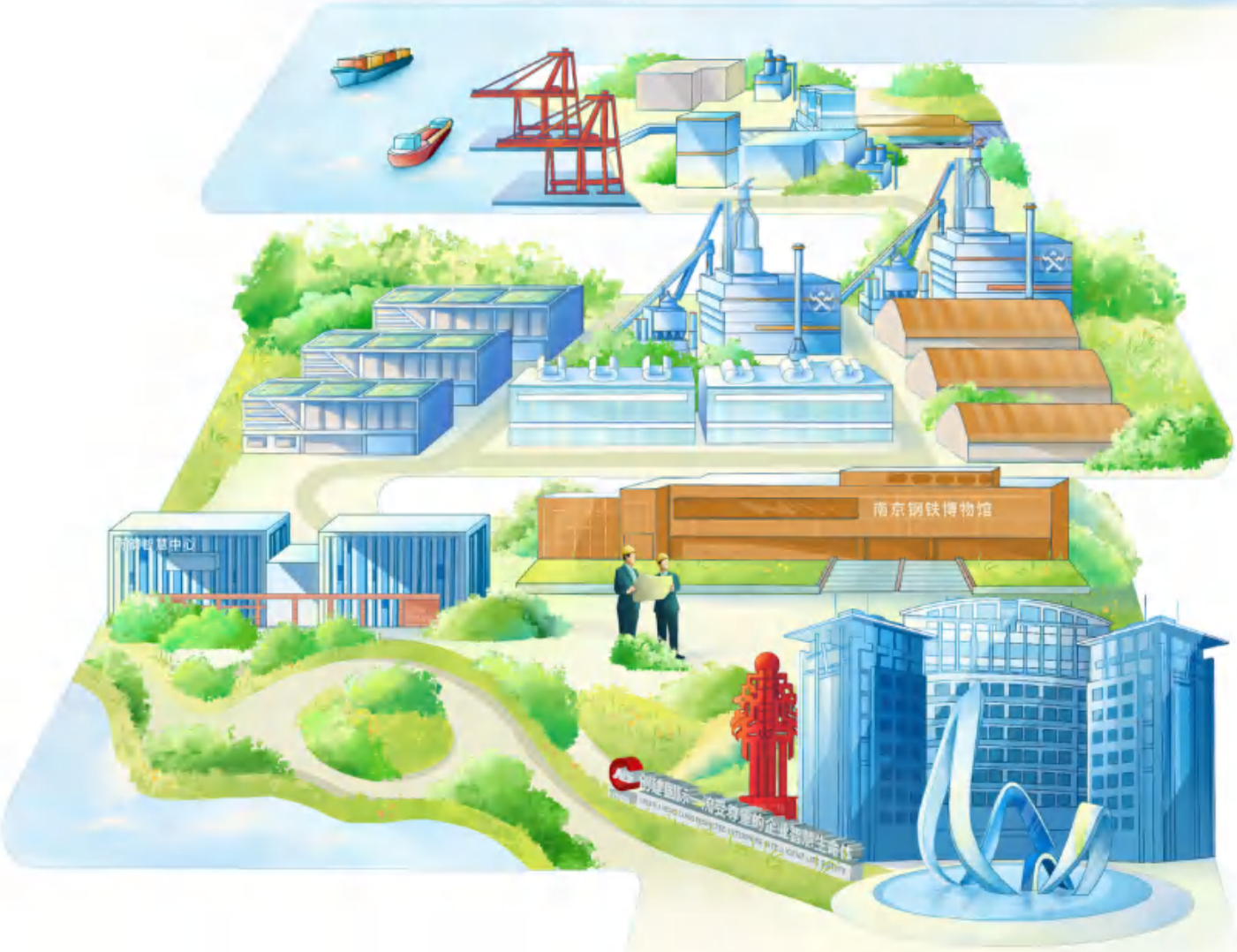
NANJING STEEL

Environmentally friendly, Establishing a business for good



2024

Sustainability Report

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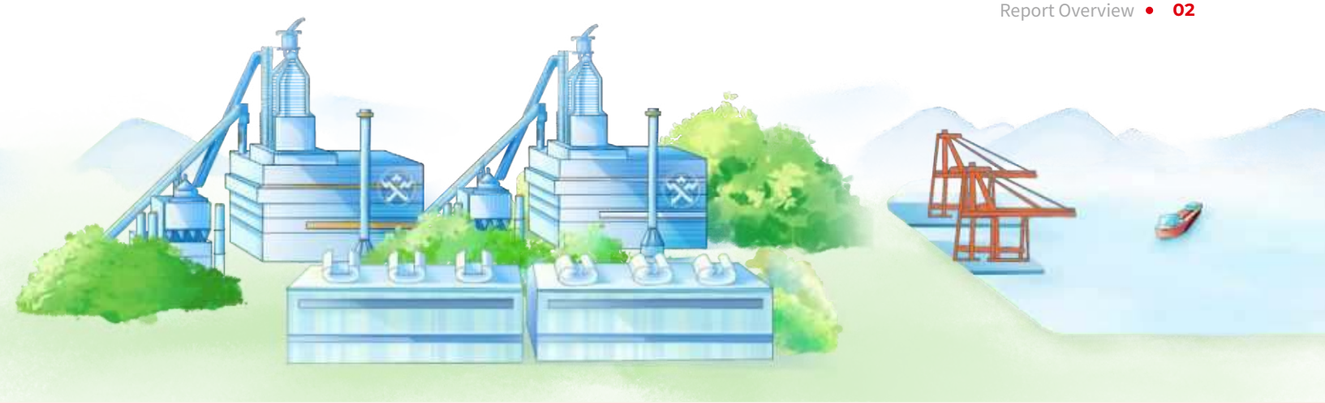
Report Overview

Nanjing Iron & Steel Co., Ltd. publishes its 2024 Sustainability Report, aiming to present a comprehensive overview of its commitments, management, actions, and achievements in environmental protection, social responsibility, and corporate governance, and to comprehensively address the key issues of concern to all stakeholders.



Report Scope

This Report covers Nanjing Iron & Steel Co., Ltd. and its main subsidiaries, consistent with the scope of the Company's annual consolidated financial statements. Unless otherwise specified, this report includes the following scope:

"the Company", or "we"	Refers to	Nanjing Iron & Steel Co., Ltd. and its main subsidiaries
"CITIC Group"	Refers to	China International Trust and Investment Corporation

Reporting Period

This Report covers the period from January 1, 2024, to December 31, 2024, consistent with the Company's annual report, covering a full fiscal year. To enhance narrative completeness, some sections may include information beyond this scope.

Release Date

This is an annual report. The previous "2023 Sustainability Report of Nanjing Iron & Steel Co., Ltd." was released on March 9, 2024.

The Company has been disclosing social responsibility reports since 2008 and renamed it the Sustainability Report in 2021, aiming to demonstrate the Company's ambition to actively practice sustainable development and contribute to global sustainability goals. The Company has released Social Responsibility/Sustainability Reports for 17 consecutive years.

