

4 Strategy

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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 CO₂ emissions in our supply chain by offering two types of value: “high-performance steel products and solutions that contribute to reducing CO₂ 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 CO₂ 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 CO₂ 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

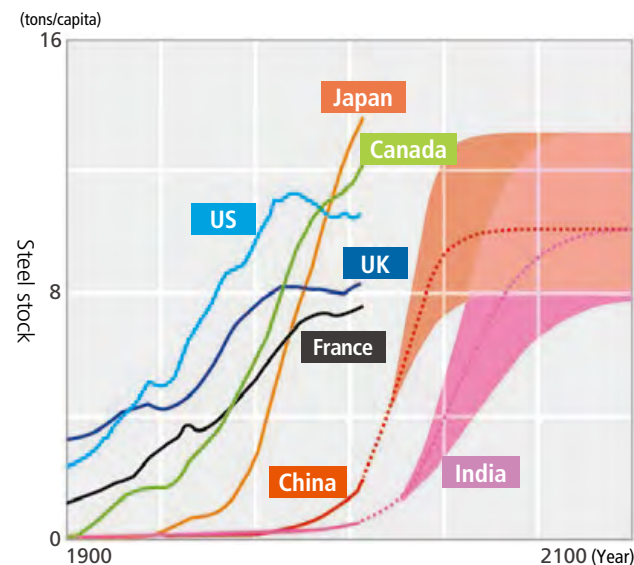
While domestic steel demand is expected to decline due to a shrinking population, global demand – particularly in emerging economies – is projected to grow. In particular, demand for high-grade steel that contributes to solving social issues is expected to rise.

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.

[Amounts of accumulated steel products per capita]

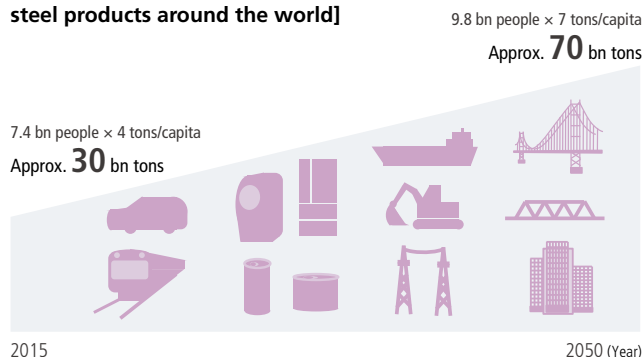


Source: "Sustainable steel: at the core of a green economy," World Steel Association, 2012

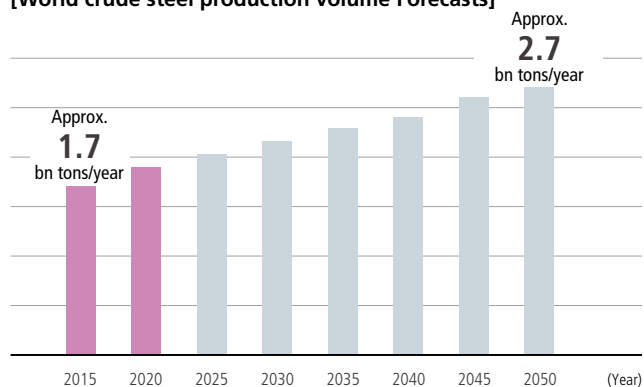
Although the economy is currently stagnant, the amount of incorporated steel products will eventually grow again due to economic growth in emerging countries and SDG initiatives in many countries. Assuming the global per-capita incorporation of steel products reaches 7 tons in 2050, the total amount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

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



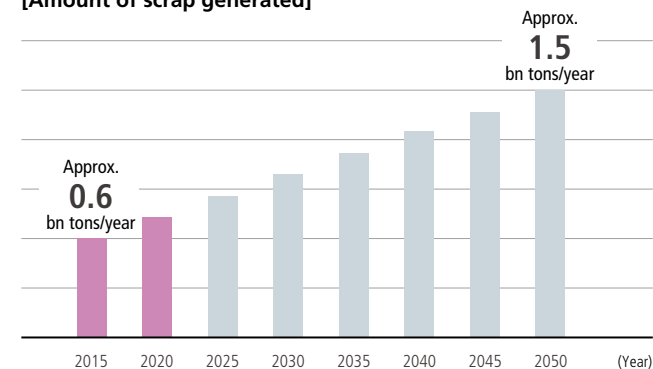
[World crude steel production volume Forecasts]



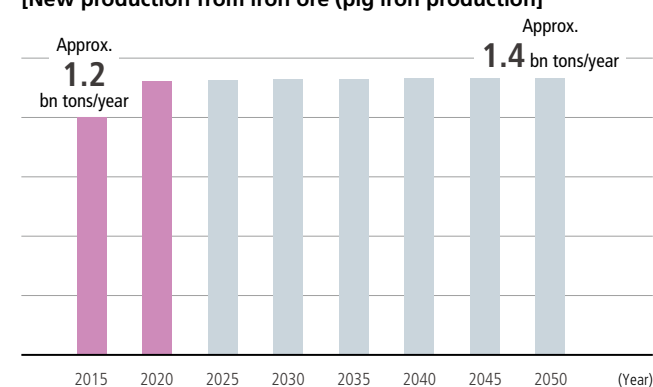
However, steelmaking only with recycled steel is insufficient to meet the steel production requirements due to the limited amount of scrap available.

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.

[Amount of scrap generated]



[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.

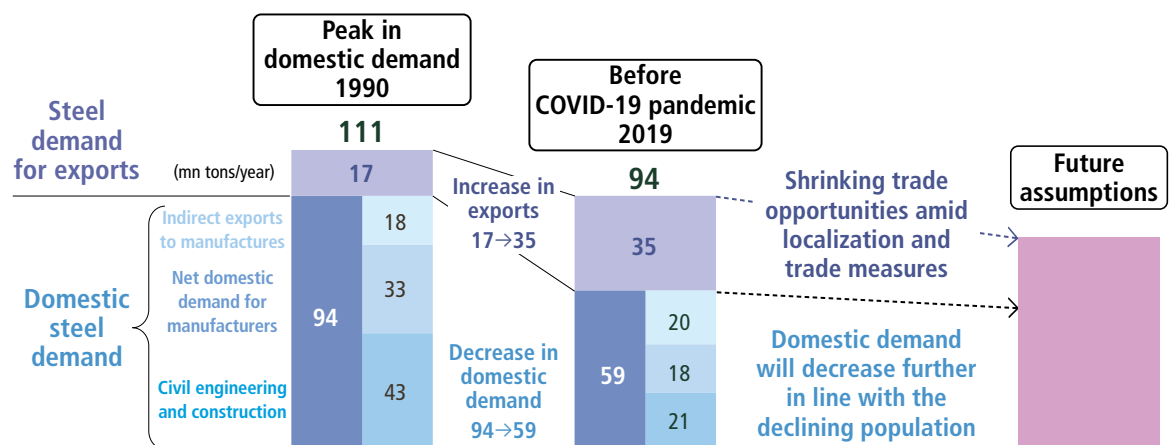
Increasing difficulties in exporting from Japan due to the rise of local steel mills overseas

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]



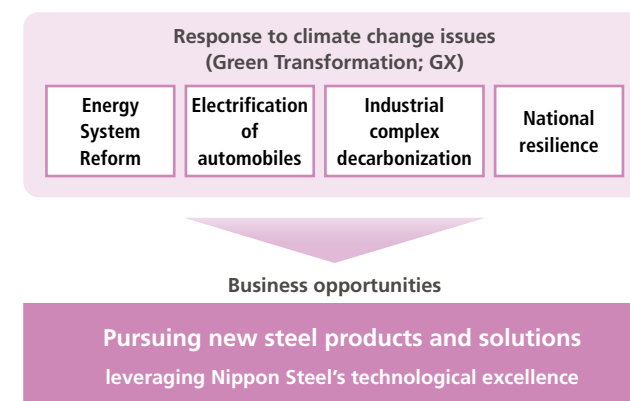
Point 3

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

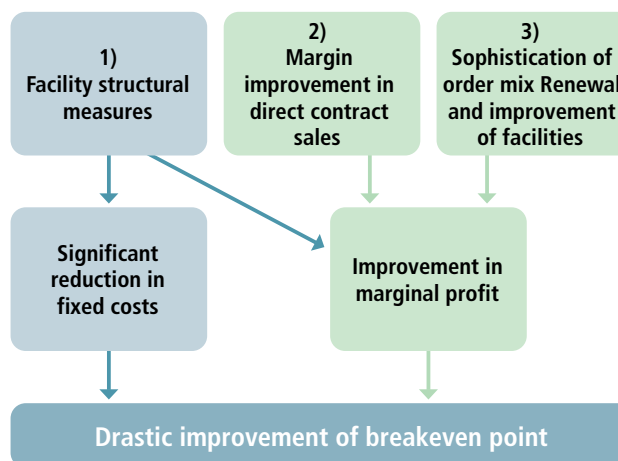
1 Rebuilding of domestic steel business

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.

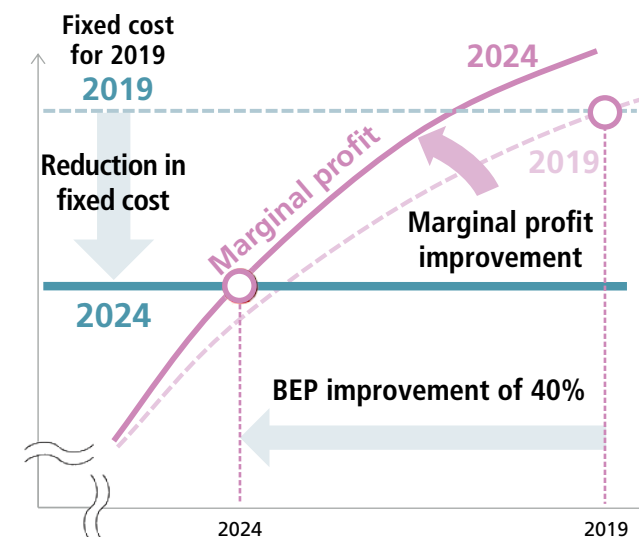
Drastic improvement in BEP

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

[Drastic improvement of breakeven point]



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.



100 Million Tons, 1 Trillion Yen Vision	
1	Rebuilding of domestic steel business
2	Deepen and expand overseas business
3	Shifting raw materials procurement to active management participation
4	Incorporate steel distribution in the business portfolio
Carbon Neutral Vision	

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

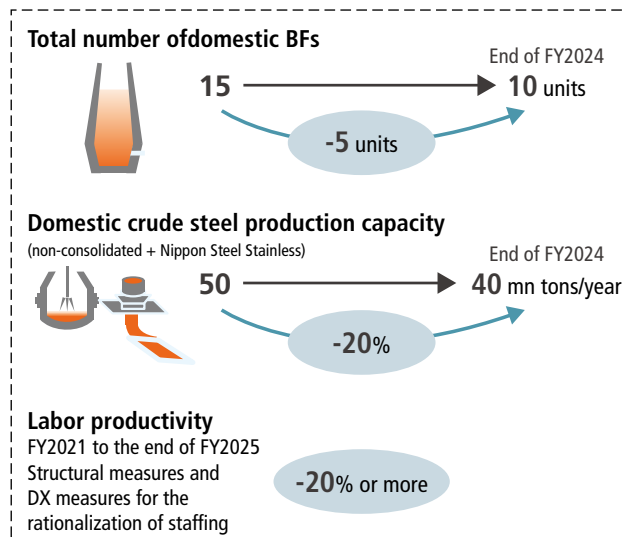
Product manufacturing process

- 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.

