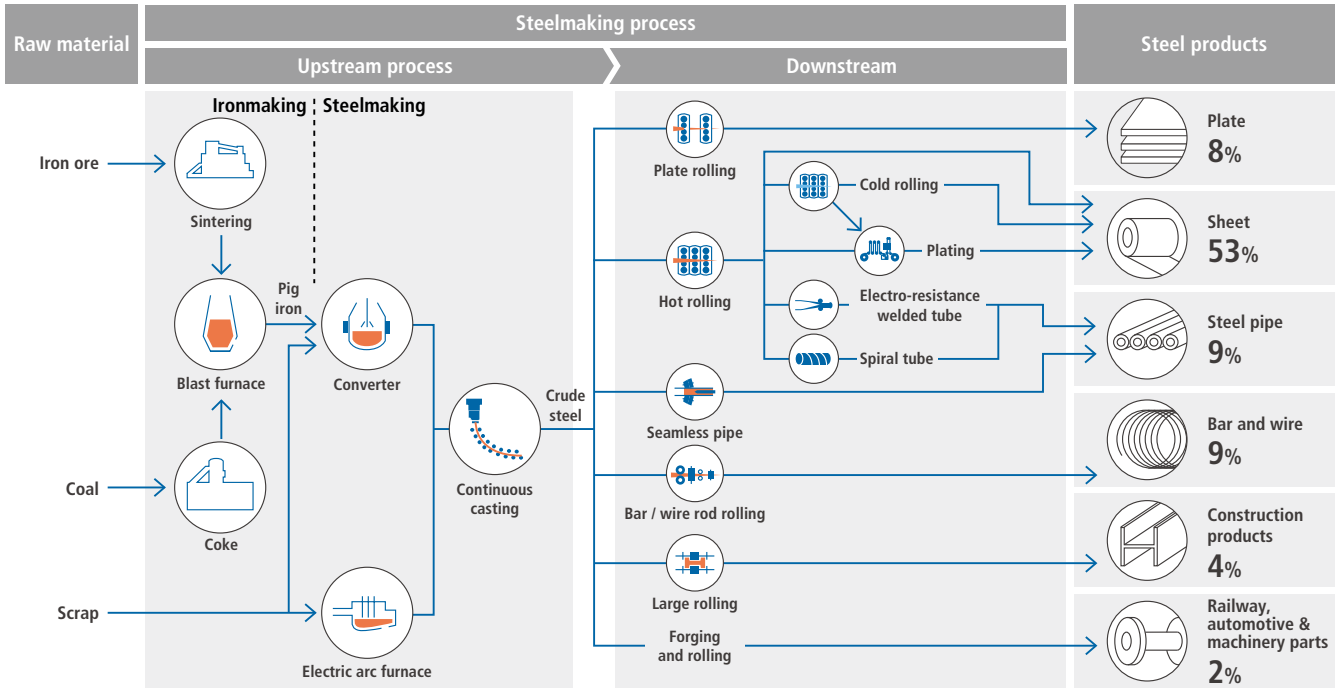
The downstream process is divided into processes for rolling, coating, refining, and inspection, enabling the manufacturing of products with features required by customers.

Domestic manufacturing bases for efficient production of high-quality steel and R&D centers

Under its organizational structure consisting of seven steelworks in Japan, Nippon Steel Corporation has its manufacturing bases in 11 areas. In some of these areas, Group companies operate manufacturing bases engaged in electric arc furnace steelmaking and secondary processing of steel products. The Nippon Steel Group's domestic crude steel production capacity totals about 44 million tons per year.

In addition to three large-scale R&D centers, research laboratories at each steelworks put research outcomes from the R&D centers to practical use in advanced technology, by improving equipment closely with the manufacturing sites and developing products closely with customers. Our manufacturing bases and R&D centers have been working side by side with our customers for many years and will continue doing so in the future. These bases are a source of our continual value creation in developing operational, equipment, product, and decarbonization technologies, which are our strengths. They are our mother mills, based on which Nippon Steel will continue to create value during its global business development.

[Steel product manufacturing process]



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

All of Nippon Steel's large blast furnace integrated steelworks in Japan are located in coastal 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 steelwork. A blast furnace is a core facility in the upstream process. Nippon Steel currently operates ten blast furnaces (as of the end of FY2024), most of which are highly productive, super-large blast furnaces. Oita No. 1 and No. 2 blast furnaces are among the world's largest at a capacity of 5,775m^3. The average furnace capacity of these ten is approximately 4,800m^3.

The large blast furnace and coastal 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 KPI data daily and monthly, and groundbreaking advances are 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 amounts of 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.

2 Overseas steel business

Leveraging the strengths cultivated in "mother steelworks" in Japan, in overseas markets, Nippon Steel is expanding its plants for integrated manufacturing and downstream processes in the centers of demand, and thereby seeks to ensure that local demand is captured in "districts and areas where demand is expected to grow" and in "sectors in which our technologies and products are appreciated." At present, the Nippon Steel Group's total production capacity at its overseas manufacturing bases is approximately 19 million tons/year in crude steel production and approximately 37 million tons/year in steel products production.

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. Furthermore, demand for high-grade steel that helps address social challenges is expected to continue to rising, especially in developed countries.

To meet this overseas demand, we not only export high-grade steel products from Japan but also respond by establishing overseas production bases in regions where demand is expected to grow steadily and in sectors where our technological and product strengths can be leveraged. These include 1) local production bases for downstream processes such as cold rolling and plating, and 2) integrated production bases covering upstream processes (blast furnace, electric arc furnace) through downstream processes (rolling, etc.).

We are developing our overseas steelmaking business in various locations, with ASEAN countries (our home market), India, where demand is growing, and the United States and Europe, the largest markets for high-grade steel, as priority bases. As an insider in these markets, we will contribute to their economic growth and solve their social issues.

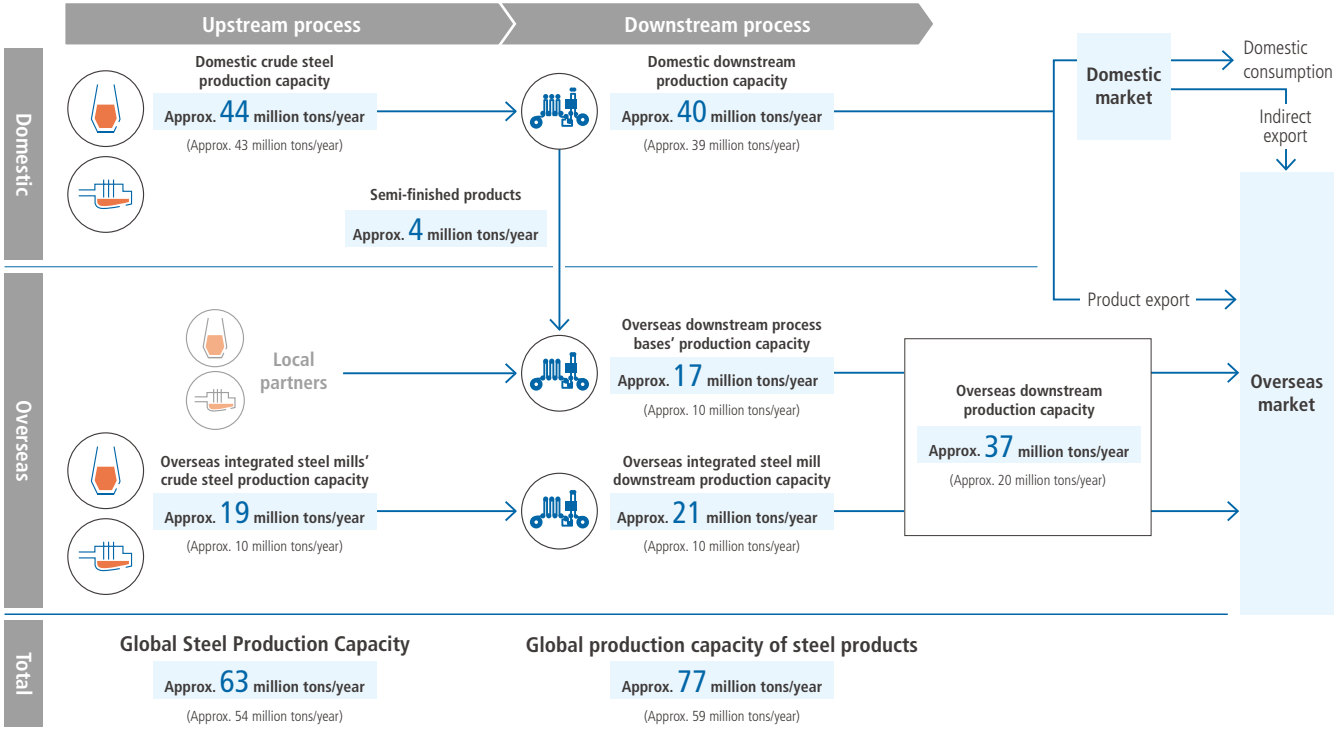
Integrated iron and steel manufacturing bases

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. In expanding our manufacturing capacity, our basic approach is to acquire integrated steelworks through brownfield investments at competitive prices, or to expand capacity at existing facilities. This strategy is based on the following considerations: 1) maintaining the supply/demand balance in a market characterized by persistent overcapacity, 2) mitigating the risks associated with launching new facilities, and 3)considering the difficulty of securing labor at new locations.