Data Explanation

All data and information in this Report are sourced from the Company's actual operational raw data and records, annual financial data, internal statistical reports, administrative documents and reports. Unless otherwise specified, all currencies mentioned in this Report are in RMB. In cases of inconsistency with financial reports, the financial reports shall prevail.

Reference Standards

This Report primarily follows the *Guideines No. 4 of Shanghai Stock Exchange for Self-Regulation of Listed Companies - Compilation of Sustainability Reports* (hereafter referred to as "SSE Guidelines for Sustainability Reports") and the *Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies - Sustainability Report (Trial)* established and published by the Shanghai Stock Exchange, the Global Reporting Initiative Sustainability Reporting Standards (hereafter referred to as "GRI Standards") released by the Global Sustainability Standards Board (GSSB), and the "Reference Index System for ESG Special Reports of Central Enterprise Holding Listed Companies" issued by the State-owned Assets Supervision and Administration Commission of the State Council. In addition, it incorporates and addresses the United Nations Sustainable Development Goals (SDGs), Morgan Stanley Capital International (MSCI) ESG Ratings, S&P Global Corporate Sustainability Assessment (S&P CSA), China Securities Index (CSI) ESG Rating , Wind ESG Ratings, Sino-Securities Index (SNSI) ESG Rating and other mainstream rating indicators at home and abroad.

Reliability Assurance

This Report has been reviewed by the Company's Board of Directors. The Company's Board of Directors guarantees the accuracy of the content within this Report, confirming there are no false records, misleading statements, or significant omissions.

Report Access

This Report is published in both Simplified Chinese and English. In the event of any discrepancies between the two versions, the Simplified Chinese version shall prevail.

This Report is published in electronic form and is available on the Company's official website (http://www.600282.net/) or the website of the Shanghai Stock Exchange (http://www.sse.com.cn/).

Reader Response

In order to continuously improve the management level of the Company's sustainable development, enhance the quality of information disclosure, and promote the Company's practice of the concept of high-quality sustainable development, we hereby invite readers to express their opinions on this Report (see the "Reader Feedback Form" for details).
You can contact us by email or other means:

Tel: 025-57072073
E-mail: ESG@600282.net

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Postal Code: 210035

Chairman's Message

In 2024, the Company takes creating a world-class respected enterprise intelligent life entity as its vision, closely follows the four characteristics of high-quality development of "green, intelligent, humanistic, and high-tech", deepens its strategic layout in collaborative innovation, and consolidates its development foundation in the face of transformation and challenges. This year, we have deepened the integration of resources with CITIC Group, achieved breakthroughs in technological R&D, industrial chain collaboration, and international expansion, and injected strong momentum into high-quality development.

Enhanced foundation helps create a new ecosystem for sustainable development. The Company continues to promote the modernization of the corporate governance system and governance capabilities. In 2024, the Company will deepen the construction of a comprehensive risk management system in accordance with national policy supervision and CITIC Group's management requirements, further strengthen risk identification, assessment and control capabilities, and improve various risk management systems and processes to ensure that the Company can move forward steadily in a complex and changing environment. The Company has always integrated the concept of sustainable development into the core of corporate strategy, continuously improved the ESG governance structure, and focused on promoting the in-depth development of ESG management. In 2024, the Company's CSI Index, Wind and other ESG ratings were at the forefront of the industry, and won many honors such as Fortune's "China ESG Influence List", Securities Times' "China's Top 100 ESG Listed Companies", and CCTV's "China ESG Listed Company Pioneer 100 (2024)".

Green innovation leads the industry's low-carbon transformation. As a "Global green steel pioneer", the Company promotes industrial upgrading with technological breakthroughs. In 2024, we promoted green products such as high-manganese low-temperature steel and weather-resistant bridge steel to help reduce carbon emissions and increase efficiency in areas such as construction and transportation; the country's first luxury large cruise ship "Aida Magic City" and the second "Aida Flower City" used the Company's ultra-thin ship plates, achieving a breakthrough in extreme tolerances and setting a benchmark for lightweight ships. At the same time, we are deploying cutting-edge fields such as energy storage and hydrogen energy, building the largest single-unit user-side energy storage power station in China, and promoting the optimization of the energy structure. Through digital algorithms to optimize blast furnace operations, equipment predictive maintenance and other technologies, and reduction of carbon emissions, we were named "China's Industrial Carbon Peak Leader."

Digital intelligence empowers and creates new advantages for industrial upgrading. Taking the "Intelligent Company" strategy as a starting point, the Company continues to promote the overall strategy of Intelligent Company and continuously accelerates the Company's digital transformation process. In 2024, the Company established an artificial intelligence research institute, issued the "AI Ethics Code", and promoted the implementation of the "Thousand Models for Hundred Scenarios" special action. 123 big data models cover the entire production process to achieve efficiency improvement and cost optimization. At the World Artificial Intelligence Conference, the Company's MR digital workers, intelligent glasses and other innovative achievements were unveiled, demonstrating its industry leadership in the field of intelligent manufacturing. By building a data asset entry system, we are exploring a new value creation model of "data + scenario + model" to inject new quality productivity into industrial upgrading.

Collaborative symbiosis, deepens the partnership between customers and the supply chain. The Company has always regarded customer demand as the core driving force of innovation and actively built a steel industry ecosystem. In 2024, we held a number of special customer seminars on steel for engineering machinery, automotive steel, and pressure vessel steel to deepen the collaborative innovation of "production, sales, research and use", and jointly develop low-carbon, lightweight, and long-life product solutions with industry chain partners; by establishing a "customer experience officer" mechanism, we collect and respond to customer demand and suggestions throughout the year, promote the shortening of product delivery cycles, and continuously improve customer satisfaction. In terms of supply chain management, we have built a "green + intelligent" dual-wheel drive system, formulated the "Supplier Code of Conduct", incorporated ESG into supplier management, and completed the carbon footprint certification of the first batch of supply chain products such as power cables and conveyor belts. In the face of fluctuations in the iron ore market, we have innovated the "global procurement + localized collaboration" strategy, expanded emerging resource channels such as Brazil and Africa, established a diversified supply network, and continuously enhanced the resilience of the supply chain.

Talent-oriented development contributes to the creation of a warm working environment. In 2024, we further deepened the "Nanjing Steel Dragon" reserve talent development program and launched a comprehensive talent cultivation project. By inheriting the craftsman culture through the "Master-Apprentice Festival", establishing skill master studios, and implementing the "New Eight-Level Worker" career development pathway, the skill level upgrade rate for frontline employees has reached 45%. The Company has optimized its compensation and benefits system, improved employees' working and living environments, achieving an employee satisfaction score of 84.28. We have been honored as a "Pilot Enterprise for Enhancing Employee Quality of Life by the All-China Federation of Trade Unions" and a "Demonstration Unit for Creating a Happy Enterprise by the Jiangsu Provincial Federation of Trade Unions".