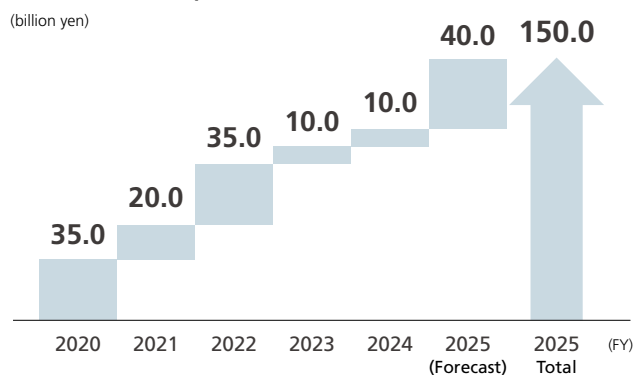
Upstream steelmaking process

- 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]



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

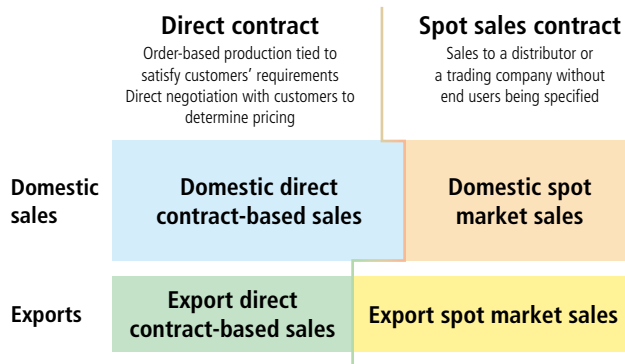
(Released in March 2021)

		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]



[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

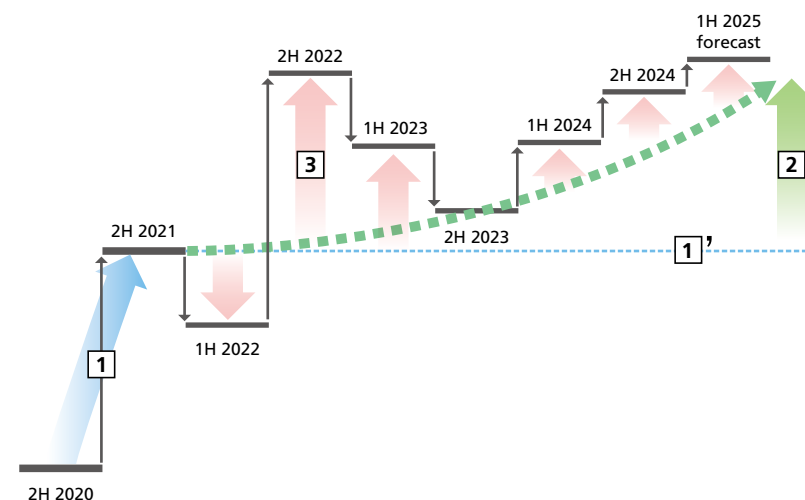
Yawata and Hirohata Step 1 and 2: Full operation in 1H FY2023

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

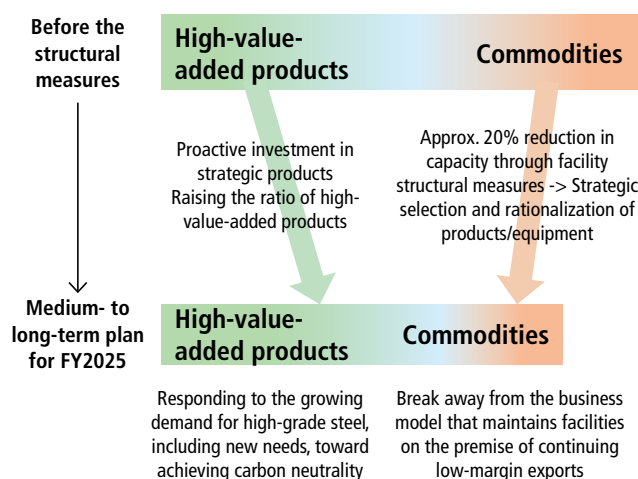
Neutral in the long term as it will be adjusted in the following period

	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 CO₂. 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.

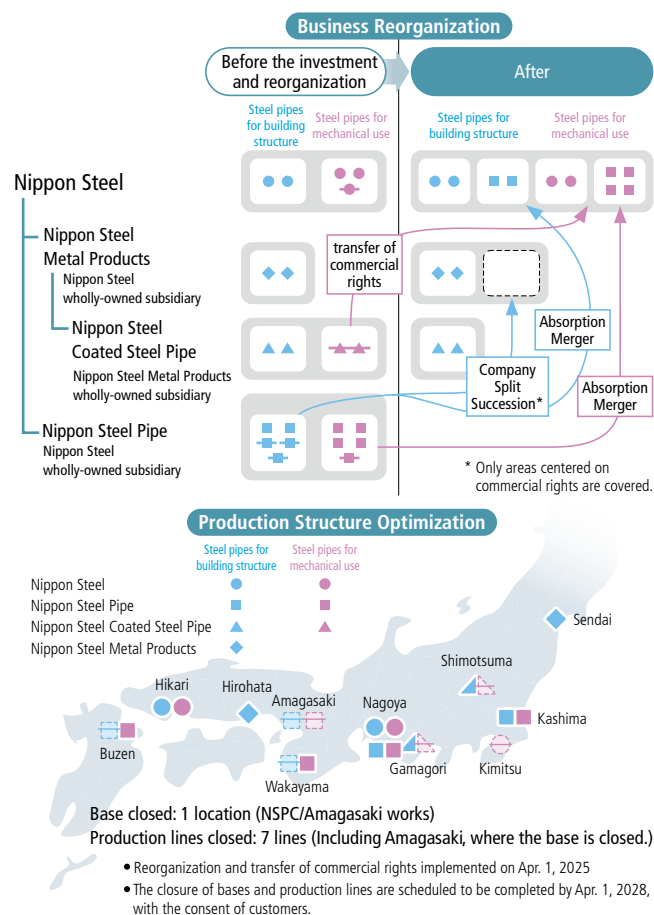
Specifically, the reorganization involves the consolidation of Nippon Steel Pipe's steel pipe business for building structure into Nippon Steel Metal Products and its mechanical steel pipe* business into Nippon Steel Corporation. Concurrently, we will optimize the production structure, including the 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]



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.

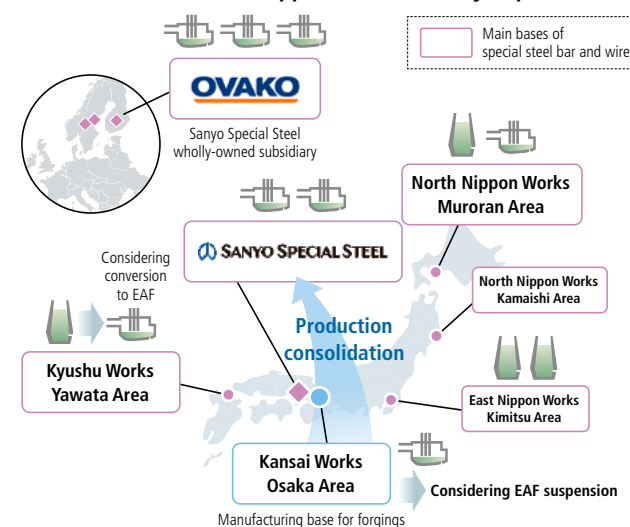
As a publicly listed company, Sanyo Special Steel has an inherent structure of potential conflicts of interest between Nippon Steel and its general shareholders. This has created certain constraints on information sharing, complementarity and mutual utilization of

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

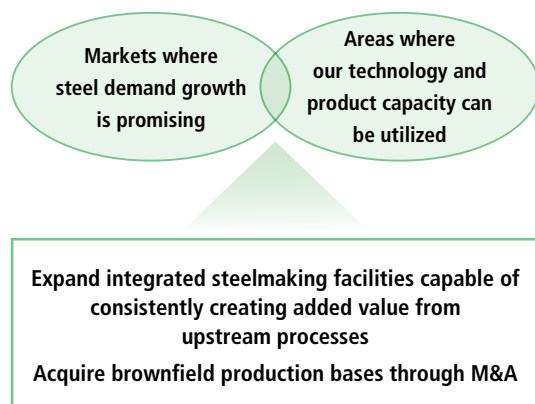
Facilities to be considered	: EAF - Ingot casting facilities, Free-Forming facilities, Specialized dissolution facilities
Products subject to consolidation	: Steel products (ingots <steel ingots>) Open die forgings (plastic molding dies, rolling rolls, etc.)
Completion of consolidation	: Targeted by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

[Expansion strategy of overseas steel business]



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

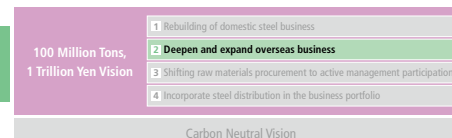
Priority regions: Expansion of integrated steel production in the United States and Europe, India, and ASEAN

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.



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.

[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.

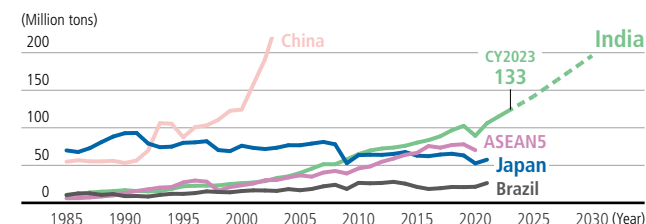
In this Indian steel market, made attractive by market growth prospects and the local production policy, Nippon Steel acquired Essar Steel jointly with ArcelorMittal in December 2019, and began operating it as AM/NS India, based on an equal partnership of Nippon Steel and ArcelorMittal.