Downstream process bases

Regarding the demand for high-grade steel at local manufacturing bases of Japanese customers who manufacture automobiles and home appliances, we first supply semi-finished products from Japan or local joint venture partners to our local processing bases for cold rolling, plating, steel pipes, etc. We then ship finished products to local customers.

[Global Production Framework*] Simple aggregation of the nominal capacity of each company.
Figures in parentheses 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.

3 Raw material business

Nippon Steel aims to secure essential raw materials for carbon-neutral steel production, such as coking coal and high-grade iron ore, and strengthen its consolidated earnings structure to be more resilient against external factors through investments in raw material interests. As part of these initiatives, we acquired in March 2025 a 20% interest in the Blackwater Coal Mine in Australia. At the same time, we acquired a 30% interest in the Kami Iron Ore Mine Project in Canada. We also reached a master agreement with Champion Iron on the establishment of a joint venture company to develop and operate a new mining area. Moving forward, we will continue to expand our investments not only to secure raw materials but also to actively build an integrated business structure encompassing raw materials, manufacturing, and distribution.

[Mines in which Nippon Steel has invested]

			Year of Nippon Steel participation	Equity ratio of Nippon Steel	Major shareholders	Production capacity (million tons/year)
Iron ore and pellet	Australia	Robe River	1977	14%	Rio Tinto 53%	70
	Brazil	NIBRASCO	1974	33%	VALE 51%	10
	Canada	Kami under feasibility study	2025	30%	Champion Iron 51.0%, Sojitz 19%	9
Coal	Australia	Moranbah North	1997	6%	Anglo American 88%	12
		Warkworth	1990	10%	Yancoal 85%	8
		Bulga	1993	13%	Glencore 88%	7
		Foxleigh	2010	10%	Middlemount South 70%	3
		Boggabri	2015	10%	Idemitsu Kosan 90.0%	7
		Coppabella and Moorvale	1998	2%	Peabody 73%	5
		Equity method consolidation in Q2 FY2025 Blackwater	2025	20%	Whitehaven 70%, JFE10%	10
	Canada	EVR JV	2024	20%	Glencore 77%	27
Alloy (niobium)	Brazil	CBMM	2011	3%	Moreira Salles 70%	0.15

[Changes in raw material self-sufficiency ratios]

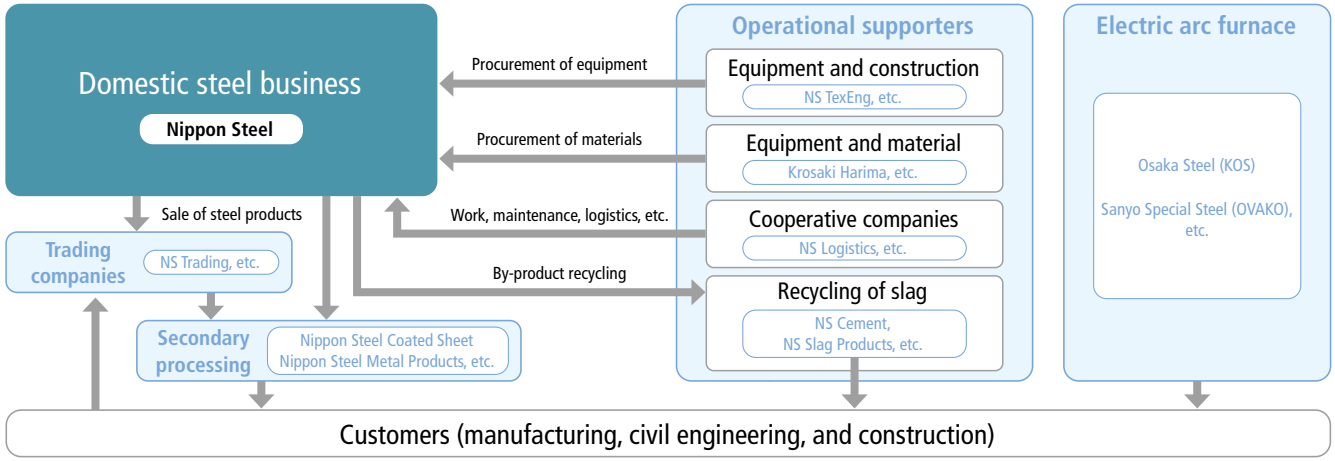
	Total procurement (FY2022 results)	In-house ore sourcing ratio (procurement rate from invested mines)		
		Before investment in EVR JV	After investment in EVR JV	After investment in Blackwater JV
Iron ore	Approximately 50 million tons	About 20%	About 20%	
Coal	Approximately 25 million tons	About 20%	About 30%	About 35%

Our aim is to further increase the ratio of materials procured from our own mines

4 Steel group companies

Nippon Steel Corporation's other group companies support the domestic steel business in various areas, from upstream to downstream in the steelmaking value chain, and enhance value therein. In the same way as Nippon Steel, these companies have achieved stable earnings by strengthening their structure through restructuring and integration, streamlining facilities, and improving margins. We are implementing necessary measures to enable the Nippon Steel Group to respond strategically and flexibly to rapid changes in the business environment. These measures include restructuring our supply chain, including group companies, with initiatives such as strengthened collaboration with NS Trading, the integration of Nippon Steel Stainless Steel, the reorganization of our domestic electric-welded pipe business, and making Sanyo Special Steel a wholly owned subsidiary.

[Steelmaking value chain and other group companies]



Functional companies

(focusing on materials, equipment and construction, operation, maintenance and logistics, by-product recycling)

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

Major functional subsidiaries	Nippon Steel's ownership	Details of business
NS TexEng	100%	Engineering, maintenance, and operation of machinery, electrical instrumentation, systems, and construction of steel production facilities
Krosaki Harima	42.88%	Manufacture and sale of all refractory materials; and design, installation, building and repair of various kiln furnaces
NS Logistics	100%	Marine transport, factory transport and work subcontracting, port transport, warehousing, truck transportation, and customs services
Nippon Steel Slag Products	100%	Manufacture and sale of steel slag products

* On August 1 of this year, we announced the commencement of a tender offer for the full subsidiarization of this company.

Trading companies

NS Trading serves as the core trading company of the Nippon Steel Group. The company became a subsidiary in April 2023 and a privately held company in June of the same year, further strengthening collaboration with Nippon Steel.

Major trading subsidiary	Nippon Steel's ownership	Details of business
NS Trading	80%	Sales, exports and imports of steel products and other products

Secondary processing

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

Major secondary processing subsidiaries	Nippon Steel's ownership	Details of business
Nippon Steel Coated Sheet	100%	Galvanized sheets, colored galvanized sheets, coated steel sheets, construction materials
Nippon Steel Metal Products	100%	Construction materials, civil engineering materials, colored galvanized sheets
Nippon Steel Pipe	100%	Carbon steel pipes for machine structure, welded stainless steel pipes, carbon steel pipes for building structure
Nippon Steel Drum	100%	Drums
Nippon Steel SG Wire	100%	Piano wires, coated wires, oil tempered wires
Nippon Steel Welding & Engineering	100%	Welding materials, plasma devices, optical fiber products
Nippon Steel Stainless Steel Pipe	100%	Seamless stainless steel pipes
Nippon Steel Bolten	84.96%	High-tension bolts
Nippon Steel Processing	59.95%	Steel wires for cold heading, hard steel wires, high carbon chrome bearing steel wires
Geoster	40.37%	RC segments, steel segments, and other civil engineering RC products