Active responsibility fulfillment jointly draws a new picture of the city-industry Integration. The Company has always practiced the concept of "promoting cities with industry, promoting industry with cities, and integrating industry and cities", and continued to deepen the practice of social responsibility. In 2024, for the seventh year, we selected young cadres to participate in rural revitalization, promoted the "Star Partner" rural doctor project, and helped improve the level of primary medical care; built the Nanjing Steel Cultural and Sports Park and opened it to the public, creating a model of industrial and urban symbiosis.

The year 2025 marks a pivotal moment as it concludes the "14th Five-Year Plan" and sets the stage for the "15th Five-Year Plan". The Company will fully align with CITIC Group's "Five-Five-Three" strategic framework, focusing on the main thrusts of "high-end, intelligent, and green" development. By integrating the paths of "precision and specialization" in core businesses, "new quality" in industries, and the fusion of "high intelligence and green" initiatives, we will harness the immense power to "create an internationally respected, intelligent, and vibrant enterprise". Together with our partners, we will collaboratively compose a new chapter of high-quality development!

Huang Yixin

Chairman of Nanjing Iron and Steel Co., Ltd.

March 2025

Exploring the Company

Adhering to and implementing the vision of "creating a world-class respected enterprise intelligent life entity" and the mission of "shaping the steel backbone of the nation and forging the foundation for a mighty nation", the Company is committed to sustainable development and intelligent upgrading. We deeply explore the symbiotic relationship between industrial enterprises and modern urban life, actively sharing the fruits of corporate development with stakeholders.

About the Company

The Company is an industry-leading, highly efficient and full-process integrated steel enterprise with an annual production capacity of ten million tons. The Company is committed to high-quality development, guided by three strategic pillars: innovation-driven transformation, digital and intelligent evolution and emerging industry expansion. We aim to shape a future defined by green, intelligent, humanistic and high-tech advancements, striving to become a globally competitive manufacturer of advanced materials.

Main Businesses

The Company revolves around the strategic core of "One Body, Three Elements, and Six Drivers" (namely, the "One Body" of special steel new materials + the "Three Elements" of intelligent manufacturing services, industrial chain ecosystems, and green low-carbon initiatives + the "Six Drivers" of high-end, digital, green, global, integrated, and agile development). We are actively building a composite industrial chain ecosystem that centers on the "precision" and "specialization" of the steel business, empowered by strategic emerging industries, with a focus on industrial development and value growth.

Business Model

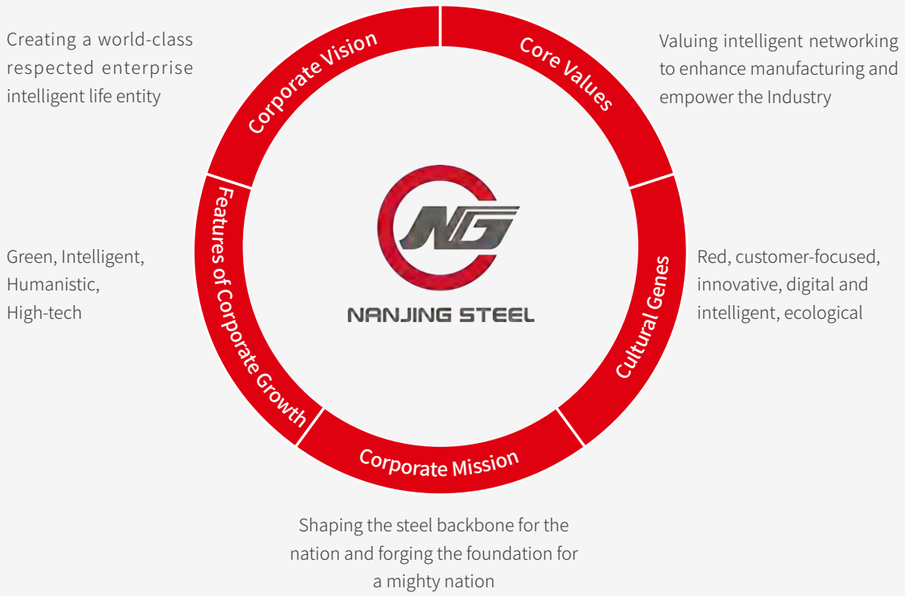
Centered on customer needs and adhering to a differentiated strategy, the Company has established a "Production, Sales, Research, Application + Service" system, offering personalized and serialized solutions to customers. The Company has developed a unique competitive advantage of "high-efficiency production and low-cost intelligent manufacturing", continuously enhancing production efficiency and product competitiveness through industry-leading intelligent manufacturing and high-quality steel R&D systems.

Main Products

The Company is recognized as a leading global production base for medium-thick plates, distinguished by its scale and efficiency, as well as a competitive domestic base for special steel long products. We boast state-of-the-art process equipment, with our main facilities featuring large-scale operations, advanced automation, and comprehensive digital integration. Aiming at the upgrade of China's manufacturing industry and opportunities for import substitution, the Company focuses on specialized plates and special steel long products as its primary offerings. We concentrate on R&D and promotion of steel materials with high strength, toughness, fatigue resistance, wear resistance, corrosion resistance, and weldability. The Company has put into operation the 460mm billet continuous casting machine, further enhancing the competitiveness of specialized steel products with extreme specifications. These products are extensively utilized across a broad spectrum of industries (fields), including oil and gas equipment, new energy, shipbuilding and offshore engineering, automotive bearings and springs, construction machinery and rail transit, and high-rise bridge structures. By doing so, the Company provides solutions for national key projects and contributes to the upgrade of high-end manufacturing.

Corporate Culture

The Company regards corporate culture as the pillar of cohesion, continuously enriching its content and integrating advanced cultural concepts throughout the entire process of production, operation, reform, and growth.



Achievements in Sustainable Development

ESG Ratings

S&P Global ESG 45 points

China Metallurgical Industry Planning and Research Institute (MPI) ESG Rating: AAA (highest rating)

Wind ESG Rating AA (top in the industry)

CSI ESG Rating AA

Sino-Securities Index (SNSI) ESG Rating AA

China Reform Consulting ESG Rating: A

Key Sustainable Development Recognitions and Awards

Named to Fortune China's ESG Impact List for the first time

Recognized among Forbes China's Top 50 Sustainable Industrial Enterprises

Featured in CCTV's 2024 Top 100 ESG Pioneer Listed Companies in China for the first time

Top 50 ESG Pioneer Companies in the Yangtze River Delta for the first time

Listed in Securities Times' Top 100 ESG Companies in China for the first time

Awarded the "ESG Best Practice of Listed Companies" by the China Association for Public Companies for two consecutive years

Received Sina Finance's 2024 Golden Responsibility Award for Sustainability for the first time

Named among the "Guoxin Cup · Top 100 ESG Golden Bull Award Winners" by China Securities Journal and China Guoxin for two consecutive years

Honored as one of the Top 100 Best ESG Practices for Chinese Listed Companies by Wind for three consecutive years

ESG Indexes (Constituent Stocks)

MSCI China A RMB ESG Universal Index

MSCI China A-Share Climate Change Index

CSI 500 ESG Index

SSE 380 ESG Leaders Index

CSI Carbon Neutral 60 Index

CNI ESG 300 Index

SSI ESG Leaders Index

Wind Mid-Cap ESG Trend Index

Sustainable Development Management

Sustainable development can effectively help enterprises actively address the challenges posed by the constantly changing economic, policy, technological, and macroeconomic environments. The Company actively learns from global ESG management best practices, responds to domestic and international ESG rating requirements, and integrates sustainable development concepts into the Company's strategy and operational management activities. This approach continuously improves the effectiveness of ESG management, which is a key lever for enhancing the Company's intrinsic value, implementing scientific market value management, and ensuring the long-term success of the Company.