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)

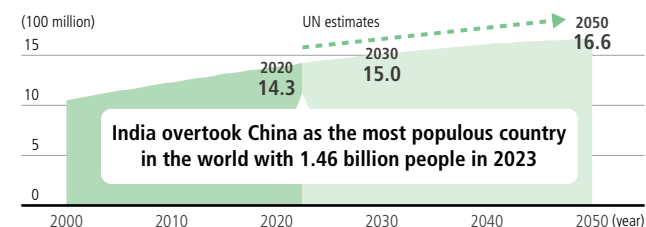
that we have developed in Japan, and to incorporate a provision for applying carbon-neutral technology that uses blast furnace equipment, which is under development by us and ArcelorMittal. Also, we have started construction for expanding state-of-the-art flat steel production facilities (for pickling, 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]

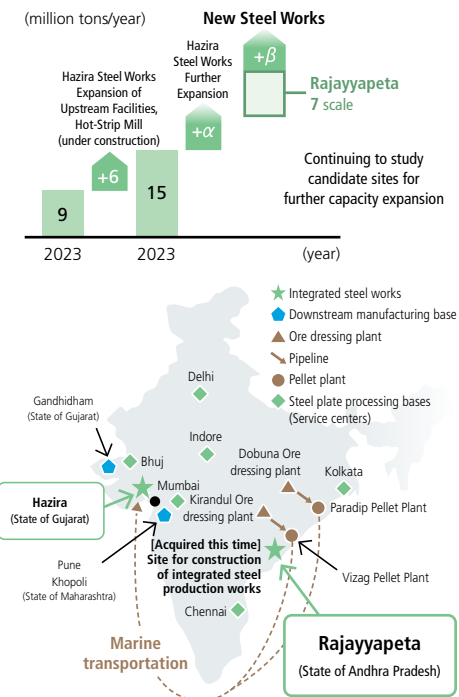


[India's population]



	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 m ³ × 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,

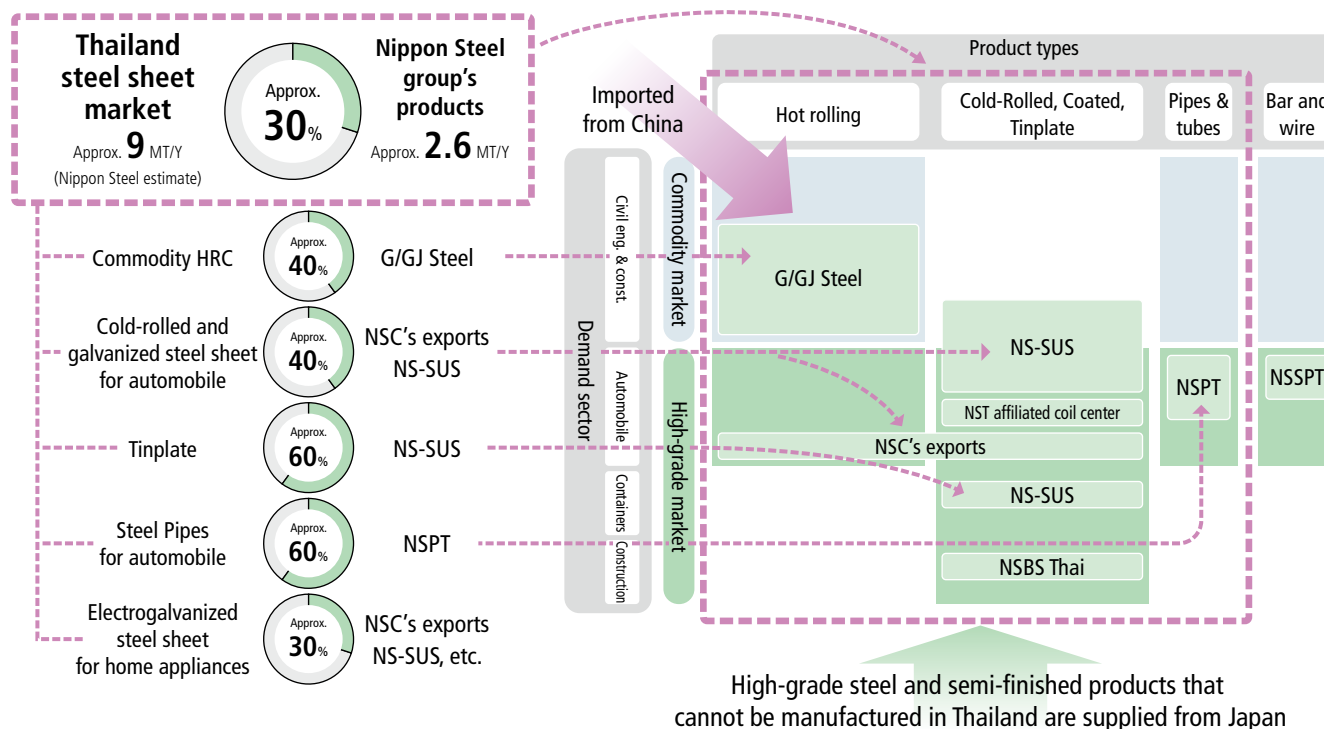
Nippon Steel acquired G Steel Public Company Limited and GJ Steel Public Company Limited, which are integrated steel production mills that produce hot-rolled steel sheets from electric arc furnaces in Thailand, and made them subsidiaries. The two companies hold an approximately 40% share in commodity-grade 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

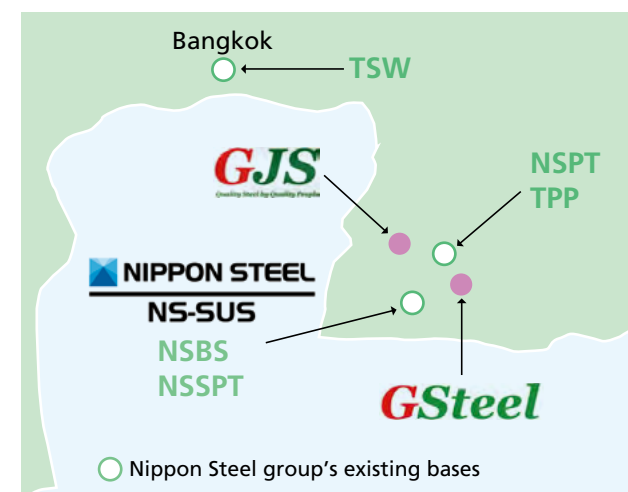
tinplate steel sales for steel can applications, we decided in April 2025 to invest approximately THB 2.0 billion (around JPY 8.9 billion) to increase production capacity from 280,000 tons to 350,000 tons, with completion scheduled for March 2027.

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.

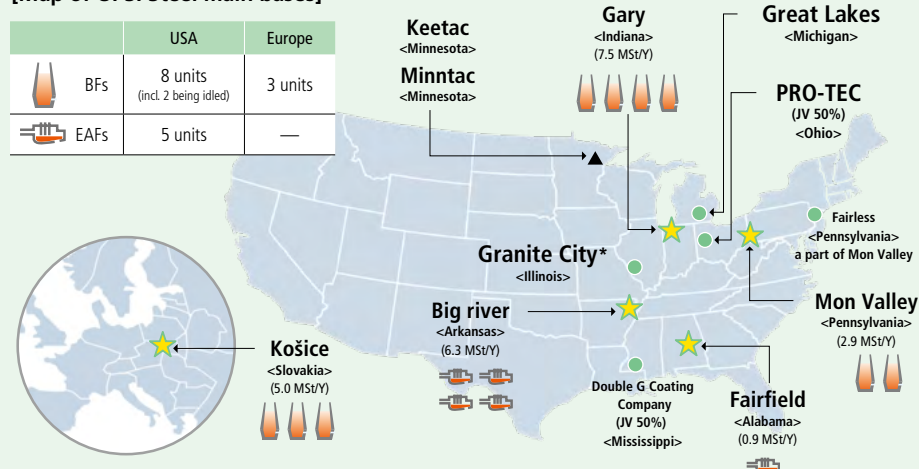
[Overview of U. S. Steel]

(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), Granite City (Illinois), 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 BF's (Including 2 BF's idle) 5 EAF's	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. EAF's 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 (3.6 MSt/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

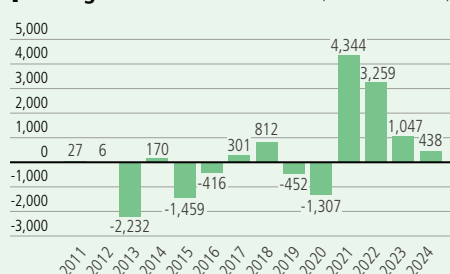
[Map of U. S. Steel main bases]



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	
Current assets: 4,936		Current liabilities: 3,399		Non-current liabilities: 5,353	
Receivables, net: 1,647		Accounts payable, etc.: 2,800		Interest-bearing debt: 4,047	
Inventories: 2,372		Others: 599		Others: 1,306	
Others: 323		Shareholders' equity: 11,238			
Non-current assets: 15,147		Machinery & equipment, lands: 12,113			
		Goodwill: 920			
		Others: 2,114			

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]

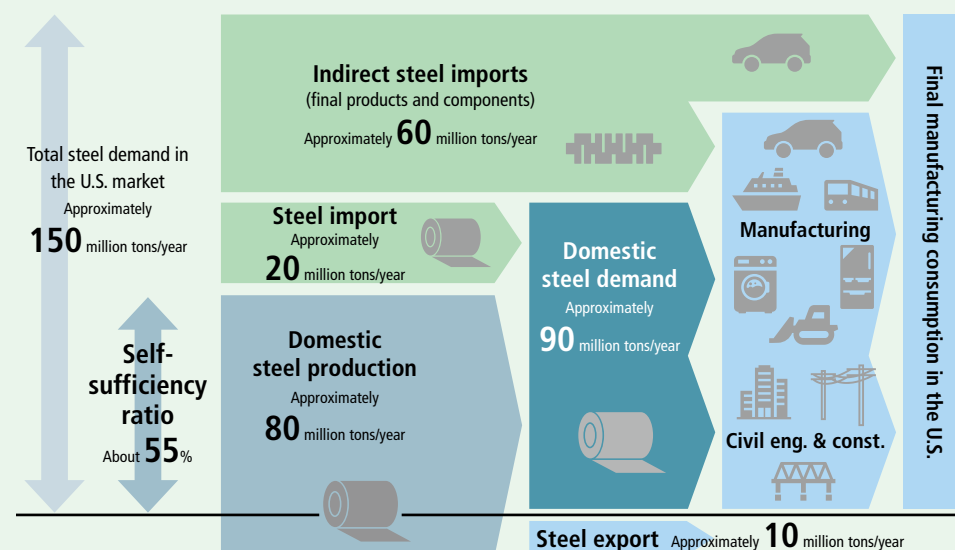


In the case of U. S. Steel, the facilities are already in place and operational, eliminating the risks associated with construction and start-up phases. In addition, the company owns high-quality iron ore mines, making this a strategic and reasonable deal. Another considerable advantage is that, while 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



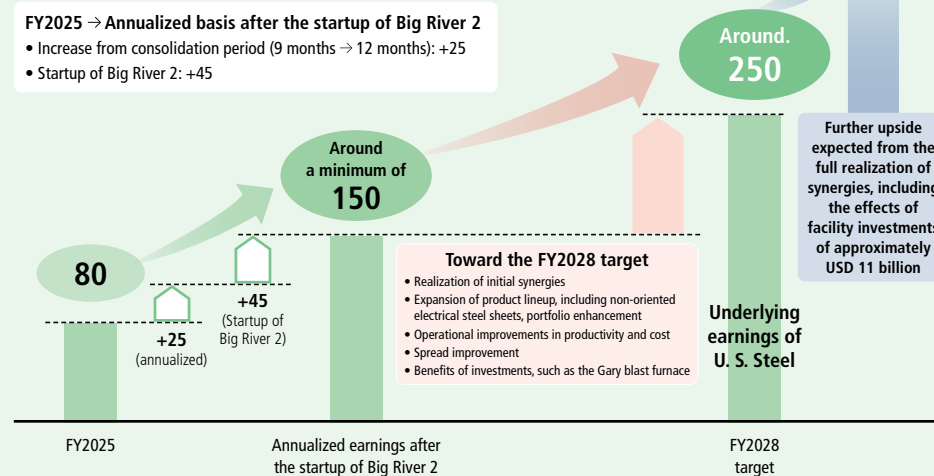
Going forward, we intend to use this profit level as a starting point and achieve underlying operating profit of approximately 250 billion yen at an early stage, with a target of FY2028 through the early realization of synergies, expansion and portfolio enhancement of product lines such as non-oriented 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.