Electric arc furnace

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

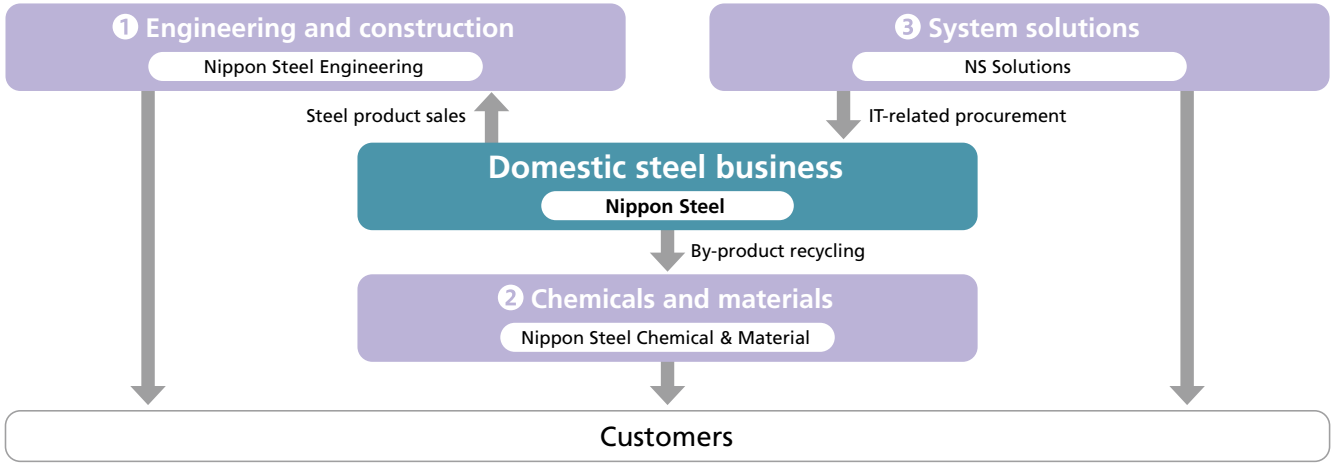
Major EAF steelmaking subsidiaries	Nippon Steel's ownership	Details of business
Nippon Steel Structural Shapes	100%	Manufacture and sale of H-beams
Osaka Steel	60.62%	Manufacture and sale of equal angles, channels, I beam, round bars, deformed bars, joints for reinforcing bars, rails, elevator guide rails, rim bars, colored angles, etc.
Sanyo Special Steel	100%*	Manufacture and sale of special steel materials and pipes
Oji Steel	51.49%	Manufacture and sale of flat bars, square bars, and steel blocks

* This company became a wholly owned subsidiary of Nippon Steel on April 25, 2025

5 Three non-steel companies

Three non-steel segments, which originally were parts of 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 business has approximately 300 billion yen of sales scale and aims to realize the top-tier earning capacity in each field.

[Steelmaking value chain and three non-steel segments]



	❶ Engineering and construction	❷ Chemicals and materials	❸ System solutions
Segment company	**Nippon Steel Engineering**	**Nippon Steel Chemical & Material**	**NS Solutions**
Synergies with the steelmaking business	Utilization of steel products in plants and steel structures Social implementation of CCS, hydrogen, and ammonia technologies Utilization of power supply from steelworks	By-product recycling Utilization of development seeds and basic technologies Use of multi-materials	Provision of IT solutions
Revenue (FY2024)	400.4 billion yen	269.1 billion yen	338.3 billion yen
Percent of sales to the steelmaking business	Less than 10%	Less than 10% (Manufacture of coal chemical products from tar, a by-product of steel mills)	About 20%
History and business overview	In 2006, NS Solutions, which had been an engineering division of former Nippon Steel, was split into an independent company. NS Solutions, as a comprehensive engineering company leveraging the technology and expertise cultivated in the steelmaking business, engages in the engineering, procurement, and construction (EPC) of various types of buildings mainly for plants and steel structures, such as renewable energy-related facilities, including offshore wind power generation equipment. In addition, we focus on service provider businesses, including the sale of system building components and seismic isolation components, as well as the operation and maintenance (O&M) of on-site energy supply, various types of power solutions, waste power generation, and power-saving facilities.	In October 2018, the businesses of Nippon Steel & Sumikin Chemical and Nippon Steel & Sumikin Materials were merged to form Nippon Steel Chemical & Material. By combining the material design and manufacturing technologies of Nippon Steel & Sumikin Chemical (aromatic chemical synthesis, refining and compounding) with the material technologies of Nippon Steel & Sumikin Materials (thin foils, fine wires, and fine particles), the company plays a part in strengthening the comprehensive material support capabilities of the Nippon Steel Group.	The Electronics and Information Communication Division and the Information Systems Division of former Nippon Steel were established in 1986 and integrated and merged with Nippon Steel Computer Systems (established in 1980) to form ENICOM (Nippon Steel Information & Communication Systems) in 1988, and then became the current NS Solutions Inc. in 2001. Based on its many years of supporting systems in the steel industry 24 hours a day, 365 days a year, the company provides an optimal and stable system that utilizes cutting-edge IT for a wide range of customers, including financials, retailers, and the public sector beside the steel industry.

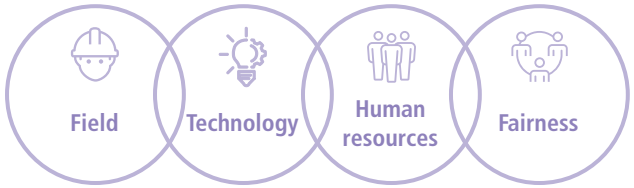
❶ Engineering and construction Nippon Steel Engineering

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.
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 the construction of environmental and energy-related facilities and plants.

FY2024 consolidated revenue 209.8 billion yen

Japan's first jacket-type foundation (Ishikari Bay offshore wind power plant), supporting an 8MW wind turbine

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

Urban infrastructure

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

FY2024 consolidated revenue 93.6 billion yen

We contributed to the creation of a cutting-edge logistics hub that harmonizes with the community by leveraging our steel construction technology and extensive experience (MFLP/LOGIFRONT Tokyo Itabashi)

Service business

We are working on DX-assisted new value creation and solutions to social issues, including the operation and maintenance (O&M) of on-site energy supply, various types of power solutions, waste power generation, and power-saving facilities.

FY2024 consolidated revenue 99.9 billion yen

We design and construct optimal energy facilities on the premises of customers, providing comprehensive services, including O&M (operation and maintenance)

1: Nippon Steel Corporation took over the steelmaking 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.
2: Since the above consolidated revenues by sector are before adjustment of currency conversion, the combined amount differs ¥2.9 billion in total from the revenue of ¥400.4 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
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)

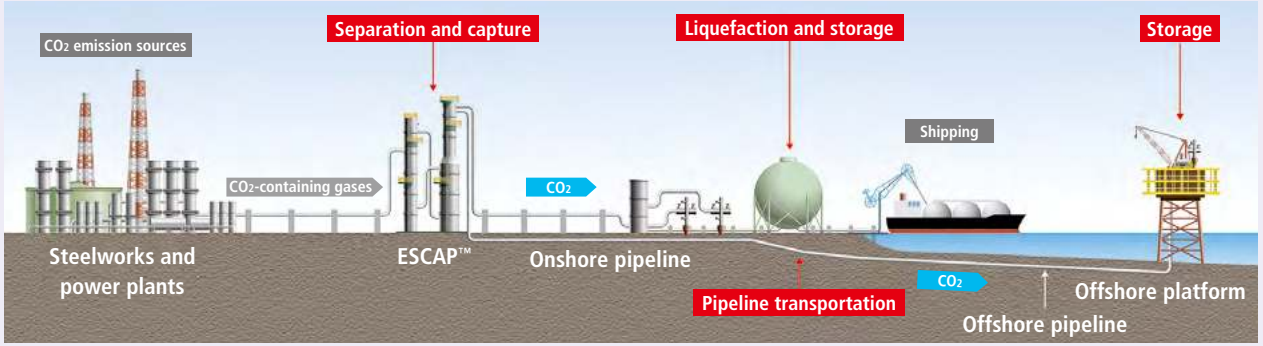
Synergies in the Nippon Steel Group

Aiming for the social implementation of CO_2 capture and storage (CCS) and hydrogen and ammonia utilization technologies, we will attempt to achieve the "Nippon Steel Carbon Neutral Vision 2050," jointly with the Group companies. We will maximize our value creation by leveraging the Nippon Steel Group's high-performance steel products and various types of products and services, and through the combination of the best technologies and techniques at each stage of the design, procurement, and construction. We are also working on power supply optimization to ensure a stable energy supply, utilizing the power infrastructure of our steelworks. Furthermore, when it comes to designing and constructing steelmaking facilities, we are pursuing improved environmental performance based on our long-accumulated knowledge and technology, contributing to building the infrastructure for a carbon-neutral society.

CCS Initiatives

Nippon Steel Engineering possesses comprehensive engineering capabilities applicable to the entire CCS value chain, ranging from CO_2 separation and collection to transportation, liquefaction, and storage. We are promoting technological development and demonstration toward the social implementation of CCS. We are promoting measures to reduce industry-derived CO_2 emissions, including those from steelworks, using our proprietary energy-efficient CO_2 capture technology "ESCAP™." In addition, we also leverage the technology and expertise we have cultivated through our EPC (engineering, procurement, and construction) for various types of energy plants and pipelines. In October 2024, we established the CCS Business Promotion Dept. to consolidate all CCS-related knowledge our internal departments possess, which builds a structure for offering one-stop solutions to our customers. We will leverage these strengths to contribute to the Nippon Steel Group's initiatives to realize a carbon-neutral society.

[Concept of CCS value chain of the Nippon Steel Group]



Future risks and opportunities and our business strategy

Risks

- Long-term contraction of domestic market
- Impact of Japan's declining labor population on supply chains (future concerns about stable procurement items and services, quality, and delivery, etc.)
- Soaring prices of equipment, materials, and fuel

Opportunities

- Globally accelerating carbon neutrality initiatives across all industries
- Increasing needs for resilient, disaster-resistant urban development and the maintenance and renewal of aging social and industrial infrastructures
- Accelerating advancing digital technology and its social implementation

Our business strategy

"With the realization of a carbon-neutral society" and "the contribution to resilient urban development" at the core of its business strategy, Nippon Steel Engineering will expand its service-oriented businesses, including O&M, power solutions, and EPC. We are challenging new value creation in each business area by combining our technology and human resources.