Sustainable Development Concept

The Company has established ESG strategic goals of "environmental friendliness, excellent governance, technological innovation leadership, and symbiotic win-win relationship", focusing on enhancing our ESG management and concentrating on five key aspects of sustainable development: innovative development and excellent products; shared development and employee growth; green development and environmental friendliness; corporate governance and win-win development; harmonious relations and social responsibility. We aim to ensure happiness for our employees, advancement for our customers, enhanced returns for our shareholders, accountability to society, and mutually beneficial results for stakeholders, striving to achieve the corporate vision of "creating a world-class respected enterprise intelligent life entity".

Innovative Development and Excellent Products

- Won **2** second prizes of the National Science and Technology Progress Award and **1** special prize of the Metallurgical Science and Technology Award
- Served as the lead editor for **2** international standards, and cumulatively led and participated in the drafting of **105** international, national, industry, and group standards
- Owned **186** products reaching international leading or advanced levels

Shared Development and Employee Growth

- Employee satisfaction: **84.28** points
- Employee training coverage rate **100%**
- Organized **46** cultural and sports events, with **4,240** employee participations
- Awarded the titles of "Pilot Enterprise for Improving Workers' Quality of Life" by the **All-China Federation of Trade Unions** and "**Pilot Demonstration Enterprise** for Creating Happy Enterprises" by the Jiangsu Provincial Federation of Trade Unions

Green Development and Environmental Friendliness

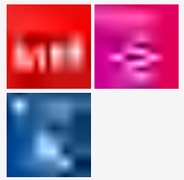
- Awarded **Level-A** "Long-Process Steelmaking Enterprise" in **Environmental Performance** by Jiangsu Province for two consecutive years (the **first** in Jiangsu Province)
- Recognized as a "Green Development Benchmark Enterprise" in the steel industry for **6** consecutive years
- Granted the **"Excellent Furnace"** award for the 2# 150 t converter of Steelmaking Plant 1 and the 2# 2,550 m^3 blast furnace
- Honored as a **"Jiangsu Provincial Carbon Peak and Carbon Neutrality Pilot Enterprise"**
- Awarded the **"China Industrial Carbon Peak Leader"** title

Corporate Governance and Win-win Development

- Customer satisfaction has improved for three consecutive years, reaching **95.77** points
- **100%** of suppliers signed the "Integrity Cooperation Agreement"

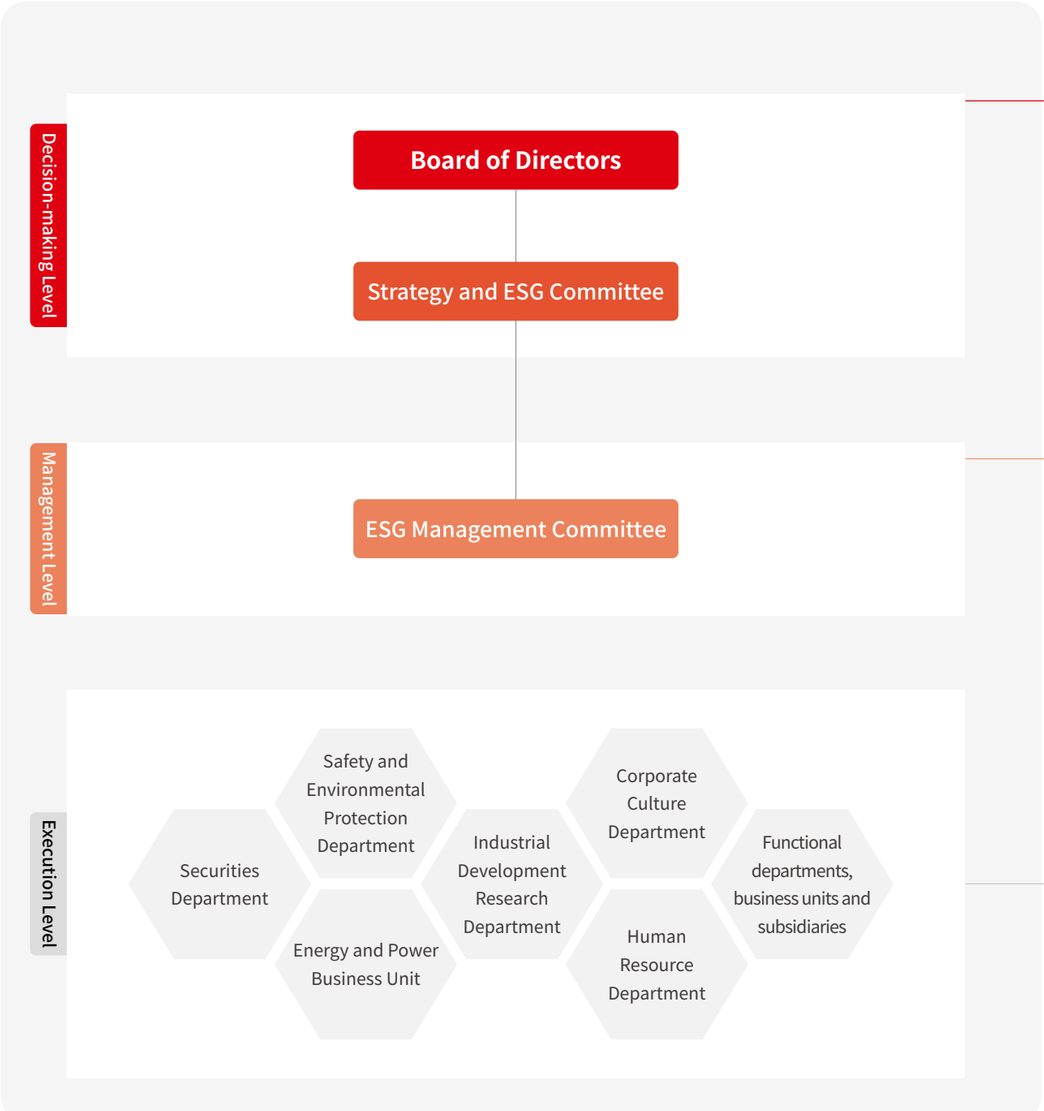
Harmonious Relations and Social Responsibility

- Conducted the Rural Doctor Health Assistance Project for **7** consecutive years
- Amount of external donations and public welfare investment reached **RMB 820,500**
- Built the Nanjing Steel Cultural and Sports Park, **the first national** "Green Building Three-Star" certified sports venue



Sustainable Development Management System

The Company has established a comprehensive ESG management structure that covers three organizational levels: decision-making, management, and execution, ensuring clear division of labor and accountability at each level. This structure ensures ESG issues are effectively integrated into the daily work of all levels, continuously enhancing the Company's overall governance.