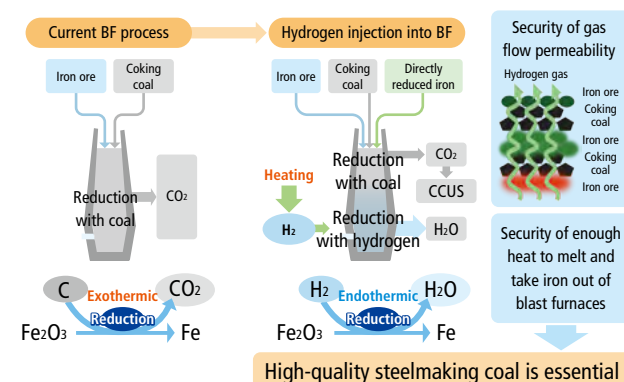
Equity participation in high-quality coking coal mines

In order to realize a carbon-neutral steel production process, we are working on the development of “hydrogen injection into BF” 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 CO₂ 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.

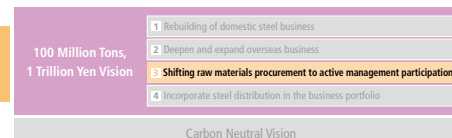
[Necessity of securing high-quality steelmaking coal]



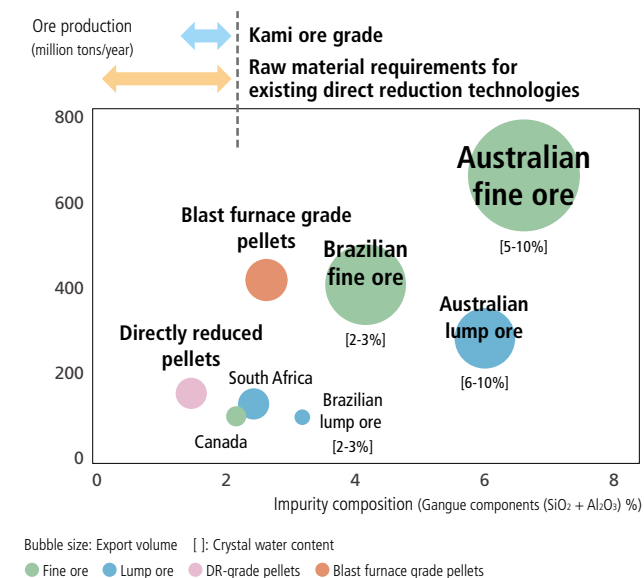
Equity participation in high-quality iron ore mines

In pursuing the development of “high-grade steel manufacture in large-scale EAFs,” it is essential to secure both a reduction in CO₂ 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]



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.

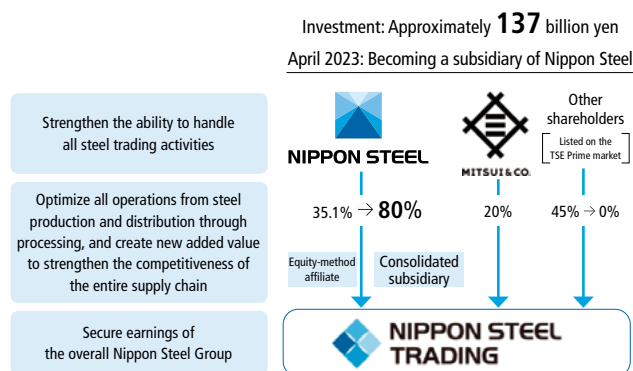
However, the environment surrounding the steel market has structurally and drastically changed in a short period of time due to a potential decline in domestic demand and expansion of local production by customers, qualitative improvement, and quantitative expansion of China and other competitors, the 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)

100 Million Tons, 1 Trillion Yen Vision
1 Rebuilding of domestic steel business
2 Deepen and expand overseas business
3 Shifting raw materials procurement to active management participation
4 Incorporate steel distribution in the business portfolio
Carbon Neutral Vision

[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 CO₂ reductions in its supply chain by offering two values: “providing high-performance steel products and solutions that contribute to reducing CO₂ 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.

100 Million Tons, 1 Trillion Yen Vision	1 Rebuilding of domestic steel business
	2 Deepen and expand overseas business
	3 Shifting raw materials procurement to active management participation
	4 Incorporate steel distribution in the business portfolio
Carbon Neutral Vision	

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 CO₂ emissions in the steelmaking process
- Contribute to reducing CO₂ emissions from society (reducing CO₂ emissions during steel processing and use)

- Realizing a carbon neutral steelmaking process by 2050

- Expanding and improving products that contribute to reducing CO₂ emissions in society

Economic valuation of CO₂ emission reductions

Provision of GX Steel

Provision of GX Solutions

Contribution to CO₂ reduction by our customers

Realization of a carbon neutral society in 2050

Toward the Decarbonizing of Steelmaking Process

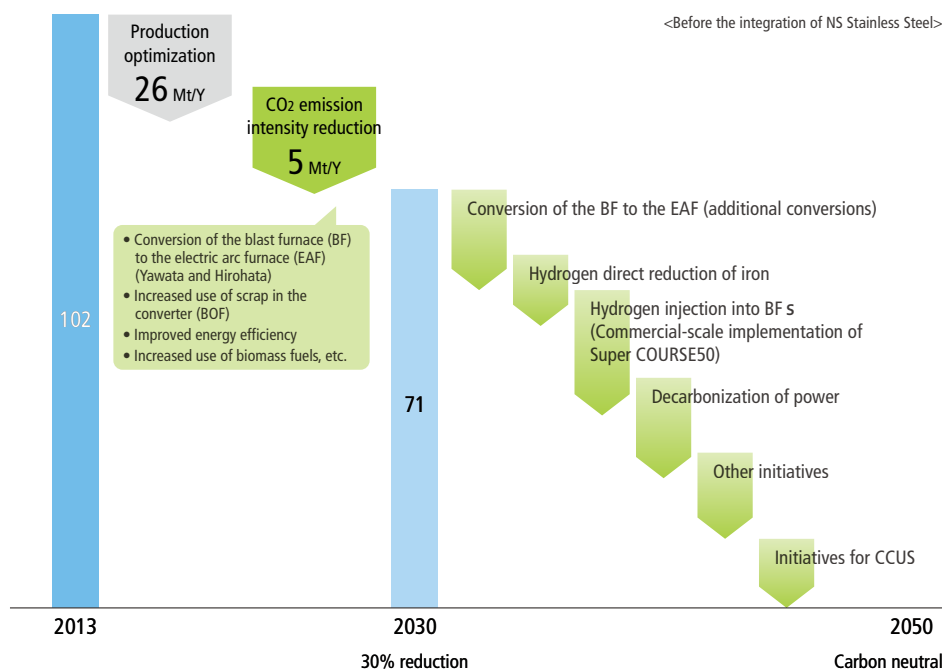
Nippon Steel have formulated a target of reducing total CO₂ emissions by 30% by 2030, compared to the 2013 baseline and of achieving carbon neutrality in 2050. We are working to develop and actually implement innovative technologies in steelmaking process ahead of steel companies in other countries.

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 CO₂ 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 CO₂ emissions by 2030 and achieving carbon neutrality by 2050, steadily advance the full implementation of CO₂ 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 CO₂ reduction value that assess the predictability of investment returns, by promoting the adoption of GX Steel embedded with the CO₂ 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

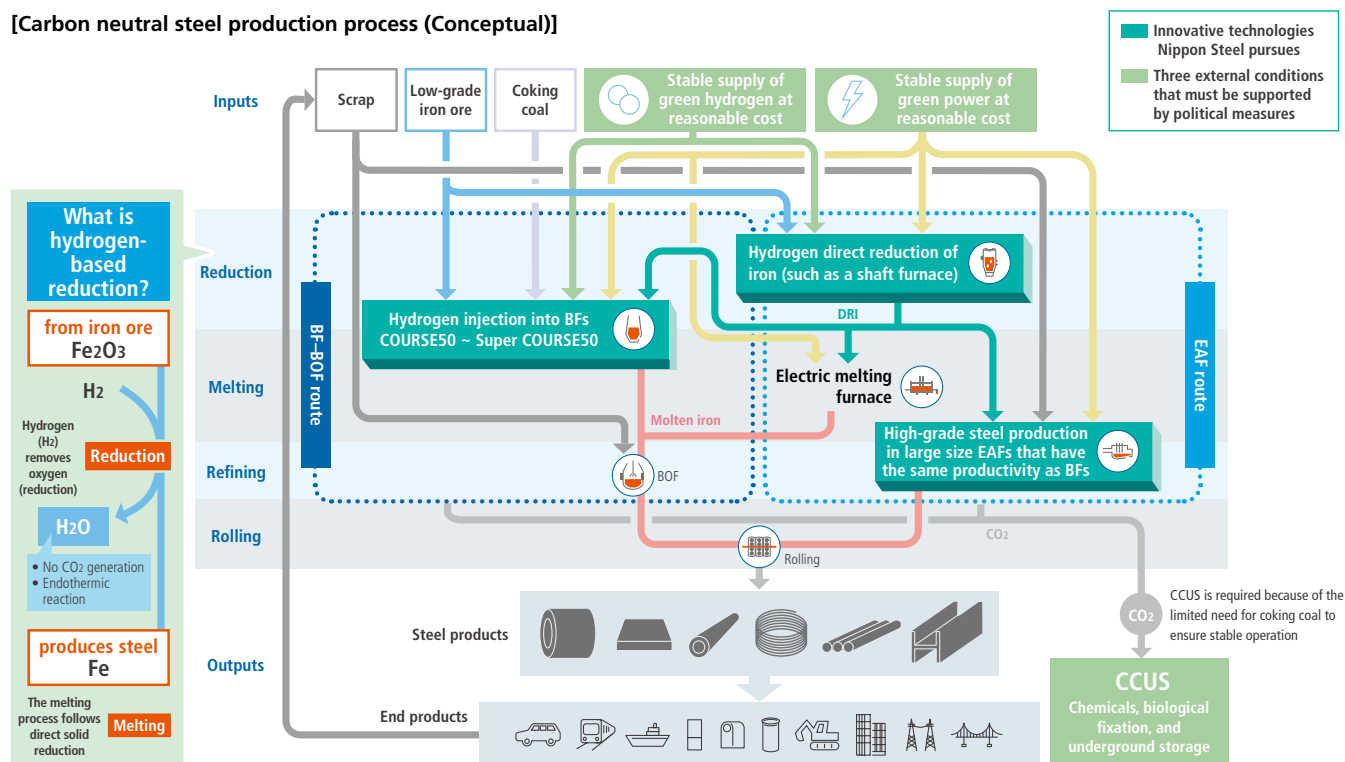
Decarbonizing the steel making process" through the realization

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 CO₂ 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)]