- Efforts in growth areas toward carbon neutrality (CN)
  - Establishment of solid market positions in the following areas: Offshore wind power generation, Waste power generation, Carbon dioxide Capture, Utilization and Storage (CCUS) which involves separating, utilizing, and storing CO_2, Hydrogen and ammonia-related efforts (such as pipelines, receiving, shipping, and storage facilities)
  - Expansion of Net Zero Emission Building (ZEB), the highest rank contributing to CO_2 reduction in large-scale logistics facilities, etc.
  - Provision of various power solutions, including on-site energy supply and local power production and consumption. Furthermore, the effective utilization of renewable energy assisted by energy management systems using storage batteries
  - Realization of the optimal operation of various energy plants through operation and maintenance services, including waste power generation
- Initiatives in resilient and 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
- Smarter engineering operations using digital technology to improve productivity

Steel-made seismic isolation devices utilizing the pendulum principle: NS-SSB™

Jacket-type foundation to support offshore wind turbines

❷ Chemicals & materials NIPPON STEEL Chemical & Material

Our Mission

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

In October 2018, NIPPON STEEL Chemical & Material was formed through the merger of Nippon Steel & Sumikin Chemical and Nippon Steel & Sumikin Materials. Under our Basic Principles of "Master Materials, Pioneer the Future," we are conducting our business activities with the aims of realizing an affluent society through advanced chemical and material technologies and contributing to the global environment. At the same time, we are striving for co-creation and co-prosperity with customers and the growth and happiness of our employees.

Mission of NIPPON STEEL Chemical & Material Group

■ 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 and Happiness –

■ Management principles

We will develop our corporate activities with emphasis on the matters listed below, conduct fair and transparent management, and continue to grow as a company that is trusted by society at large.

• Contribution to the global environment • Realization of a healthy and humane society
• Co-creation and co-prosperity with customers • Realization of the growth and happiness of our employees

■ Action guidelines

• Trust: We will comply with laws and social rules, always think about things from the perspective of society and our customers and aim to win the trust from 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

In order to contribute to the development of growth fields such as high-speed communications, semiconductors, and automotive devices while steadily responding to the needs of global environmental measures, we will further enhance our long-accumulated comprehensive capabilities.

Coal tar chemicals

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

FY2024 consolidated revenue 61 billion yen

Needle coke for electric furnace electrodes

Chemicals

Aromatic chemicals, styrene monomers, divinylbenzene, functional chemicals, and lubricating materials

FY2024 consolidated revenue 108 billion yen

Various chemicals

Functional resins/PWB 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

FY2024 consolidated revenue 100 billion yen

Bonding wire for semiconductors, and pitch-based carbon fiber

Major Group companies of NIPPON STEEL Chemical & Material Co., Ltd.

NS Styrene Monomer

Nippon Micrometal, Nippon Graphite Fiber

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 remarkable results from research and development collaboration utilizing the advanced technology of Nippon Steel R&D Laboratories (RE). More details are described in a special issue on Chemicals and Materials Business Areas in Nippon Steel Technical Review published in FY2024.

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.

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.

High-performance metal foil, HDD suspension, metal substrates

New business creation through collaborative R&D

On April 1, 2025, aiming to deepen collaboration between Nippon Steel and its R&D section, we launched the "Cooperative Research Center," as a new organization in the Integrated Research Sector. The Center is located in the Futtsu Area, where Nippon Steel has its R&D Laboratories (RE). At the Center, we are currently working to develop the R&D infrastructure and secure and train human resources in preparation for R&D activities on short-term to medium to long-term challenges across all business areas of our group, as well as new business creation in the future.

Our many years of R&D achievements were featured in a special issue on the Business Segment of Chemicals & Materials in "Nippon Steel Technical Report" of February 2025.

Nippon Steel Technical Report
https://www.nipponsteel.com/tech/report/no424.html

Future risks and opportunities and our 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 races and obsolescence of existing products
- Contraction of domestic demand and geopolitical risks

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

Our business strategy

- With safety, the environment, disaster prevention, quality, and compliance given our top priorities, we aim to achieve sustainable profit growth by building a robust earnings structure.
- We aim to become a de facto standard and gain a top share in growth markets by capturing new demand without fail in fields expected to grow and appropriately introducing differentiated and high-value-added products.
- We will continue to develop differentiated products that make full use of our unique advanced chemical and material technologies. We will develop various materials and members and supply them to society, including semiconductor peripheral materials, such as bonding wires, ceramic particulates, circuit boards, functional resins, and high-performance metal foils, which are essential to the sophistication and functionality enhancement of various electronic devices, the advance of CASE, and the spread of 5G/6G communications. To this end, we will pursue technological synergies in the Nippon Steel Group, striving to further enhance our R&D capabilities.
- Through the stable production and quality improvement of "needle coke," which is used in steelmaking electric arc furnaces (EAFs) as a raw material for the graphite electrodes, we will contribute to the realization of carbon neutrality by producing high-grade steel in large EAFs.
- We will strengthen our business structure by planning equipment maintenance, improving production processes, and building optimal business portfolios from a long-term perspective.

❸ System solutions NS Solutions Corporation

Our philosophy structure

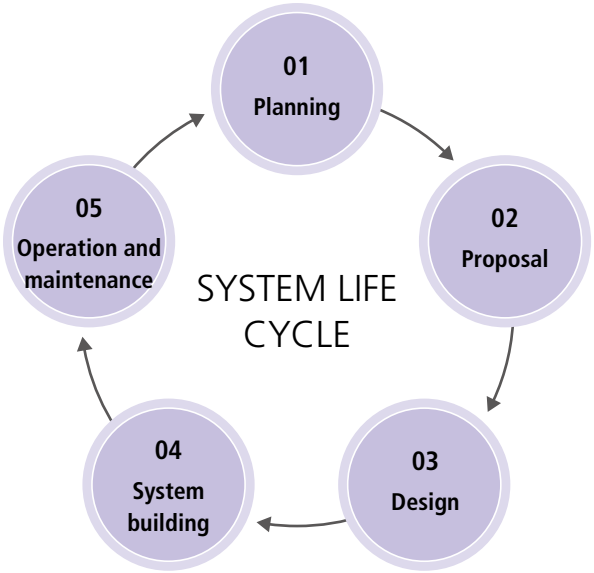
Purpose Value of social existence	Thinking about the future together. Opening up new possibilities for society with technology and passion
Vision Medium-term corporate vision	Social Value Producer With Digital Imagine and deliver the future of society through the power of digital
Values Value to cherish	Move! to Change (Challenge) Move! toward Future (Future) Move! with Everyone (Together) Move! as Professional (Professional)
Our Mission Ideal image as a company that supports the values	Creativity, Trust, and Growth

We will create social value by using our "Purpose," which is the reason for NSSOL's existence in society, as our foundation, aiming for our "Vision" as our mid-term company image, and practice the values that we hold dear.

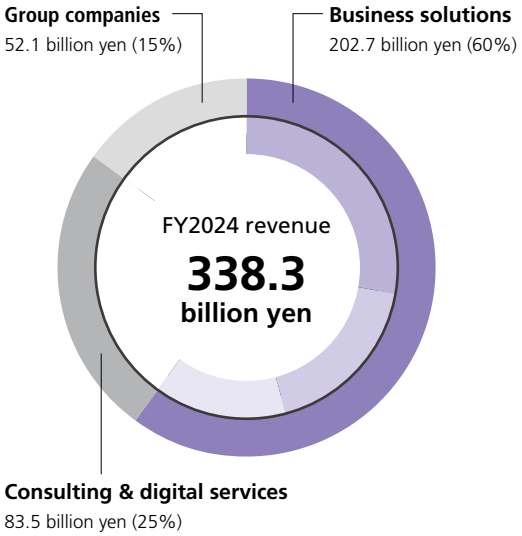
Our business

NS Solutions (NSSOL) is a leading SIer (total information system integrator) in Japan

We offer comprehensive services for the entire system lifecycle, such as planning to proposal, design, system building, operation, and maintenance, to solve our customers' management issues and ultimately, social issues.