▲ The Company's Sustainable Development Management Structure

At the decision-making level, the Board of Directors and the Strategy and ESG Committee serve as the highest governing bodies for ESG management, providing centralized direction and decisions. The Strategy and ESG Committee serves a term consistent with the Board of Directors, consisting of five directors, including two independent directors, with the chairman of the Company serving as the committee chair. The main responsibilities of the Board of Directors and the Strategy and ESG Committee are as follows:

1) Examining and approving the Company's ESG strategy, objectives, organizational framework and management policies;
2) Examining and approving material ESG issues;
3) Examining and approving ESG disclosures, including ESG reports;
4) Monitoring the overall implementation of ESG initiatives.

The management level of the Company's ESG management structure refers to the ESG Management Committee under the Board of Directors' Strategy and ESG Committee, including the Safety Production Committee, Environmental Protection Committee, Innovation Committee, Low Carbon and Energy Strategy Committee, and others. These committees are responsible for leading ESG-related work and providing strategic guidance and direction for ESG initiatives. The main responsibilities of ESG Management Committee are as follows:

1) Developing the Company's development strategies, plans, and medium- and long-term goals in key areas of sustainable development, such as safety and environmental protection, scientific and technological innovation, low-carbon development and energy utilization;
2) Driving the implementation of ESG policies and continuously improving sustainability performance;
3) Addressing ESG-related tasks assigned by the Strategy and ESG Committee of the Board of Directors.

The execution level of the Company's ESG management structure refers to the ESG Working Group, which consists of the heads of various functional departments, business divisions, and subsidiaries. The Securities Department leads the group and is responsible for the daily management and coordination of ESG activities. The main responsibilities of the ESG Working Group are as follows:

1) Drafting relevant ESG policies, work plans, and implementation schemes based on the Company's ESG strategic plans to ensure the effective execution of ESG requirements;
2) Organizing the identification of ESG-related impacts, risks, and opportunities, conduct topic importance assessments as needed, and develop appropriate response measures;
3) Overseeing the preparation and disclosure of the sustainability report, track ESG ratings, and establish and maintain key ESG indicators by regularly collecting and summarizing relevant information;
4) Promoting the integration of ESG into the Company's operations, and continuously improve and enhance ESG management and practices;
5) Learning from leading companies' ESG management and practices, benchmark against them to identify gaps, and address weaknesses while strengthening strengths to continuously improve the Company's sustainable development;
6) Summarizing achievements and challenges in ESG work, provide timely feedback to management and decision-making teams, and offer recommendations for improvement.

We have established the "Senior Management Performance Evaluation Methods", conducting annual performance evaluations for the Company's senior management and determining their salary adjustments based on the evaluation results. In the annual performance evaluation plans for senior management involved in ESG-related work, we include corresponding ESG performance indicators, such as greenhouse gas emissions management, energy management, water resources, work injury management, training systems, and risk management, to motivate management personnel to attach importance to ESC management and enhance the Company's ESG management. In 2024, the Company strengthened the implementation of the work safety responsibility management system, making work safety indicators the top ESG performance evaluation criteria for senior management.

Sustainable Development Culture

The Company is committed to fostering an ESG culture, engaging stakeholders through various initiatives to drive awareness, alignment and collective action for sustainable development.

Case Presence at CCTV's ESG Lecture Series

In May 2024, the nationwide ESG immersion education program "ESG Lecture Series" premiered on the CCTV Finance platform. As an invited participant, the Company shared insights into key ESG priorities for the steel industry and reaffirmed its commitment to sustainable practices. During the program, the Company highlighted its efforts to advance low-carbon metallurgy, reduce carbon emissions in steel production, and continuously enhance ESG governance. Additionally, the Company emphasized the need for a robust ESG evaluation framework that is authoritative, internationally recognized and tailored to China's industrial landscape.

Case Participated in the "ESG China · Yangtze River Delta Corporate Social Responsibility Conference"

In August 2024, the "ESG China · Yangtze River Delta Corporate Social Responsibility Conference" was held in Shanghai. The Company was recognized as one of CCTV's "Yangtze River Delta ESG Pioneers 50" and invited to participate in a roundtable discussion. At the conference, the Company shared its approach to sustainable steel production, emphasizing its efforts to integrate environmental stewardship, industrial collaboration, energy efficiency and corporate culture. By fostering a multi-dimensional industrial-urban integration model, the Company is driving sustainable urban and industrial development. We also reaffirmed our commitment to becoming a benchmark for green, intelligent, sustainable and people-centric manufacturing.

The Company actively monitors global and domestic ESG trends, regularly hosting ESG knowledge-sharing sessions and embedding ESG and sustainability principles into its corporate culture.

▲ The Company's ESG Awareness Campaigns and Double Materiality Assessment (DMA) Introduction

▲ The Company's Field Vist Sites and Factories Hanging ESG Slogans

The Company adheres to a green, low-carbon development philosophy. By working out and implementing various specific measures, we guide employees to actively practice green office concepts, optimize resource allocation, improve resource utilization efficiency, and fulfill our environmental responsibilities in the operation process, contributing to the achievement of sustainable development goals.

Paperless Office

Promoting Online Process Transformation

- Full digitalization has been implemented for document issuance, stamping, document circulation, access control applications, and approval processes.
- In the entire year, over 100,000 sheets of paper were saved, which is equivalent to preserving 34 trees[1].

Intelligent Buildings

Refining Energy Management

- The lighting systems in the office area are controlled in zones and adjusted according to the volume of people and lighting, to reduce energy consumption.
- Optimized air conditioning controls are implemented to reduce energy waste.
- The intelligent energy management system integrates water and electricity meter data, monitoring in real time and generating reports to support energy-saving efforts.

"Clean Your Plate" Campaign

Strengthening Awareness and Guidance

- Posters of the " Clean Your Plate" campaign and tips on food waste reduction are displayed in the staff canteen, fostering a culture of conservation and reducing food waste.

Green Activities

Conducting Diverse Environmental Protection Activities

- Through on-site interaction and hands-on participation, various environmental protection themed activities are organized to encourage employees to reduce elevator usage, promote low-carbon travel, and call on everyone to actively participate in the "Beautiful Company" initiative. This aims to practice environmental protection concepts and contribute to green development.