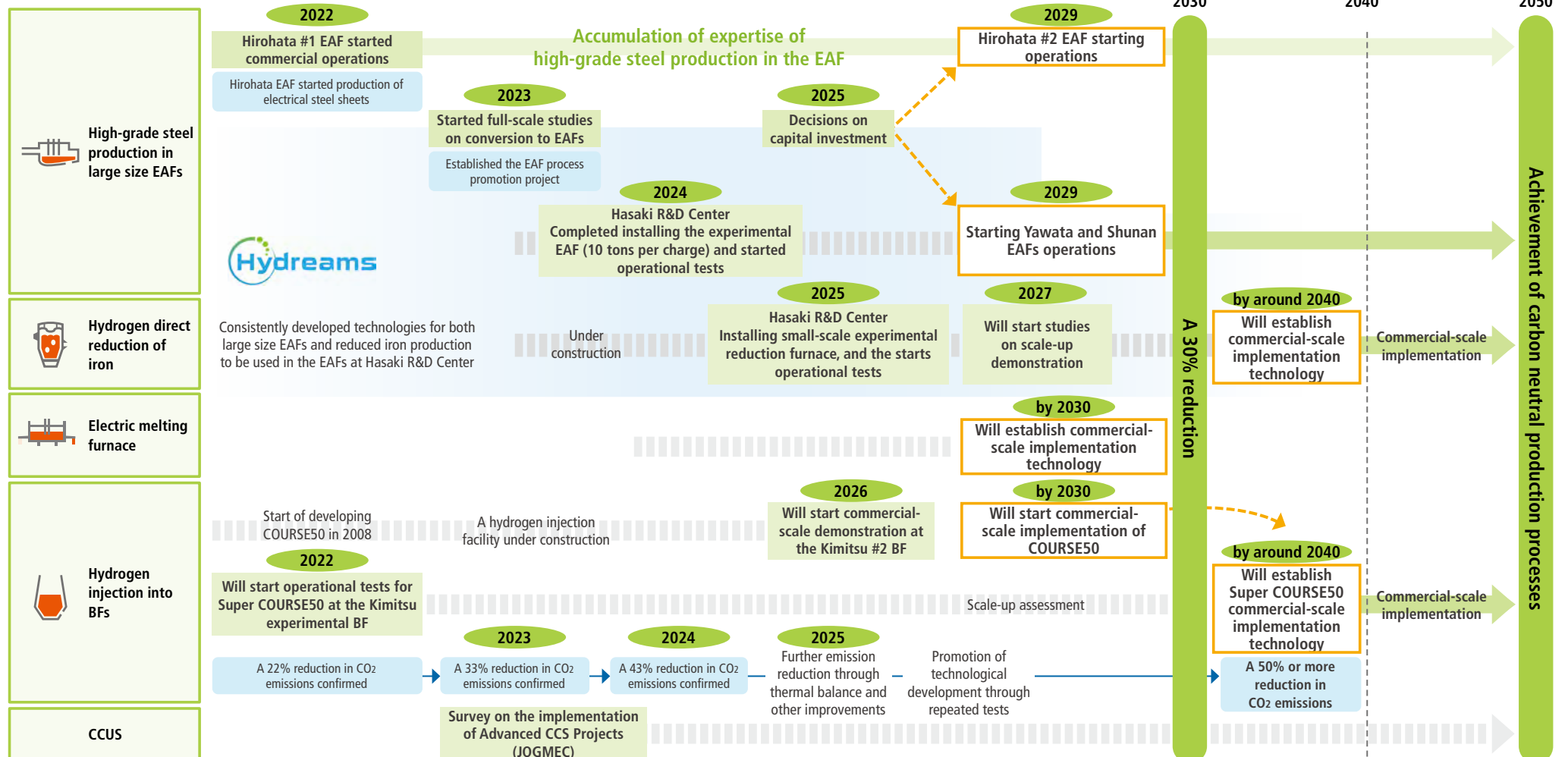
Progress of Carbon Neutral Vision 2050

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 BF. 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 CO₂ 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]



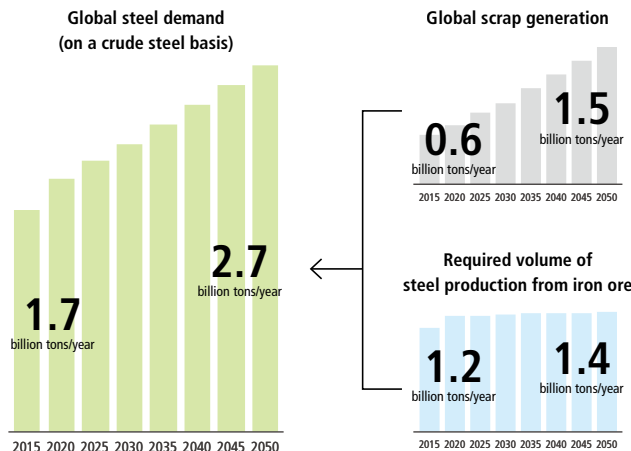
The Need for a Multi-track Approach

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,

[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

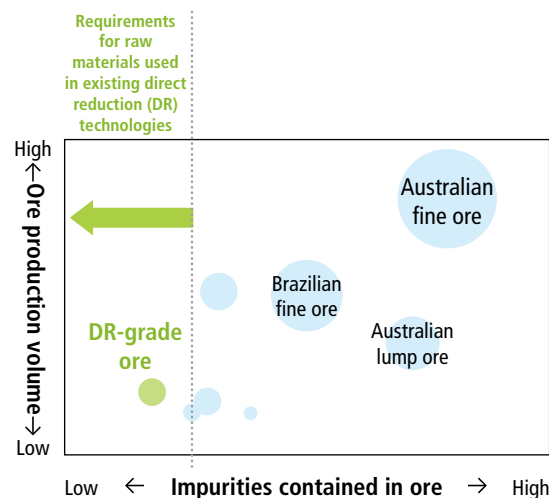
we still require steel production relying on the reduction of iron ore to meet global steel demand.

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.

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

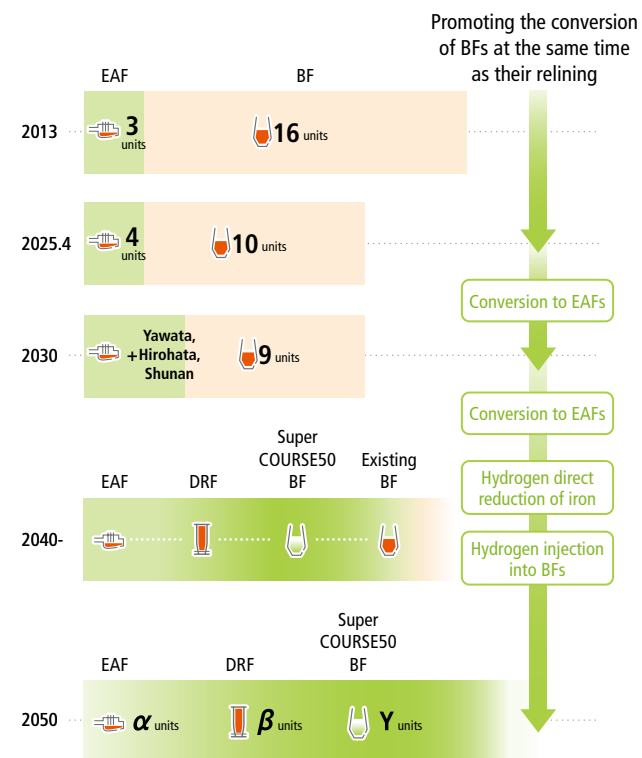


Source: Created by Nippon Steel based on CRU/AME data (2018 production/export volumes)

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 CO₂ 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).

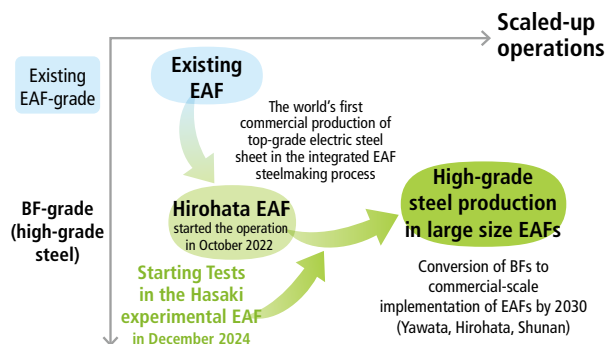


Toward the Development and Implementation of CO₂ Reduction Technologies

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.

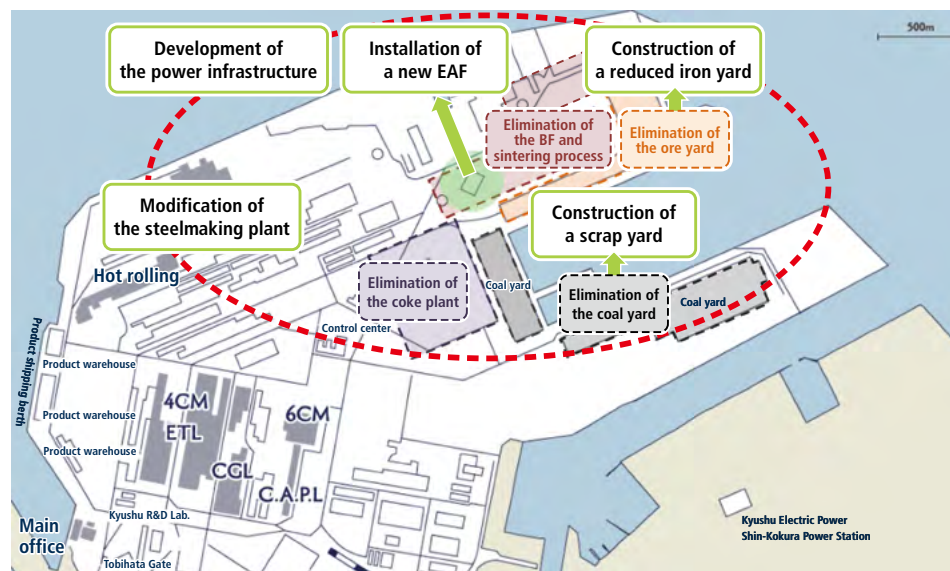
Initiatives to procure raw materials (steel scrap, HBI, and pig iron etc.)

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.