FY2024 revenue by service and customer industry (100 million yen)



Industry and steel 95.4 billion yen (28%)	• One-stop DX support and provision of various solutions for global manufacturers • IT support for the entire system lifecycle for Nippon Steel and its group companies
Distribution and platformer 61.5 billion yen (18%)	• Provision of solutions mainly for platformers engaged in online and offline channels in the distribution industry and online businesses
Finance 45.7 billion yen (14%)	• Provision of comprehensive support for the entire system lifecycle, from application development to maintenance, for major financial institutions, including huge banks
Consulting & digital services 83.5 billion yen (25%)	• Provision of cross-industry consulting applications • System building and operation and maintenance for companies and government agencies that support social infrastructure
Group companies 52.1 billion yen (15%)	• Reginal subsidiaries (Hokkaido, Eastern Japan, Central Japan, Kansai, Kyushu) • Overseas subsidiaries (China, Thailand, Singapore, Indonesia, U.S.A., U.K.) • Joint venture companies (NCI, NHS) • Others (Infocom, which will become a subsidiary in July 2025)

Synergies in the Nippon Steel Group

Enhanced synergies with Nippon Steel

NS Solutions enjoys the benefits of enhanced synergies with Nippon Steel in the forms of 1) contribution to sales and profits and 2) contribution to the acquisition of management resources.

[Contribution to sales and profits]

The knowledge and expertise we have cultivated in fields subject to the demanding quality and service standards of Nippon Steel are also applied when expanding into non-steelmaking fields, including high-precision production management solutions that are highly valued by our customers.

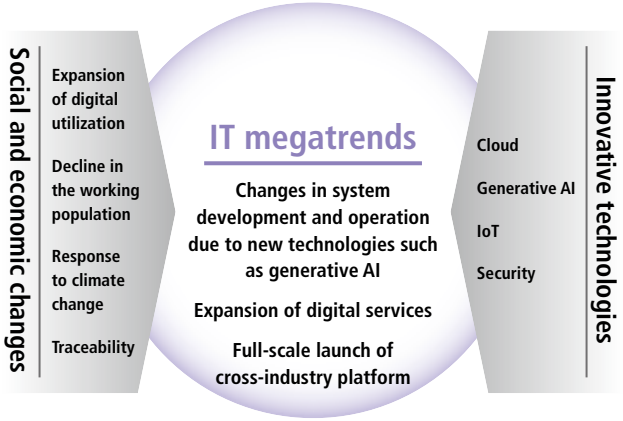
In addition, our stable sales of over ¥60 billion/year which contributed to the Nippon Steel Group, along with the high-level profits thereof, as well as the global growth potential of the Group, which aims for 100 million tons of crude steel production, are contributing to the stable management and growth of NS Solutions.

[Contribution to the acquisition of management resources]

Nippon Steel's global recognition and sense of security contribute to hiring talented human resources, which is the greatest asset for NS Solutions. These advantages also promote partnerships with other companies, M&A, and other initiatives.

NS Solutions has maintained independent management for over 20 years with the help of executive members possessing extensive experience in the IT industry. Listed on the Prime Market of the Tokyo Stock Exchange, the company continuously builds and improves its high level of corporate governance. As a result, we consistently achieve steady business growth and enhance shareholder value.

Future risks and opportunities and our business strategy



In the world of IT business, technological innovation is advancing at an amazing speed, and NS Solutions' business is also facing such waves of change.

To transform these changes into a force for our growth and become a market leader, we considered it necessary to undertake major self-transformation, including the transformation of our business revenue model based on the TAM-type model.

As part of the corporate transformation, we formulated the "NSSOL 2030 Vision" in 2024 and announced the "2025-2027 Mid-Term Business Plan" in 2025 as specific measures to achieve this vision.

What is the TAM-type model?

SI Transformation / Next generation SI model (T type)

This model incorporates innovations such as generative AI into our value proposition process to provide customer-specific system development, operation, and maintenance services with high productivity.

Asset Driven / Asset utilization type (A type)

This model uniquely turns company strengths into assets and offers them to multiple customers as best practices.

Multi Company Platform / PF provision model (M type)

In this model, NSSOL provides platforms for shared use by multiple companies as the business operator.

Initiatives for achieving our Mid-Term Business Plan

1) Transformation of business revenue models
Shift from individual customer-commissioned SI to a high-profit model based on TAM type

2) Transformation of customer approach
Shift from addressing individual customer issues to the perspective of customer management and social issues

3) Transformation of technology acquisition and application processes
Achieving advanced development productivity through collaboration enhancement between R&D and business operations and the promotion of standardization

4) Transformation of business revenue models
Improving internal operational productivity and establishing a data-driven management foundation

+

Global strategy

External growth strategy

		FY2027 plan	NSSOL 2030 Vision
Business goals	Revenue	450 billion yen	500 billion yen
	Operating Profit (operating profit margin)	60 billion yen (13%)	100 billion yen (20%)
	ROE	Approx. 13%	Approx. 15%
Fund allocation	M&A	150 billion yen/3 years	N/A (investment effect: creation of businesses worth approximately 100 billion yen)
	Shareholder returns	Payout ratio 50%	Payout ratio 50%
Transformation/ growth	TAM-type/revenue ratio	Approx. 75%	—
	Investment for growth/ revenue ratio (excl. M&A)	Approx. 5%	—

Strategic Establishment of Brand Families

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 "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 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.

Brand system

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 express their characteristics and value. The aim is to enable our customers to better identify the technological advances and environmental value of our products and solutions.

Products and Applications

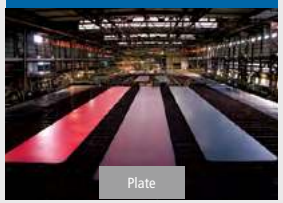
The Nippon Steel Group covers almost all types of steel products manufactured around the world and has a comprehensive supply system, which includes secondary processed products. These applications also extend to the manufacturing, resources and energy, civil engineering and construction and all other industry sectors. 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. Reliably, globally, and over a long time, we have provided products and services that respond to customers' needs, contributing to their value creation and to the sustainable growth of society.

Wealth of product groups (1)

Product types

Steel sheets

Plate



Bar and wire

Construction products

Major applications and product examples

Automotive

High-tensile steel sheets

- High strength
- Workability
- Lightweight

Electrical appliances and office equipment

VIEWKOTE™ (pre-coated 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

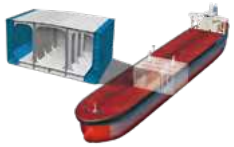
ZEXEED™

- Corrosion resistance
- Process saving

Shipbuilding

NSafe™-Hull (highly ductile thick steel plate)

- Absorbing collision energy
- Preventing oil spills



Industrial machines

ABREX™ (abrasion resistant steel plates)

- Abrasion resistance
- Weldability
- Workability

Energy

7% nickel steel

- Resource saving
- Ultralow-temperature strength and toughness

Civil engineering and construction

CORSPACE™

- Corrosion resistance
- Extended painting cycle

Automotive

Steel cords for tires

- Extra-fine and lightweight
- High strength
- Durability

Steel for high-strength gears

- High strength
- Lightweight
- Durability

Steel for high-strength suspension springs

- High strength
- Lightweight
- Durability

Industrial machines

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 for welding
- Reduced maintenance
- Enhanced passenger comfort

Civil engineering and construction

NSHYPER BEAM™

- Uniform depth and width within the same size series
- Design simplification
- Enhanced processing

Hat-type sheet piles

- Space saving
- Ease of construction
- Reduced construction time

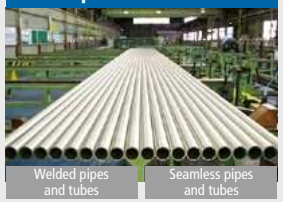
NM-Segment

- Structural reliability
- Reduced construction time
- Reduced waste soil

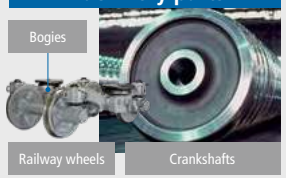
Wealth of product groups (2)

Product types

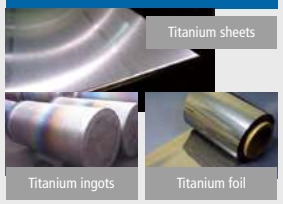
Pipes and tubes



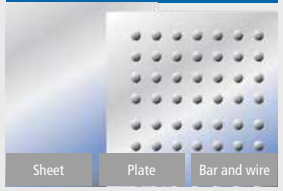
Railway, automotive and machinery parts



Titanium



Stainless steel



Major applications and product examples

Automotive

Hydroformed steel tubes for suspension components

- Closed-section structure
- High strength
- Lightweight

Energy

Pipes and tubes for power generation

- High-temperature strength
- High-temperature corrosion resistance

Pipes and tubes for structures

- High strength
- High toughness
- Corrosion resistance

Civil engineering and construction

Structural steel pipes

- High strength
- Corrosion resistance
- Appearance design

Railway and aircraft

Railway wheels

- High strength
- Sound insulation
- Brake heat resistance

Railway bogies

- Durability
- Enhanced passenger comfort
- Facilitated maintenance

Automotive

Crankshafts

- High strength
- Durability
- Safety

Industrial machines

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
- Ease of construction
- Maintenance free

Automotive

Stainless steel cold-rolled sheets

- Corrosion resistance
- High-temperature resistance
- Lightweight

Electrical appliances and office equipment

Stainless steel cold-rolled sheets

- Corrosion resistance
- Workability
- Appearance design

Energy

Stainless steel plates

- Corrosion resistance
- High strength

Civil engineering and construction

Stainless steel cold-rolled sheets

- Corrosion resistance
- Lightweight
- Appearance design

Steel for all of us and the Earth

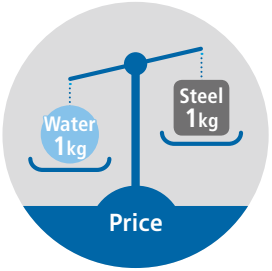
Attractiveness of steel

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.