Case "World Environment Day (June 5)" Initiatives

Each year, the Company celebrates World Environment Day (June 5) by engaging stakeholders in building a beautiful China. On June 5, 2024, for "World Environment Day", the Company organized an open-day event themed "Contributing to Building a Beautiful China", inviting local community residents and student representatives to visit the Company. Focusing on green production and transformation, the Company engaged in deep discussions with the public, enhancing mutual trust, and promoting harmonious green development between the Company and society. The Company launched the "ESG Theme Week" event where ESG digital billboards were designed and displayed on intelligent screens in office buildings and elevators to promote ESG culture. In addition, the Company published three ESG-focused articles on its official WeChat platform to strengthen employee engagement and understanding of ESG values. These initiatives contributed to a strong ESG culture, driving sustainability awareness and action across the organization.

[1] Based on the calculation that a 20-year-old tree produces 3,000 sheets of A4 paper.

Stakeholder Communication

We have established regular communication mechanisms. We actively engage with stakeholders to fully understand their demands and suggestions, ensuring their rights to information, participation, expression, and supervision are upheld. These insights are integrated into our operational and strategic decision-making processes.

Stakeholders	Government and regulatory bodies	Shareholders and investors	Customers	Employees	Suppliers	Industry partners	Media	Community and public
Issues of concern	Corporate governance Anti-commercial bribery and anti-corruption Anti-unfair competition Environmental compliance management Response to climate change Energy use Pollutant emissions Waste treatment Circular economy	Corporate governance Shareholder return Sustainable development management Compliance management Comprehensive risk management	Innovation-driven development Green product R&D Product quality and safety Customer service Data security and privacy protection	Employee rights and benefits Career development and training Occupational health and work safet	Supply chain security Equal treatment for small and medium-sized enterprises (SMEs)	Industry development and win-win development Innovation-driven development Intelligent manufacturing and digital factory	Technology ethics Stakeholder communication	Social contributions Rural revitalization
Communication and response	Communication and reporting Policy learning Information disclosure Green production	Shareholder's meeting Information disclosure Investor roadshow Performance presentation	Protecting customer rights and interests Customer satisfaction survey Official media platform Application of intelligent technology Optimizing production technology	Trade union and staff representative meeting Employee online platform Face-to-face interactions with employees Employee training Internal publications Employee cultural and sports activities	Supplier auditing and evaluation Supplier qualification management Exchanges and visits	Industry association Exhibitions	Meet-the-press sessions Press releases/announcements Daily communication	Green production and operations Organizing and participating in charitable activities

Double Materiality Assessment

Establishing an ESG Issue List

By benchmarking the Shanghai Stock Exchange's "Self-Disciplinary Regulatory Guidelines No. 14 - Sustainability Report (Trial)" and other sustainability disclosure standards, referring to industry standards and ESG rating criteria, and considering the Company's business model, a comprehensive assessment will be conducted to form a list of 30 ESG topics covering the three areas of environment, social responsibility, and corporate governance.

Conducting Survey and Evaluation

Impact materiality surveys are conducted among stakeholders including employees, customers, suppliers and regulatory authorities; while financial and impact materiality surveys are conducted among company leadership, with a 100% participation rate from senior executives.

Prioritizing Issue Materiality

The results of the surveys were analyzed, prioritizing the ESG issues based on two dimensions: impact materiality and financial materiality.

Validating the Results

The Board of Directors' Strategy and ESG Committee, along with external experts, reviewed and validated the survey results, ultimately forming the Company's Double Materiality Issue Matrix.

▲ The Company's Double Materiality Issue Matrix

Due Diligence

The Company has established a systematic ESG risk due diligence mechanism to ensure the identification, assessment, and effective management of potential negative impacts or risks related to sustainable development in its operations. The ESG risk due diligence process is led by the Board of Directors and coordinated by the Strategy and ESG Committee, covering key sustainable development areas such as environmental compliance, carbon emissions management, product quality, employee rights, and business ethics. The Company identifies ESG risks through environmental and social impact assessments, supply chain reviews, third-party risk evaluations, and internal compliance audits. The due diligence results are regularly reported to the Board of Directors and relevant stakeholders. Based on these findings, the Company continuously optimizes its ESG management system and formulates corresponding mitigation measures to ensure compliance and effective management of sustainable development.

The Company's Material ESG Issues

Environmental (E)	Social (S)	Governance (G)
Environmental compliance management	Employees	Corporate governance
Response to climate change	Supply chain security and management	Due diligence
Pollutant emissions	Equal treatment for small and medium-sized enterprises	Anti-commercial bribery and anti-corruption
Waste treatment	Customer responsibility	Compliant operation and risk management
Energy use	Safety and quality of products and services	Anti-unfair competition
Water resources utilization	Innovation-driven development	Information disclosure
Circular economy	Intelligent manufacturing and digital factory	Stakeholder communication
Ecosystem and biodiversity conservation	Data security and privacy protection	Shareholder return
Green products and sustainable manufacturing	Symbiotic and win-win ecology	
	Technology ethics	
	Rural revitalization	
	Social contributions	
	Industry-city integration	