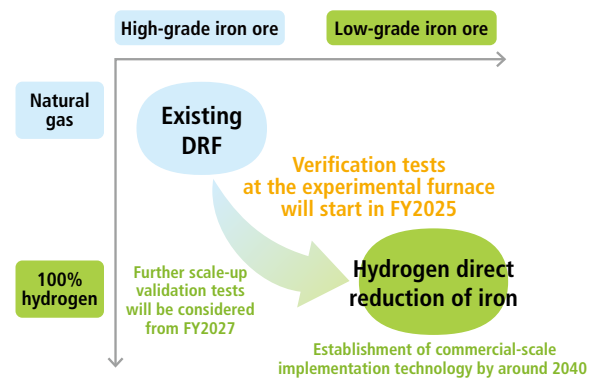
Thanks to these investments, the conversion of a total of approximately 2.9 million tons of production capacity per year to EAFs is expected to result in an estimated reduction of 3.7 million tons of CO₂ emission per year. Accordingly, the supply of GX Steel with embedded CO₂ reduction value is estimated 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)

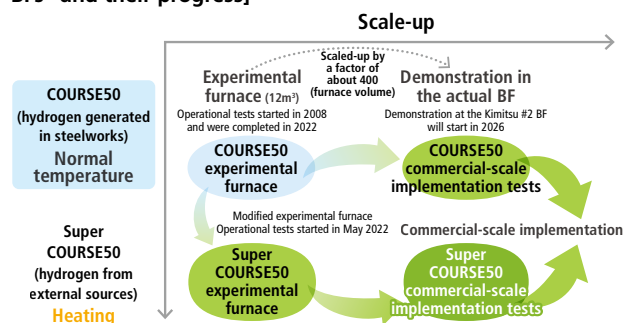
Proceeding to Acquire Mining Interest in High-Grade Iron Ore Mine Suitable for Direct Reduced Iron Production

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 BF_s

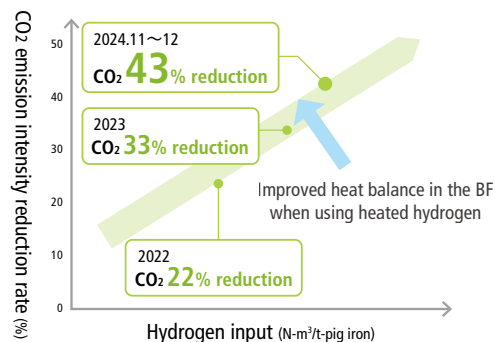
The BF-BOF process is currently the only steelmaking process capable of mass-producing high-grade steel products from iron ore. However, it generates approximately 2 tons of CO₂ per ton of steel produced. We are developing the technology of hydrogen injection into BF_s, in which carbon (coal), the reducing agent used for the BF process, can be replaced with hydrogen.

[Technology development plans for “hydrogen injection into BF_s” and their progress]



Demonstration tests at an experimental BF in anticipation of the implementation of the hydrogen injection into BF_s 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 CO₂ emissions. During our operational tests in December 2024, we achieved a new world record of a 43% reduction in CO₂ 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 12m³ 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 CO₂ emissions. We also developed an energy-saving CO₂ separation and capture technology using a chemical absorption method, which led to its commercial-scale implementation in the industrial CO₂ field.

The Super COURSE50 is a Green Innovation Fund-subsidized project that aims for a further reduction of CO₂ 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 CO₂ 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

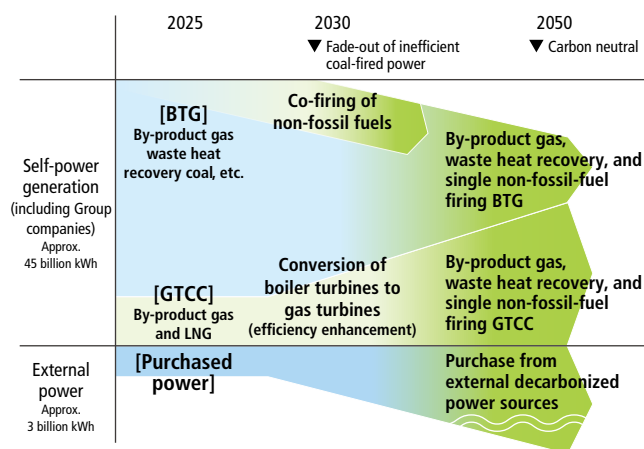
Nippon Steel generates 88% of the power consumed in its steelworks, 68% of which comes from internally generated energy sources, including waste heat and by-product gases. We also use LNG, petroleum, and coal as external-source auxiliary fuels.

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 CO₂ 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]

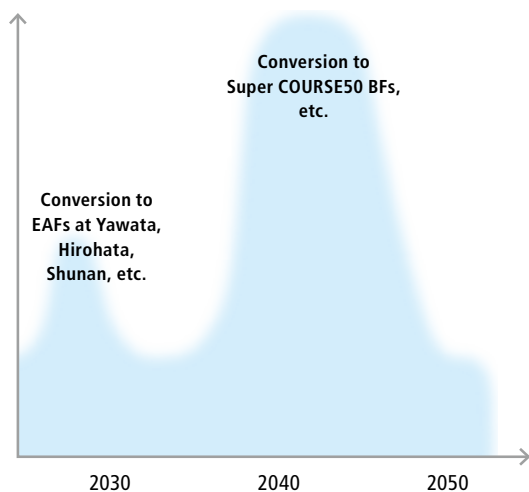


Initiatives for GX Steel Market Creation

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.

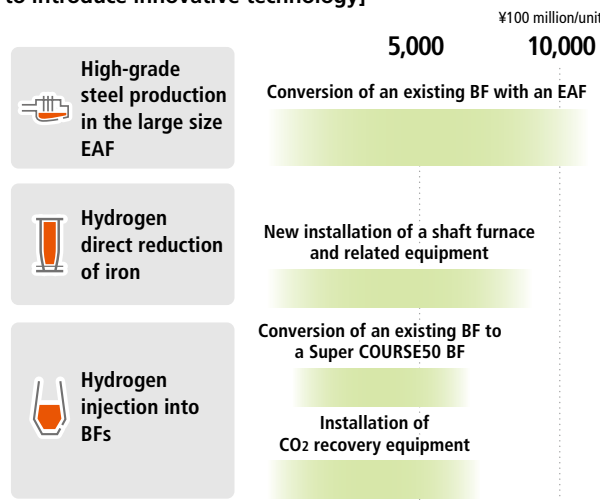
[Image of capital investment timeline for commercial-scale equipment]



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.

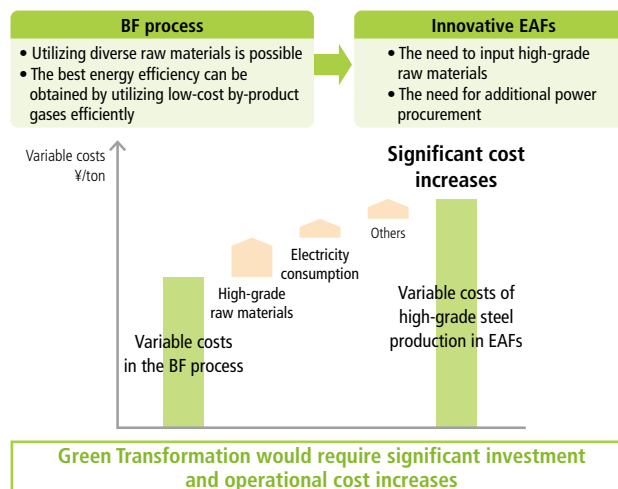
However, the operating cost of GX Steel production will increase significantly due to the need for higher-grade raw materials compared to the conventional process, as well as the requirement to procure electricity to replace recycled energy sources, such as by-product gases.

[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 CO₂ 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 CO₂ 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 CO₂ 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 CO₂ reduction value. To make it happen, we must establish an environment where the costs required for CO₂ reduction are evaluated and borne as a CO₂ reduction value in the entire value chain, and ultimately across the entire society.

On the other hand, our customers need to visualize the CO₂ 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 (CO₂ 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.**

Steel products with a low CFP*

* Carbon Footprint of Products

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 demand side, etc.

Support for the supply side

Nippon Steel compiled this based on “Summary of the 5th Study Group on Green Steel for Green Transformation” by MITI in January 2025

Product and Solution Technologies that Contribute to Reducing CO₂ 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 CO₂ 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 CO₂ 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 CO₂ emissions in society, not only by reducing CO₂ 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 CO₂ reduction effects of the NSCarbolex Solution line-up and target product and solution technologies (estimated by Nippon Steel)

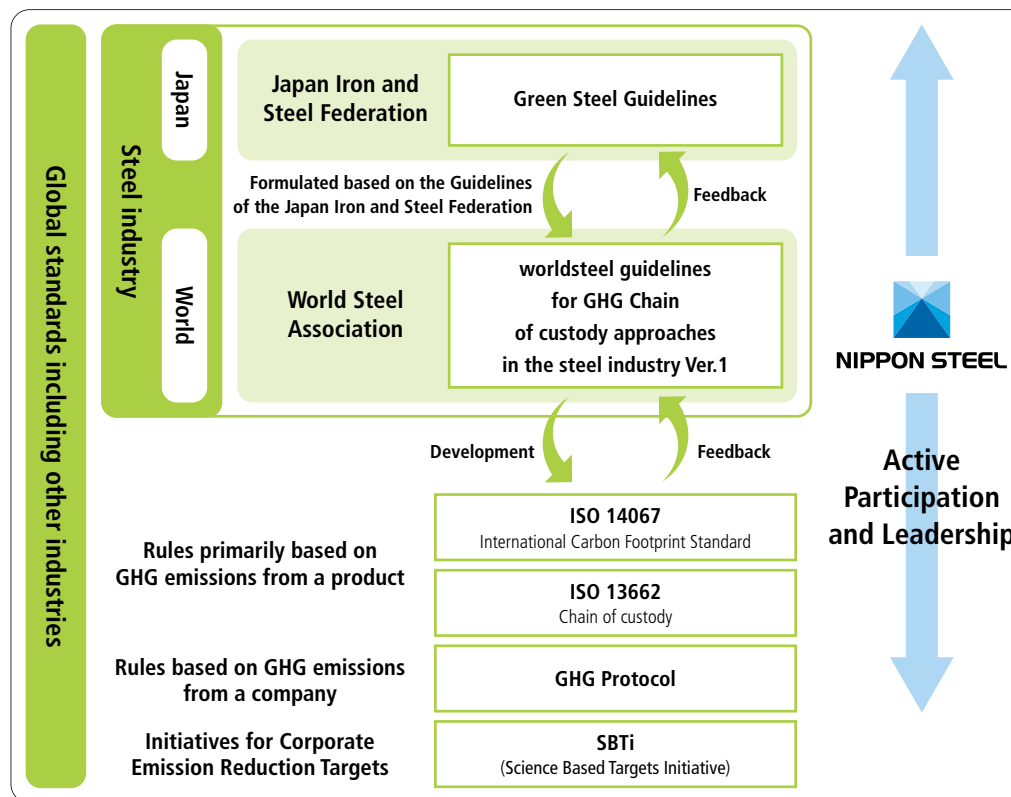
<https://www.nipponsteel.com/en/product/nscarbolex/solution/>

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 CO₂ capture, utilization, and storage (CCUS) measures for the CO₂ 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 BF's, 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 CO₂.

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 CO₂, 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 CO₂ emitted from the steel manufacturing process after minimizing CO₂ generation.

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

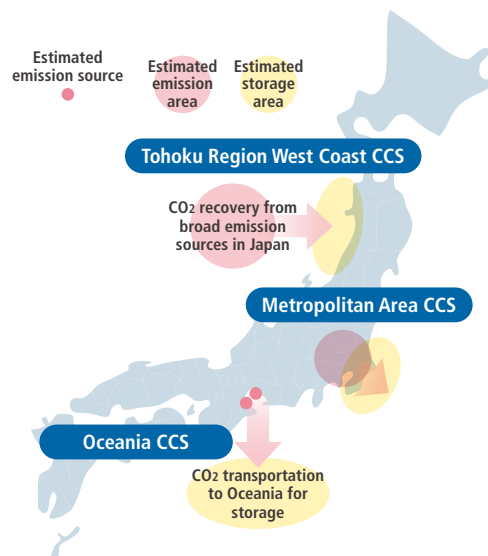
[Nippon Steel Group's initiatives for CCUS technology development]

Storage

CO₂ 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 CO₂ separation, capture, and liquefaction, as well as shipping terminals.