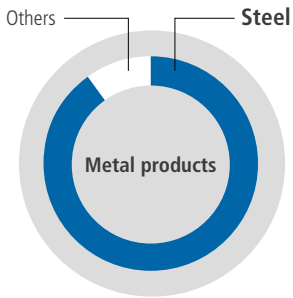
Steel is an abundant, sustainable material that can be reborn endlessly

1/3

Iron constitutes
one-third
of the Earth's weight.



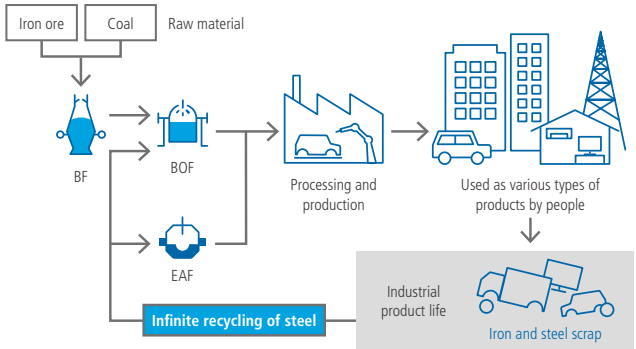
Steel is
a material cheaper
than water in a plastic bottle
(price per unit weight).



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

"Steel" is endlessly reborn in new steel products

Steel has unique characteristics that other materials do not possess, such as its resistance to quality degradation through recycled use, because its relatively simple sorting process can remove most impurities. Steel is the most suitable material for recycling as it can be endlessly recycled into any steel products after its product life.



Diverse properties and a wide range of applications

Steel is used in a vast range of applications due to its diverse and excellent characteristics, such as high strength and ease of use, and because of its low prices as well. Therefore, steel has been one of the most excellent materials of choice for social infrastructures that support people's lives and economic growth.

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]

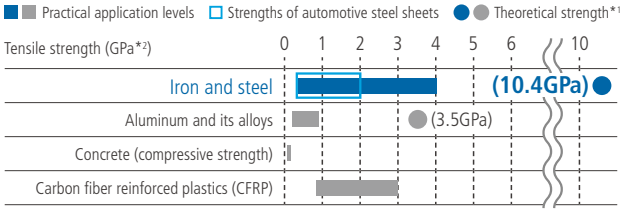
Strength	Weldability	Heat resistance
Toughness	Paintability	Cold resistance
Robustness	Magnetism	
Workability	Corrosion resistance	Weather resistance

Infinite potential

Steel is a material with enormous potential due to its much higher theoretical strength than other materials.

Also, steel is a unique material whose properties can be significantly diversified by adjusting the carbon and other chemical compositions, varying the rolling temperature and rolling process combinations in the manufacturing stage, and adding relatively small amounts of alloys. Mastering the optimal use of steel to the extreme would enable us to pursue its further evolution and new potential.

[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 is calculated using 1/7.5.
*2: GPa (gigapascal) is a unit to measure tensile strengths. G (giga) denotes ten to the ninth power (10^9).

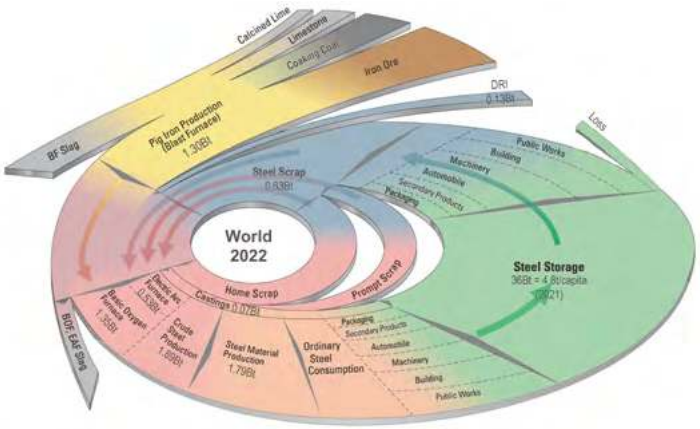
Steel is an excellent material from the perspectives of life cycle assessment (LCA) and resources recycling

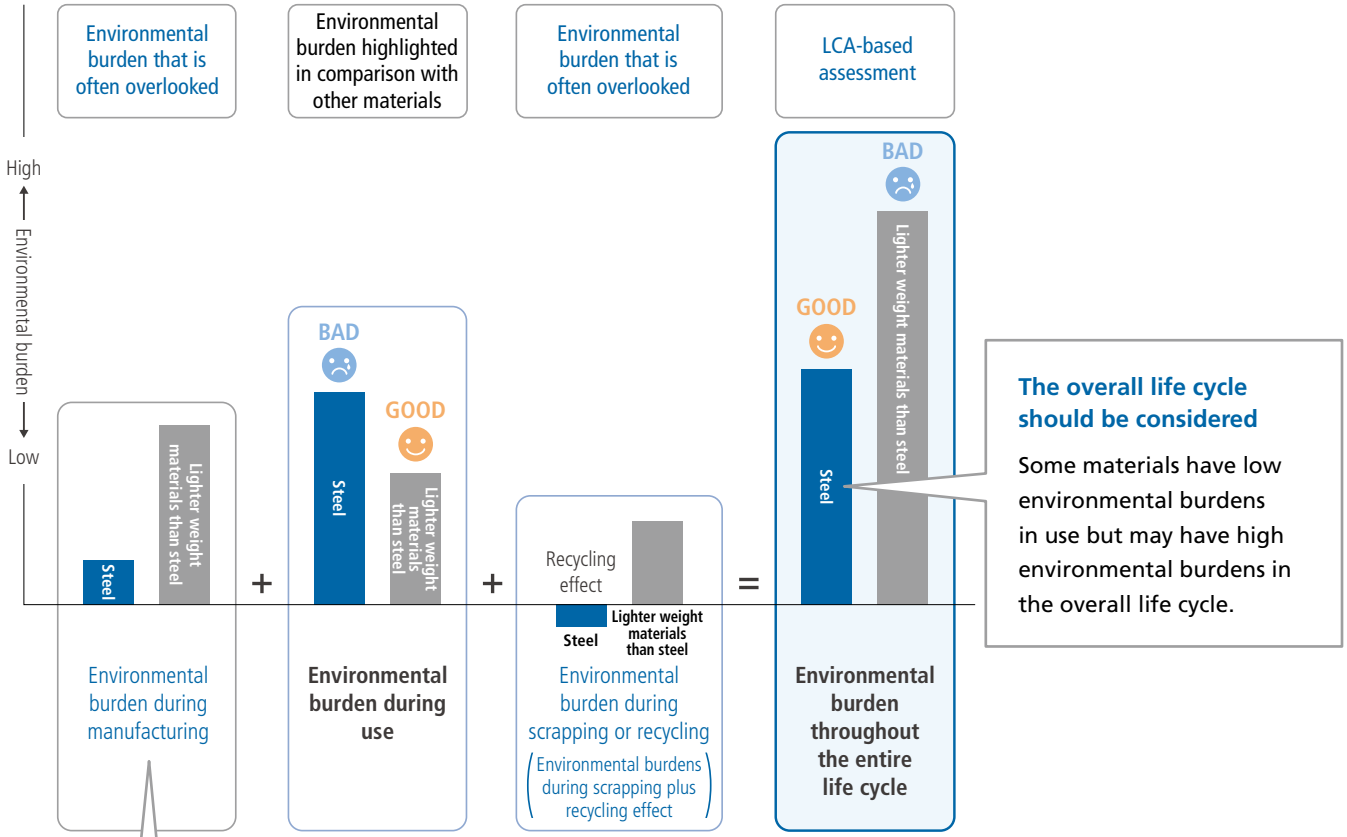
Steel is environmentally friendly from an LCA perspective

The Life Cycle Assessment method (LCA) is a way to evaluate environmental burdens of a product over its entire life cycle. While many aspects of environmental burdens cannot be seen, the LCA is an attempt to visualize the burdens over the life cycle of a product, from production of its raw material to use, disposal and recycling of the end product. From an LCA perspective, steel has incredibly low levels of environmental burden compared to other materials in the manufacturing, use, and recycling stages, as well as throughout the entire life cycle. (See the figure on the right).

Steel is infinitely recycled

Iron ore is reduced to iron, which is used to make many steel products. Those steel products are then repeatedly recycled into other steel products, circulating infinitely. The steel recycling like this is called "closed-loop material recycling," which enables steel recycling in substitution for natural resources without the need for so-called horizontal recycling, which requires collecting only scraps with the same chemical compositions. (See the figure below). This is an excellent material characteristic found only in steel, not in other materials.