● Environmental

● Social

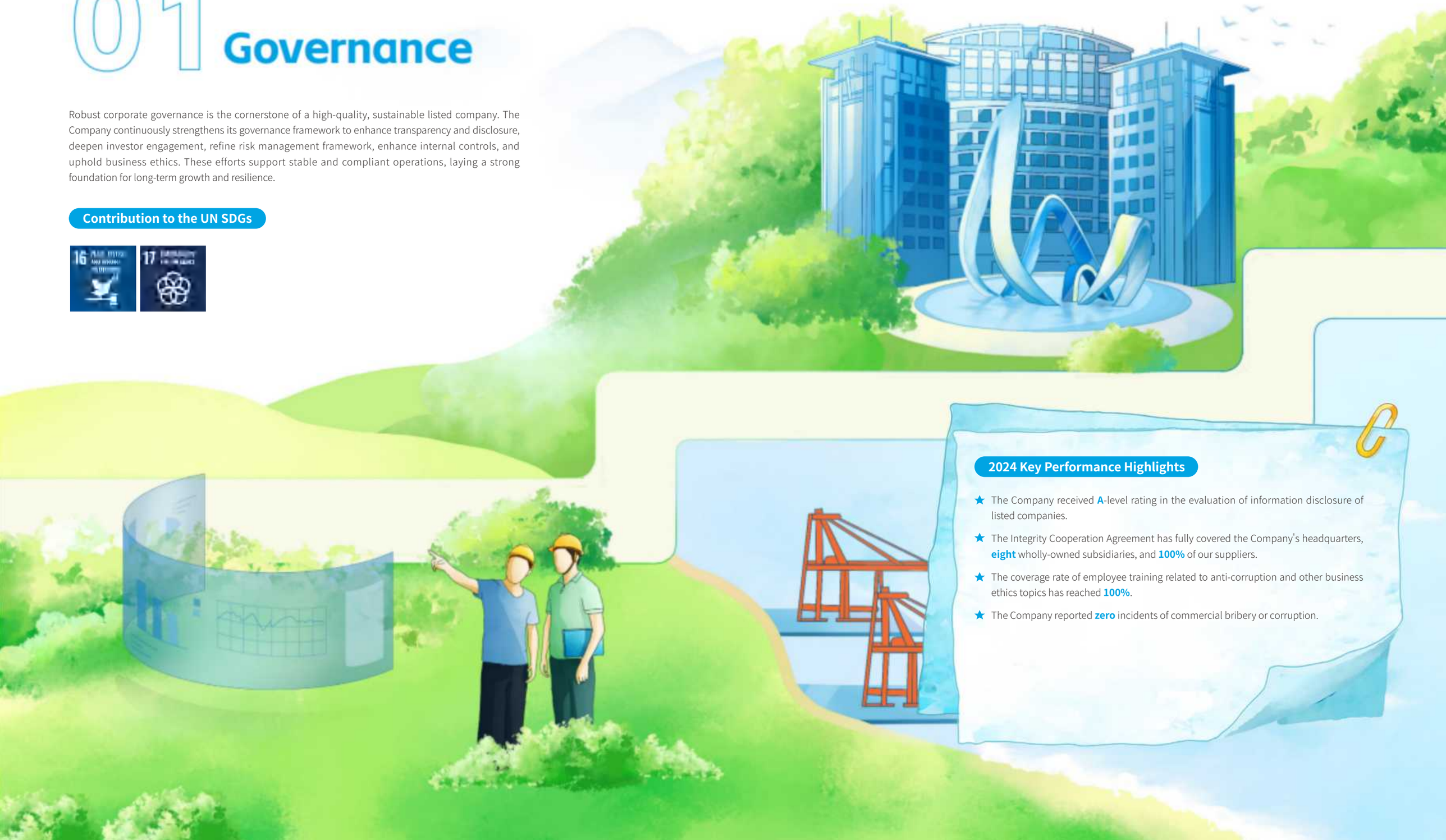
● Governance

Based on the 2024 double materiality analysis, five ESG issues were identified as having financial and impact materiality: Safety and quality of products and services, Innovation-driven development, Energy use, Response to climate change, and Pollutant emissions. In alignment with the Shanghai Stock Exchange's "Self-Disciplinary Regulatory Guidelines No. 14 - Sustainability Report (Trial)" , the Company will provide detailed disclosures on these five material ESG issues addressing: corporate governance; strategies; impact, risk and opportunity management approaches; key performance indicators and sustainability targets. The Company aims to demonstrate its achievements in double materiability assessment.

01 Governance

Robust corporate governance is the cornerstone of a high-quality, sustainable listed company. The Company continuously strengthens its governance framework to enhance transparency and disclosure, deepen investor engagement, refine risk management framework, enhance internal controls, and uphold business ethics. These efforts support stable and compliant operations, laying a strong foundation for long-term growth and resilience.

Contribution to the UN SDGs



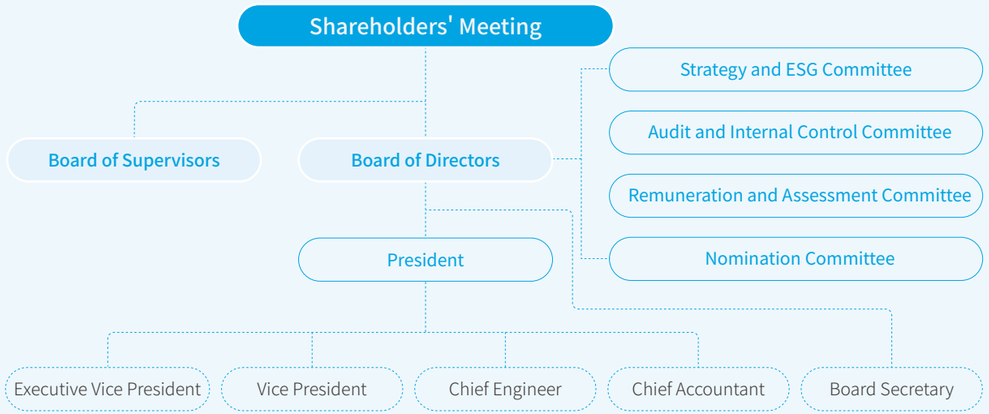
2024 Key Performance Highlights

- ★ The Company received **A**-level rating in the evaluation of information disclosure of listed companies.
- ★ The Integrity Cooperation Agreement has fully covered the Company's headquarters, **eight** wholly-owned subsidiaries, and **100%** of our suppliers.
- ★ The coverage rate of employee training related to anti-corruption and other business ethics topics has reached **100%**.
- ★ The Company reported **zero** incidents of commercial bribery or corruption.

Corporate Governance

Governance Mechanism Improvement

The Company strictly adheres to the "Company Law of the People' Republic of China", "Securities Law of the People's Republic of China", "Corporate Governance Guidelines for Listed Companies", "Shanghai Stock Exchange Listing Rules", and other relevant laws and regulations, normative documents, and the "Articles of Association of Nanjing Iron & Steel Co., Ltd." We have established a governance structure characterized by effective checks and balances and a standardized internal control system. The shareholder's meeting, board of directors, supervisory board, and management have clear responsibilities and coordinate with each other, diligently fulfilling their duties. They strictly operate according to decision-making authority and procedures, fully protecting the legal rights and interests of the Company and all major stakeholders, and promoting the long-term, stable, and healthy development of the Company.



The Company's Governance Structure

The Shareholders' Meeting serves as the Company's highest governing body. The Company convenes its Shareholders' Meeting, Board of Directors, and Board of Supervisors in strict compliance with applicable laws and regulations, including the "Rules for Shareholders' Meetings of Listed Companies (2022 Revision)." We adhere diligently to established procedures for discussions and decision-making, ensuring the protection of the legal rights and interests of both the Company and all shareholders.

In 2024

The Company held its shareholder meetings a total of **4** times and conducted **8** meetings of the Board of Directors and **8** meetings of the Board of Supervisors.

Number of Board of Directors **9**

Number of female directors **1**

Number of independent directors **3**

The Board of Directors has established four specialized committees: the Audit and Internal Control Committee, the Nomination Committee, the Remuneration and Assessment Committee, and the Strategy and ESG Committee. The Audit and Internal Control Committee consists of 3 independent directors. The Nomination Committee and the Remuneration and Assessment Committee each include 2 independent directors, with an independent director serving as the chairperson. The Strategy and ESG Committee includes 2 independent directors.

The Board of Supervisors consists of 5 members, including 2 employee representative supervisors, effectively exercising supervision and urging functions.

The senior management[2] includes the president, executive vice presidents, vice presidents, chief engineer, chief accountant, and secretary to the Board of Directors. Our senior management team possesses rich professional, technical, and management experience, covering production and operations, financial management, scientific research, quality management, safety and environmental protection, business marketing, and corporate governance, among other areas.

Board Diversity

The Company places a high priority on the diversity and independence of its Board of Directors, endeavoring to enhance governance practices through a varied board structure. Our directors bring a wealth of diverse professional backgrounds, including significant management experience in the steel industry, as well as expertise in financial management, risk management, legal compliance, and sustainability. This diversity equips the Board with the insights needed to tackle the rapidly evolving business landscape and to effectively address the Company's long-term sustainability goals.