Separation and capture

CO₂ separation and capture technology (NEDO COURSE50 projects)

Nippon Steel Engineering Co., Ltd., a company of the Nippon Steel Group, has commercialized an energy-saving CO₂ chemical absorption process, ESCAP™, a chemical absorption technique used for CO₂ 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 CO₂ separation and capture technologies. Furthermore, the company's proprietary impurity removal equipment can recover CO₂ 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 CO₂ separation and capture technology (subsidized by the Green Innovation Fund)
- Chemical product manufacturing technology using CO₂ as a raw material (NEDO-commissioned project)
- Absorption and fixation by marine life (NEDO-commissioned project)
- Integrated CO₂ 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 CO₂ 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 CO₂ emissions, based on medium- to long-term CO₂ 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 CO₂ 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

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

[CO₂ 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	Long-term target
Japan	Nippon Steel		38.9	72.6	2013 → 2030 30% reduction	2050 carbon neutral
	Subsidiaries*1		4.8	2.2		
Overseas	OVAKO	EU	1.3	0.1	2015 → 2030 80% reduction	2015 → 2040 90%*2 reduction
	SMMI*3	India	0.2	0.1	2016 → 2030 40% reduction	2050 carbon neutral
	G/GJ Steel	Thailand	3.5	0.5		
	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 Kohetsu, Oji Steel

*2 Carbon neutrality already achieved through the 2022 Carbon Offset Program

*3 Sanyo Special Steel Manufacturing India Private Limited

■ 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.

[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 CO₂ emission results equivalent to Nippon Steel's equity ratio

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 CO₂ 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 CO₂ contained in blast furnace gas; the absorption and fixation of CO₂ through the creation of seaweed beds using steelmaking slag; and the conversion of CO₂ 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.

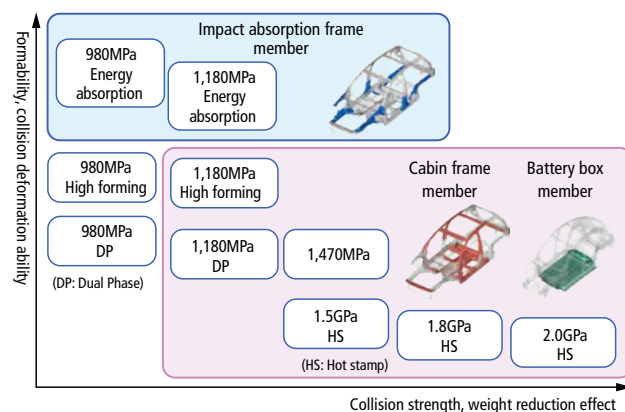
Developing products with high-added value and solution technologies

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 CO₂ emissions in society.

Next-generation automobiles

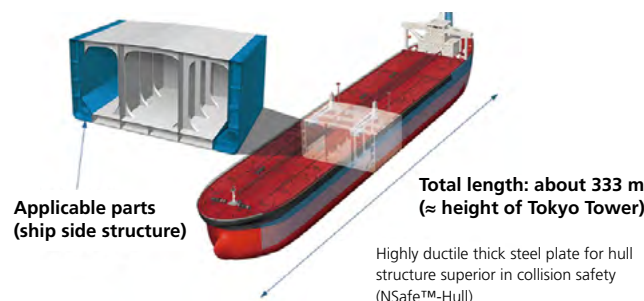
We are contributing to the reduction of environmental impact by developing and expanding the application of high-tensile steel sheets to achieve both weight reduction and collision safety of automobiles, developing high-efficiency electrical steel sheets for hybrid and electric vehicles, and improving 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, CO₂ 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

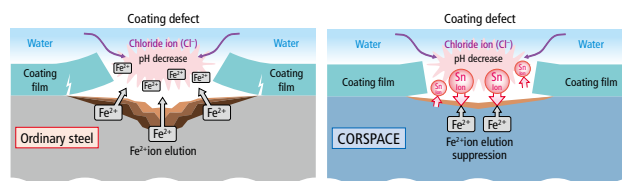
Steel materials for energy and shipbuilding require a quality that ensures long-term safety under various service conditions. We are contributing to improving the safety of final products and enhancing the productivity and competitiveness of customers by supplying high-performance products that utilizes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



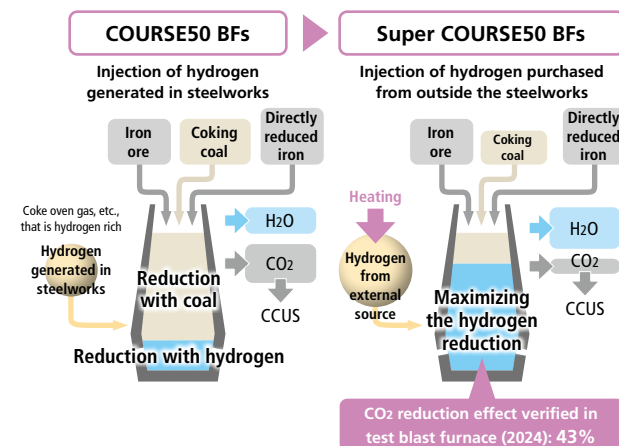
Challenge of carbon neutrality

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% CO₂ 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% CO₂ 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.

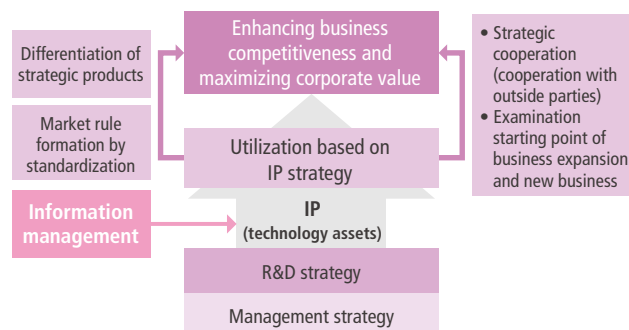
Policy and organization of intellectual property activities

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.

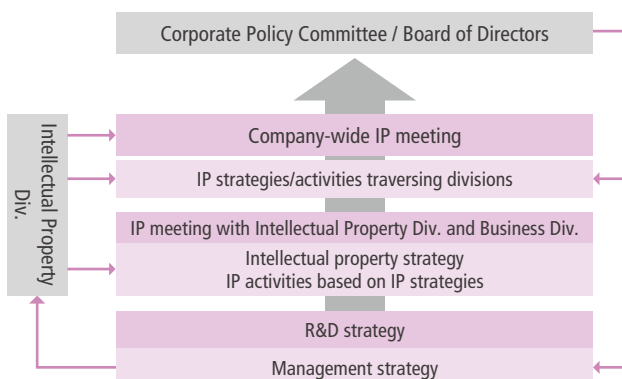
[Schematic diagram of our intellectual property]



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.

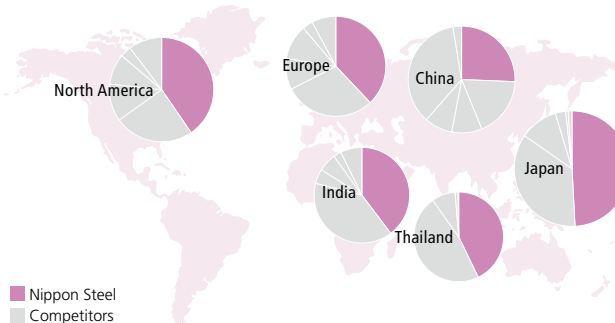
[Specific initiatives in intellectual property activities]

[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

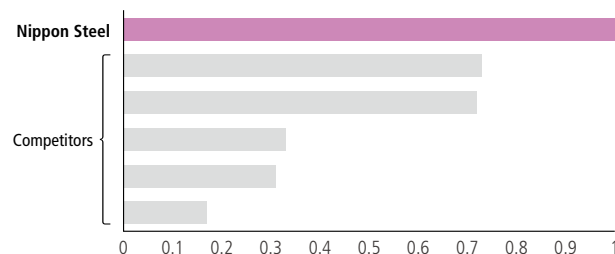
The Nippon Steel Group holds a high share of patents in major global markets compared to its competitors in Japan and overseas.

[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)]



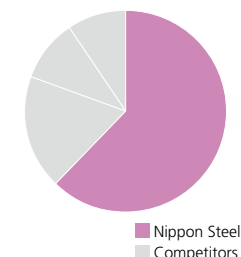
* Calculated using PatentSight™, a patent analysis tool of LexisNexis.
Comprehensive evaluation index of patent calculated by multiplying "technical value" calculated based on the number of citations of patents and "market value" calculated based on the country of application for patents with valid legal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

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

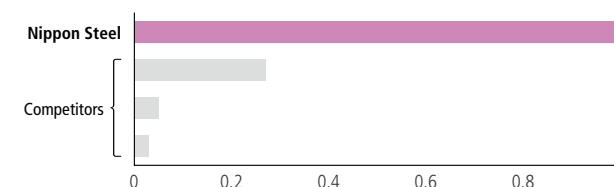
We hold a dominant position in one of our strategic products, with a significantly larger number of patents related to highly corrosion-resistant plated (Zn-Al-Mg-based plated) steel sheets than any other competitor. In particular, the patent portfolios for our flagship products—ZEXEED™, SuperDyma™, 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

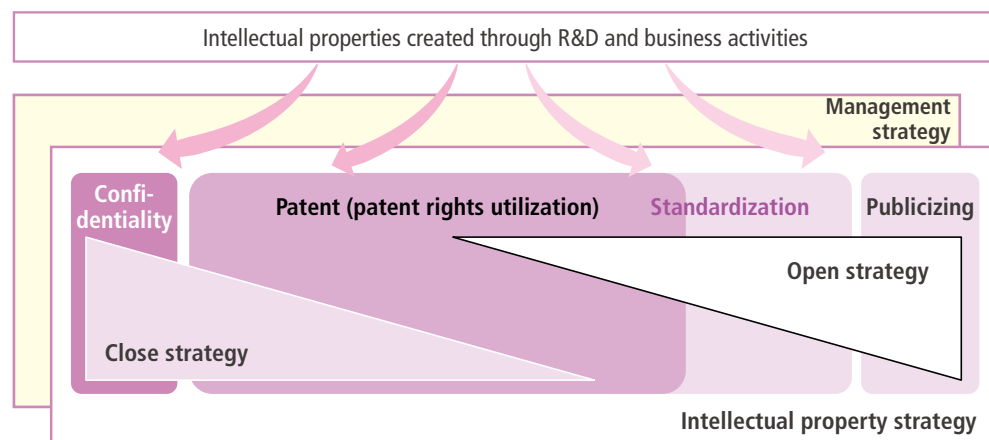
We promote the comprehensive intellectual property (IP) utilization strategy aiming at securing and strengthening the competitive advantage based on our management strategies in each business domain. This strategy integrates multiple approaches—including confidentiality, patenting, market expansion through 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

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



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.