The overall life cycle should be considered

Some materials have low environmental burdens in use but may have high environmental burdens in the overall life cycle.

Although some other materials are lighter than steel, steel's environmental burdens during manufacturing are extremely lower compared to other materials.

Moreover, high-tensile steel is about 25% lighter than conventional steel and has lower environmental burdens.

Going forward, to further reduce environmental burdens on climate change, Nippon Steel will continue to drive a transition toward carbon neutrality in the steelmaking process.

Environmental burden of steel made via the BF and EAF routes, using an LCA approach

Because blast furnace (BF) steel emits a large quantity of CO_2 during the reduction of iron ore into iron, its environmental burdens appear higher compared with electric arc furnace (EAF) steel, which is manufactured by melting steel scrap with electricity. However, BF steel is destined to create new steel scrap in the market, providing CO_2 emission reduction effects through the future recycling process. When this environmental value is taken into account, the high environmental burdens during BF steelmaking will be offset. During repeated recycling processes, the high environmental burdens of BF steel will eventually become a value parity with those of EAF steel, regardless of the scrap use rate (recycled content) in the BF steelmaking.

This approach is recognized in the ISO 20915 and the JIS Q 20915 and is becoming a global standard. In the automobile sector, the concept of LCA-based assessment for steel is becoming standardized, considering its future recycling effects.

Efforts to disclose environmental data on our products

SuMPO EPD* (Environment Product Declaration)'s calculation and disclosure

Since 2019, we have been actively disclosing data of our products' LCA-based emissions to the environment through SuMPO EPD (formerly EcoLeaf).

An EPD is an environmental label that is compliant with the international standard ISO 14025. It calculates the environmental burdens (CO_2 emissions, and others) of each product in accordance with the ISO 20915 standard, including raw material extraction and transportation, product manufacturing, and recycling effects. The result is issued for each product after verification and certification by a third party (SuMPO).

EPDs disclose information on the global warming potential (GWP) and other various environmental burden values. When calculating CO_2 emissions upstream of Scope 3 at customers who purchase our products, more realistic primary data, rather than secondary data such as databases, can be used.

With these EPDs publicized, not only can our customers calculate their environmental burdens upstream of Scope 3, but they can also use carbon footprint and other data for the LCA-based assessment of their products.

* SuMPO EPD is managed and operated by the Sustainable Management Promotion Organization (a general incorporated association). The name was changed from "EcoLeaf" to "SuMPO EPD" in April 2024.

URL search for Nippon Steel's EPD certification
https://ecoleaf-label.jp/en/epd/search?keyword=Nippon%20Steel

Status of EPD certifications

We have obtained more than 80 SuMPO EPD certifications covering almost all our products, which overwhelmingly exceeds the number issued by other companies in the same industry.

EPDs are also used as the basic data for emission reductions required by NSCarbolex™ Neutral. Since we have disclosed EPDs for almost all our products, NSCarbolex Neutral is applicable to almost all our products.

[Certified products] (as of July 2025)

- Seamless, high-frequency welded OCTG and line pipes
- H-shapes
- Steel plates for building and structures
- Tinplate, tin-free steel, and laminated steel sheets
- Steel bar and wire products
- Steel sheet products
- Process-omission steel bar and wire products
- Rails
- Electrical steel sheets
- Nickel-plated steel sheets
- Steel sheet piles
- General-purpose steel pipes and tubes (for piping and structural use)
- High-alloy OCTG and line pipes
- Welded steel pipes for mechanical use
- Hot-extruded steel shapes
- Spiral welded steel pipe piles and spiral welded steel pipe sheet piles
- Railway, automotive & machinery parts
- Stainless steel
- Titanium
- Pure nickel sheets

Contribution to SDGs

The Nippon Steel Group is committed to SDGs through continually supplying steel, a basic element supporting society, in various parts of the world by using its world-leading manufacturing capability.

Steel contributes to make our life more convenient and pleasant, by being used everywhere in our life and society, and as an indispensable part of resilient infrastructure against natural disasters caused by earthquakes, abnormal weather driven by climate change, and other factors. Steel is also an indispensable material element for achieving SDGs, as it helps reduce environmental burden due to its weight reduction, extension of its product life, and others on top of being abundantly available and able to be recycled.

As a supplier of steel, we strive to implement our Three Ecos and innovative technologies and to advance the Carbon Neutral Vision as measures against climate change. We also promote sustainable measures so as not to waste resources. These measures include the use of by-product gases generated in steelmaking, the reuse of recycled water, and the recycling of by-products and waste generated in and out of the Company.

[Examples of specific initiatives]

1 NO POVERTY
- Job creation through the establishment of operating companies in emerging countries P.26
- Reduction of vulnerability to disaster based on the use of the Nonframe method (a construction method to stabilize slopes without damaging the natural environment)

2 ZERO HUNGER
- Use of converter slag fertilizer, a by-product of steelmaking, to improve farming productivity and salt damage on farmland P.100
- Provision of titanium and stainless steel, which have excellent seawater corrosion resistance, for seawater desalination plants, securing agriculture water

3 GOOD HEALTH AND WELL-BEING
- Promotion of air, water, and soil risk management and chemical substance management P.84
- Development and provision of steel products that contain no substances of concern, such as lead and hexavalent chromium

4 QUALITY EDUCATION
- Promotion of employee training to raise skills (i.e., OJT, Off-JT, sending trainees to Junior College for Industrial Technology), hosting technology triathlon P.113
- Study sessions for teachers, internship for students P.119

5 GENDER EQUALITY
- Improvement of the working environment for women, support for career development, and work-life balance P.114
- Increase in female employment and the number of female employees in management P.114
- Prevention of harassment P.116

6 CLEAN WATER AND SANITATION
- Recycling and reuse of limited water resources P.96
- Promotion of water quality risk management P.83
- Provision of titanium and stainless steel for seawater desalination plants
- Provision of lining steel pipes for delivery of clean water

7 AFFORDABLE AND CLEAN ENERGY
- Efficient use of energy, such as 100% use of by-product gases P.96
- Provision of materials for fuel cells that produce energy from hydrogen
- Development and provision of steel materials for high-pressure hydrogen to support a hydrogen-oriented society

8 DECENT WORK AND ECONOMIC GROWTH
- Promotion of diversity & inclusion P.114 (i.e., female empowerment, how to work and how to take time off from work, health promotion, and employment of the elderly and persons with disabilities)
- Promotion of DX for workstyle innovation, productivity improvement, and worker safety management P.55-58

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
- Pursuit of Eco Processes to help raise resources/energy efficiency and reduce environmental burden P.96
- Introduction of advanced technologies through bilateral cooperation (India, ASEAN, etc.) P.89
- Use of steel slag in roadbed materials and materials for civil engineering P.94

10 REDUCED INEQUALITIES
- Thorough compliance training, such as for the Anti-Monopoly Act
- Initiatives to respect human rights in accordance with the Nippon Steel Group Human Rights Policy P.117
- Expanded hiring of women and non-Japanese P.114

11 SUSTAINABLE CITIES AND COMMUNITIES
- Provision of various indispensable Eco Products™ for daily lives P.152-153
- Provision of earthquake-resistance steel materials
- Development of Nonframe method, which protects houses during disasters while maintaining views of nature

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
- Promotion of air, water, soil risk management, and chemical substance management P.82-84
- Full recycling of by-products, including slag, dust, and sludge P.94
- Promotion of recycling of waste plastics P.95

13 CLIMATE ACTION
- Promotion of measures against climate change by implementing the Carbon Neutral Vision P.36-49
- Development and provision of NSCarbolex™ Solution products that contribute to reducing CO_2 emissions in society P.46

14 LIFE BELOW WATER
- Regeneration of seaweed beds with the use of steel slag P.90
- Promotion of marine environmental improvement with the use of steel slag P.99
- Voluntary coastal clean-up activities near steelworks P.120
- Collaboration with an NPO, "Mori wa Umi no Koibito" P.119 (participation in tree-planting)

15 LIFE ON LAND
- Promotion of air, water, and soil risk management and chemical substance management P.84
- "Creation of Hometown Forests" to promote greenery within steelworks P.99-100
- Site cleaning activities around steelworks P.120

16 PEACE, JUSTICE AND STRONG INSTITUTIONS
- Bribery prevention guidelines to be established and made well known P.84
- Elimination of antisocial forces
- Thorough confirmation of non-use of conflict minerals P.109
- Thorough management of security export control

17 PARTNERSHIPS FOR THE GOALS
- Development of Eco solutions to transfer and spread environmental, energy-saving technologies to emerging markets P.89
- Japan-India and Japan-ASEAN regular exchanges among public and private steel-related parties P.89
- Support for human resources development to build an energy management system in emerging countries