[Activities related to standardization]

	Purpose	Examples of standardization
Layer C (Corporate Issue)	(3) Establishing management base	- Green steel international standardization (The World Steel Association, etc.) - CO₂ emissions assessment - LCA assessment, etc.
Layer B (Business Strategy)	(2) Strengthening business competitiveness	- ISO and IEC standards - Regional and national standards such as EN and DIN - Forum standards such as ASTM, API, and ASME, etc.
Layer Q (Quality Assurance)	(1) Maintaining and improving quality assurance, safety, environment, and disaster prevention	- Quality management standards such as ISO - Our internal quality management standards - Operation standards - Safety rules, etc.

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

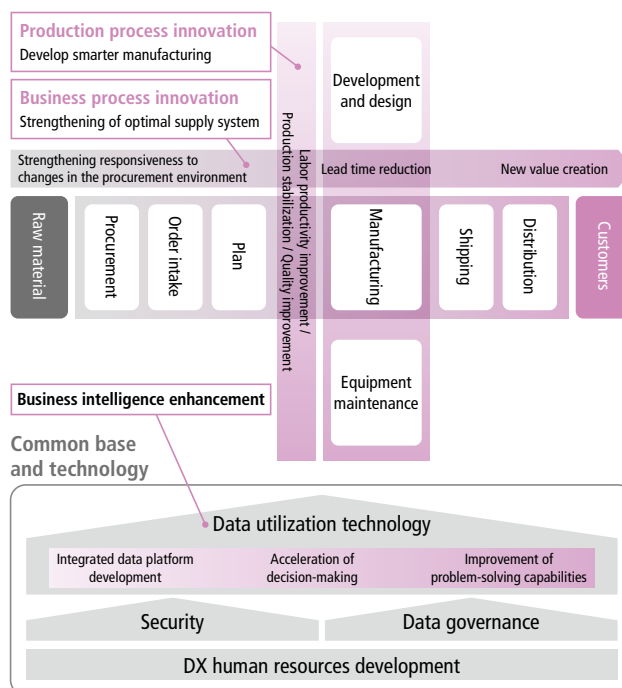
Global management support through enhancement of business intelligence

- 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

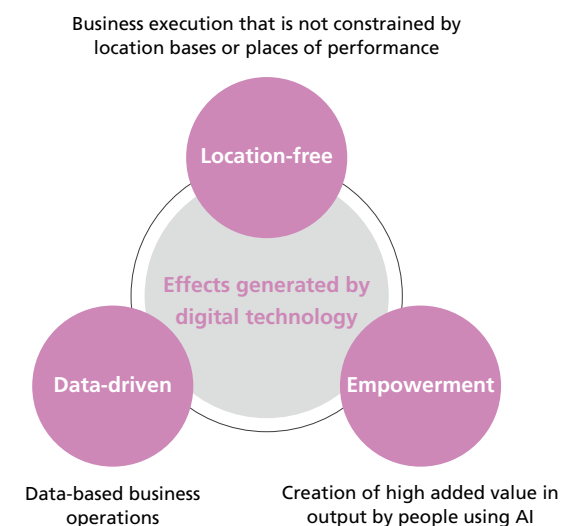
The steel business process encompasses the entire supply chain—from raw material procurement to end customers—as well as a full range of business activities, including development, design, manufacturing, and equipment maintenance. We are advancing reforms across this broad domain of operations.

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.

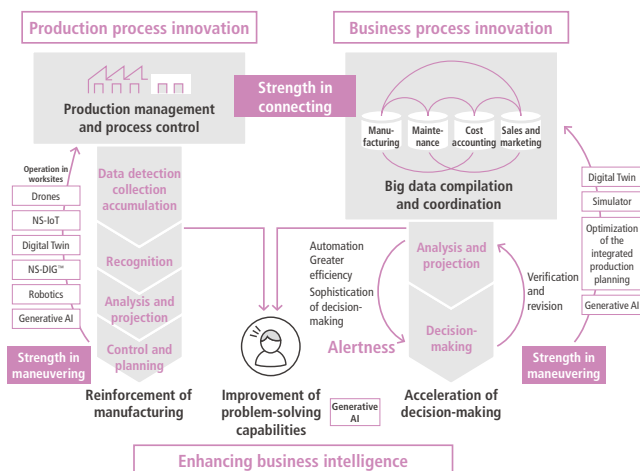


Strength in connecting and strength in maneuvering

—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.

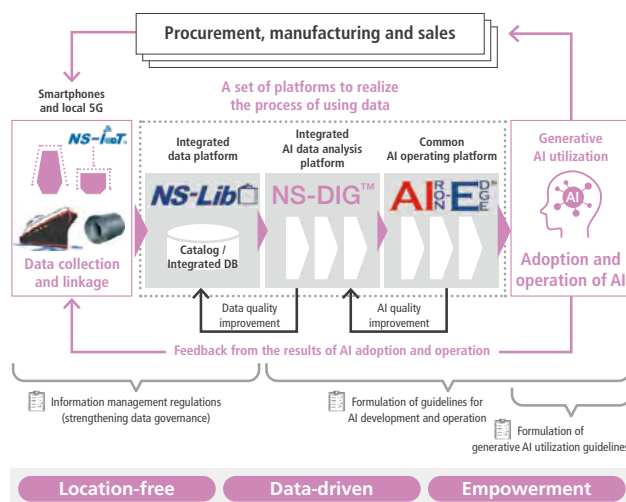


Nippon Steel DX Initiatives

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.

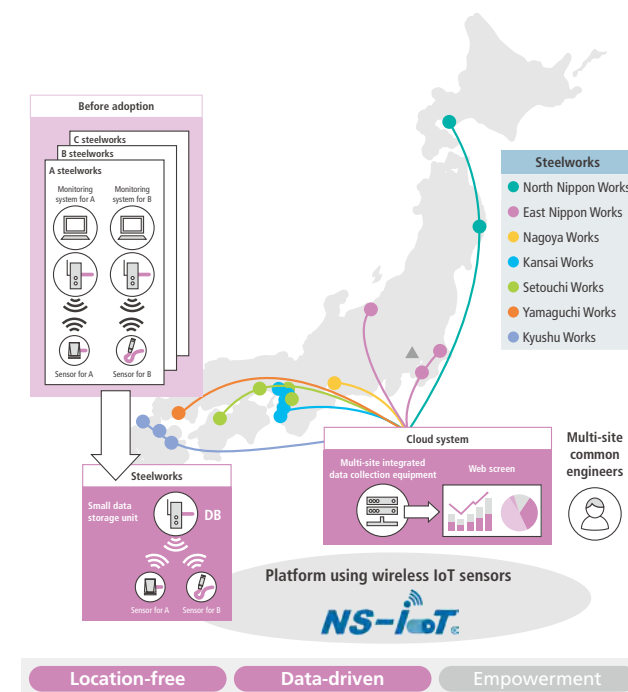


Advanced utilization of operational and facility data using wireless IoT sensors (NS-IoT)

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.

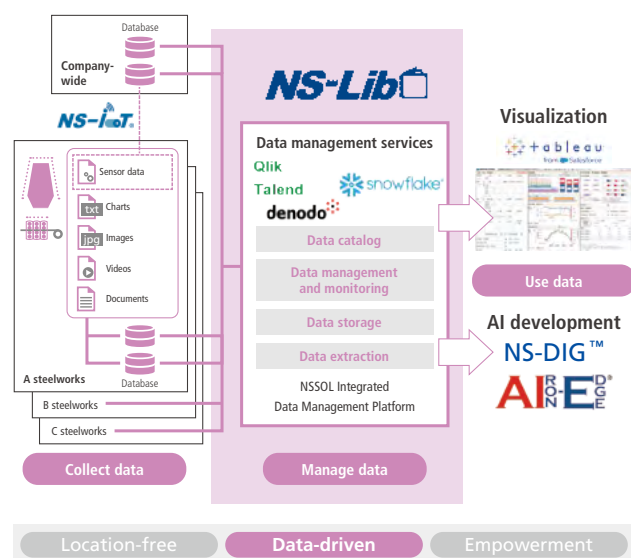
Implementation in the ironmaking processes of all our steelworks has already been completed. Going forward, through Nippon Steel Solutions Corporation and Nippon Steel Texeng Co., Ltd., we will promote the provision of this solution to other Group companies—including those overseas—as well as to external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

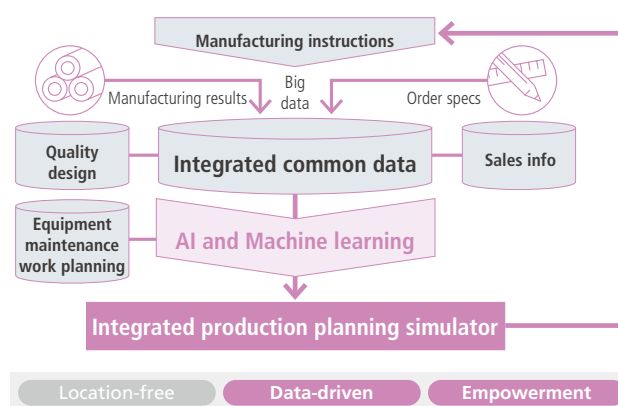


Acceleration and optimization of integrated production planning

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]

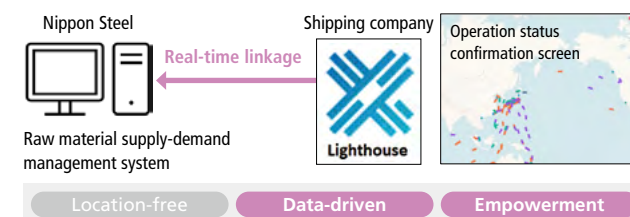


Integrated efficiency improvements of the procurement and transportation of raw materials

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.

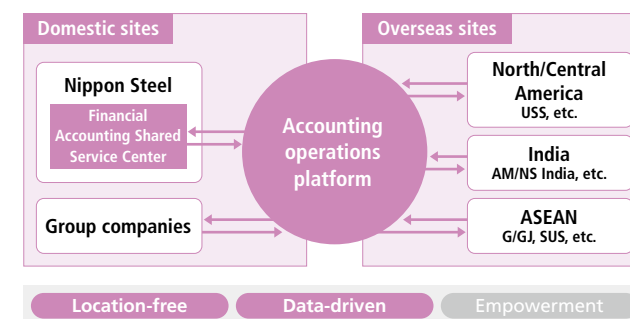
For the transportation of these raw materials, we use algorithms to formulate optimal transportation plans from 10⁷⁶⁰ (10 to the 760th power) combinations.

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.



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.



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.



- 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

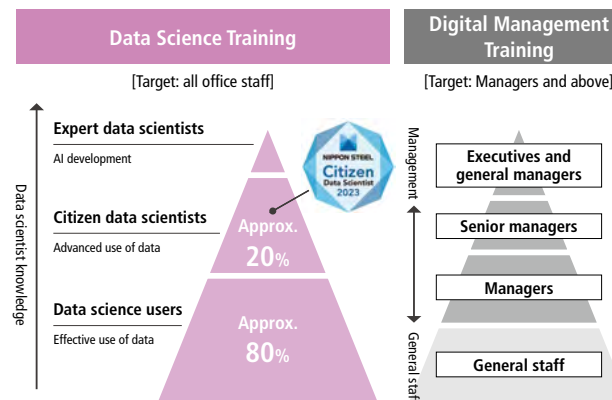
DX human resources development

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.