Financial Information

Consolidated Statements of Financial Position

[Unit: million yen]	Previous term (FY2023) As of March 31, 2024	Current term (FY2024) As of March 31, 2025
Plan assets		
Current assets		
Cash and cash equivalents	448,892	**672,526**
Trade and other receivables	1,587,979	**1,430,435**
Inventories	2,276,665	**2,199,096**
Other financial assets	33,927	**41,425**
Other current assets	212,919	**205,019**
Total current assets	4,560,384	**4,548,503**
Non-current assets		
Tangible fixed assets	3,380,436	**3,635,585**
Right-of-use assets	100,601	**101,934**
Goodwill	70,207	**71,639**
Intangible assets	177,853	**263,231**
Investments accounted for using the equity method	1,537,936	**1,600,366**
Other financial assets	675,942	**461,378**
Defined benefit assets	127,579	**116,415**
Deferred tax assets	75,893	**135,074**
Other non-current assets	7,791	**8,329**
Total non-current assets	6,154,242	**6,393,955**
Total assets	10,714,627	**10,942,458**

[Unit: million yen]	Previous term (FY2023) As of March 31, 2024	Current term (FY2024) As of March 31, 2025
Liabilities and Equity		
Liabilities		
Current liabilities		
Trade and other payables	1,890,718	**1,671,352**
Bonds, borrowings, and lease liabilities	541,495	**473,466**
Other financial liabilities	7,036	**823**
Income taxes payable	80,269	**126,428**
Other current liabilities	62,353	**63,421**
Total current liabilities	2,581,874	**2,335,493**
Non-current liabilities		
Bonds, borrowings, and lease liabilities	2,170,148	**2,034,026**
Other financial liabilities	146	**35**
Defined benefit liabilities	116,309	**111,552**
Deferred tax liabilities	140,532	**137,014**
Other non-current liabilities	349,737	**420,955**
Total non-current liabilities	2,776,874	**2,703,584**
Total liabilities	5,358,748	**5,039,077**
Equity		
Capital	419,799	**569,519**
Capital surplus	398,914	**578,457**
Retained earnings	3,525,585	**3,819,934**
Treasury stock	(58,149)	**(58,236)**
Other components of equity	491,576	**473,635**
Total equity attributable to owners of the parent	4,777,727	**5,383,311**
Non-controlling interests	578,150	**520,069**
Total equity	5,355,878	**5,903,380**
Total liabilities and equity	10,714,627	**10,942,458**

Consolidated Statements of Profit or Loss

[Unit: million yen]	Previous term (FY2023) April 1, 2023 to March 31, 2024	Current term (FY2024) April 1, 2024 to March 31, 2025
Sales revenue	8,868,097	**8,695,526**
Cost of sales	(7,481,331)	**(7,323,874)**
Gross profit	1,386,765	**1,371,651**
Selling, general and administrative expenses	(730,388)	**(815,817)**
Share of profit in investments accounted for using the equity method	144,326	**126,900**
Other operating income	178,085	**79,845**
Other operating expenses	(109,131)	**(79,343)**
Business profit (loss)	869,657	**683,237**
Losses on reorganization	(90,995)	**(135,277)**
Operating profit (loss)	778,662	**547,960**
Finance income	21,540	**20,841**
Finance costs	(36,230)	**(44,423)**
Profit (loss) before income taxes	763,972	**524,377**
Income tax expense	(176,074)	**(141,405)**
Profit (loss) for the year	587,898	**382,972**
Profit (loss) for the year attributable to		
Owners of the parent	549,372	**350,227**
Non-controlling interests	38,526	**32,744**
Profit (loss) for the year	587,898	**382,972**
Earnings (loss) per share (yen)		
Earnings (loss) per share (yen)	596.59	**350.92**
Diluted earnings per share (yen)	527.96	**335.15**

Consolidated Statements of Comprehensive Income or Loss

[Unit: million yen]	Previous term (FY2023) April 1, 2023 to March 31, 2024	Current term (FY2024) April 1, 2024 to March 31, 2025
Profit (loss) for the year	587,898	**382,972**
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	125,783	**(22,747)**
Premeasurement of defined benefit plans	17,570	**14,546**
Share of other comprehensive income of investments accounted for using the equity method	9,179	**(4,613)**
Total of items that cannot be reclassified to profit or loss	152,533	**(12,815)**
Items that might be reclassified to profit or loss		
Changes in the fair value of cash flow hedges	1,570	**10,222**
Foreign exchange differences in translation of foreign operations	81,716	**108,222**
Share of other comprehensive income of investments accounted for using the equity method	(12,886)	**3,004**
Total of items that might be reclassified to profit or loss	70,400	**121,449**
Total other comprehensive income, net of tax	222,933	**108,634**
Total comprehensive income for the year	810,831	**491,606**
Comprehensive income for the year attributable to:		
Owners of the parent	748,961	**438,493**
Non-controlling interests	61,870	**53,113**
Total comprehensive income for the year	810,831	**491,606**

Independent Practitioner's Limited Assurance Report

To the Representative Director, President and COO of Nippon Steel Corporation

Conclusion

We have performed a limited assurance engagement on whether selected environmental performance indicators (the "subject matter information" or the "SMI") presented in Nippon Steel Corporation's (the "Company") Nippon Steel Integrated Report 2025 (the "Report") for the year ended March 31, 2025 have been prepared in accordance with the criteria (the "Criteria"), which are established by the Company and are explained in the Report. The SMI subject to the assurance engagement is indicated in the Report with the symbol "☆".

Based on the procedures performed and evidence obtained, nothing has come to our attention to cause us to believe that the Company's SMI for the year ended March 31, 2025 is not prepared, in all material respects, in accordance with the Criteria.

Basis for Conclusion

We conducted our engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised), *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*, and International Standard on Assurance Engagements (ISAE) 3410, *Assurance Engagements on Greenhouse Gas Statements*, issued by the International Auditing and Assurance Standards Board (IAASB). Our responsibilities under those standards are further described in the "Our responsibilities" section of our report.

We have complied with the independence and other ethical requirements of the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants (IESBA).

Our firm applies International Standard on Quality Management (ISQM) 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements*, issued by the IAASB. This standard requires the firm to design, implement and operate a system of quality management, including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Other information

Our conclusion on the SMI does not extend to any other information that accompanies or contains the SMI (hereafter referred to as "other information"). We have read the other information but have not performed any procedures with respect to the other information.

Responsibilities for the SMI

Management of the Company are responsible for:

- designing, implementing and maintaining internal controls relevant to the preparation of the SMI that is free from material misstatement, whether due to fraud or error;
- selecting or developing suitable criteria for preparing the SMI and appropriately referring to or describing the criteria used; and
- preparing the SMI in accordance with the Criteria.

Inherent limitations in preparing the SMI

As described in the Report, GHG emissions quantification is subject to uncertainty when measuring activity data, determining emission factors, and considering scientific uncertainty inherent in the Global Warming Potentials. Hence, the selection by management of a different but acceptable measurement method, activity data, emission factors, and relevant assumptions or parameters could have resulted in materially different amounts being reported.

Our responsibilities

We are responsible for:

- planning and performing the engagement to obtain limited assurance about whether the SMI is free from material misstatement, whether due to fraud or error;
- forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- reporting our conclusion to the management.

Summary of the work we performed as the basis for our conclusion

We exercised professional judgment and maintained professional skepticism throughout the engagement. We designed and performed our procedures to obtain evidence about the SMI that is sufficient and appropriate to provide a basis for our conclusion. Our procedures selected depended on our understanding of the SMI and other engagement circumstances, and our consideration of areas where material misstatements are likely to arise. In carrying out our engagement, the procedures we performed primarily consisted of:

- assessing the suitability of the criteria applied to prepare the SMI;
- conducting interviews with the relevant personnel of the Company to obtain an understanding of the key processes, relevant systems and controls in place over the preparation of the SMI;
- performing analytical procedures including trend analysis;
- identifying and assessing the risks of material misstatements;
- performing a site visit at the Kyushu Works Oita Area of the Company which was determined through our risk assessment procedures;
- performing, on a sample basis, recalculation of amounts presented as part of the SMI;
- performing other evidence gathering procedures for selected samples; and
- evaluating whether the SMI was presented in accordance with the Criteria.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

/s/ Kazuhiko Saito

Kazuhiko Saito, Engagement Partner
KPMG AZSA Sustainability Co., Ltd.
Tokyo Office, Japan
October 31, 2025

Notes to the Reader of Independent Assurance Report:
This is a copy of the Independent Assurance Report and the original copies are kept separately by the Company and KPMG AZSA Sustainability Co., Ltd.

NIPPON STEEL

NIPPON STEEL CORPORATION

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Important Notes Regarding This Integrated Report and Data Book

This integrated report and the accompanying data book (collectively, "this report") is not a disclosure document statutory required by the Act on Financial Instruments and Exchange and other laws and does not guarantee the accuracy and completeness of the information. This report may include expectations based on the assumptions, projections, and plans as of the published date of this report. It should be noted that actual business results and other matters could differ materially from the details contained in this report. This report is not prepared for the purpose of providing the basis for an investment decision.

UD FONT by MORISAWA

This report employs an easy-to-read, universal design font to enhance accessibility and readability.