Title	Name	Gender	Committee Role	Professional Experience Background		
				Industry Management	Risk Management	Financial Management
Chairman	Huang Yixin	Male	Chair of the Strategy and ESG Committee; Member of the Remuneration and Assessment Committee	✓	✓	
Vice Chairman	Li Guozhong	Male	Member of the Strategy and ESG Committee	✓	✓	
Director	Yang Feng	Male			✓	✓
	Guo Jiahua	Male	Member of the Nomination Committee	✓	✓	
	Wang Haiyong	Male		✓	✓	
	Xiao Ling	Female	Member of the Strategy and ESG Committee		✓	✓
Independent Director	Wang Quansheng	Male	Chair of the Nomination Committee; Member of the Audit and Internal Control Committee; Member of the Strategy and ESG Committee		✓	
	Shi She	Male	Chair of the Remuneration and Assessment Committee; Member of the Audit and Internal Control Committee; Member of the Strategy and ESG Committee	✓		
	Pan Jun	Male	Chair of the Audit and Internal Control Committee; Member of the Nomination Committee; Member of the Remuneration and Assessment Committee		✓	

[2] The disclosed information regarding directors, supervisors, and senior management personnel pertains to those currently in office. For specific details on their tenure, shareholding, and remuneration, please refer to the Company's Annual Report for 2024.

Safeguarding Standardized Operation

The Company adheres to the policies and norms set forth by the China Securities Regulatory Commission, including the "Corporate Governance Guidelines for Listed Companies", closely monitors the process of standardization and legal governance within the securities market, and promptly improves its corporate governance system. This includes revising the "Articles of Association of Nanjing Iron & Steel Co., Ltd." and the "Procedures for Board Meetings of Nanjing Iron & Steel Co., Ltd.", thereby earnestly fulfilling its responsibility for the standardized operation as a listed company.

The Company arranges special posts and duties for special management of guaranteed transactions, related transactions, financial assistance and other work to ensure orderly management, control, risk control and process compliance, timely detection of relevant situations and take effective measures to rectify and strengthen the whole process of supervision.

To further strengthen the compliance, self-discipline awareness, and duty performance capabilities of related personnel, the Company's online training platform "Cloud Classroom" launched a dedicated training section for "Standard Operations of Listed Companies", combining tips and short videos to broadcast regulatory dynamics and compliance information.

Information Disclosure

The Company is committed to building a system focused on information disclosure. We strictly adhere to legal regulations such as the "Management Measures for Information Disclosure of Listed Companies" and requirements in the "Articles of Association of Nanjing Iron & Steel Co., Ltd.", actively fulfilling our information disclosure obligations to ensure timeliness, fairness, and the truthfulness, accuracy, and completeness of the disclosed content. The Company resolutely prevents any instances of false records, misleading statements, or significant omissions, constantly enhancing the quality of its information disclosure. We efficiently and effectively communicate the state of the Company's operational management and business development to investors, thereby protecting the legal rights of all shareholders, particularly those of the general public.

In 2024

Disclosure of periodic reports

4

Temporary announcements disclosed

87

2023-2024 SSE's information disclosure evaluation of listed companies in Shanghai

Level- **A**

Deepening Investor Relations

The Company places great importance on maintaining good relationships with investors, continuously optimizing investor communication mechanisms, adopting comprehensive and intensive investor communication strategies, and actively utilizing various channels such as brokerage strategy meetings, holding roadshows, reverse roadshows and performance briefings, and releasing the annual report and ESG report through multiple channels, as well as in formats such as "Understanding at a Glance" presentations to showcase the Company's operational status. Through the SSE E-Interaction platform, investor hotlines, investor relations email, shareholders' meetings, and site survey, the Company actively listens and responds to investor queries, upholding their rights to information, participation, expression, and supervision.

In 2024, in line with regular reports and industry hot topics, the Company communicated with institutional investors nationwide, completed roadshows and reverse roadshows, participated in strategy meetings, and received on-site research for a total of more than 100 times. The Company has placed dedicated personnel on investor hotlines, the SSE E-Interaction platform, and official email addresses responded to queries, answering over 30 investor questions through the "SSE E-Interaction" platform, with a 100% response rate.

The Company's Investor Communication Channels

Online Communication Channels

- "SSE E-Interaction" Platform
- Investor Relations Platform on the Company's Official Website
- Investor Hotline
- Investor Relations Email
- Investor Exchange Meetings

Offline Communication Channels

- Performance Briefings
- Shareholders' Meetings
- Roadshows and Reverse Roadshows
- Brokerage Strategy Meetings
- Investor Site Survey

Case Enhancing Carbon Asset Management Communication to Support Sustainable Investment Decisions

In June 2024, the Company partnered with China International Capital Corporation to launch the "Enterprise Carbon Asset Management Investor Research Initiative", targeting professional investors interested in the investment opportunities and long-term value within the "dual carbon" sector. The event focused on in-depth exchanges around core topics such as carbon asset management, the steel industry and macro fundamentals, corporate intrinsic value, and ESG practices. It helped investors grasp the industry's low-carbon transformation trend, enhanced their understanding of corporate sustainable development strategies, and at the same time, facilitated the Company in proactively laying out new opportunities and addressing potential risks, providing strong support for the development of the carbon market and green investment decision-making.

Shareholder Return

In its pursuit of long-term sustainable development, the Company focuses on establishing a stable and proactive investor return mechanism. Since 2024, the Company has actively responded to policy requirements, implementing more frequent dividends and shortening the dividend cycle. The Company has developed a three-phase "Three-Year Shareholder Return Plan," emphasizing reasonable investment returns for investors and fully protecting the rights of shareholders to earn returns on their assets in accordance with the law. When formulating the profit distribution policy, the Board of Directors considers factors such as the Company's industry characteristics, development stage, profitability, capital needs, and the banking and debt financing environment. Through careful analysis and evaluation, the Company determines a scientifically sound and reasonable profit distribution plan. Since the dividend plan was introduced in 2018 through the first half of 2024, the Company has cumulatively distributed dividends amounting to RMB 9.728 billion, with an average dividend payout ratio exceeding 50%. In the second half of 2024, the Company distributed a cash dividend of RMB 524 million (tax included).

Compliant Operation and Risk Management

Strengthening the Management System

In line with national regulatory requirements, CITIC Group's management directives and the Company's objectives of the "15th Five-Year Plan", the Company enhanced its comprehensive risk management framework by implementing a "four-tier, three-line" management structure. Under the leadership of the Company's Party Committee, the Board of Directors, senior management, risk management divisions, business units and subsidiaries each play a distinct role in risk governance.

The Board of Directors serves as the foremost authority within the risk management framework, responsible for supervising the implementation of comprehensive risk management strategies and approving key risk management matters. The senior management is accountable for executing these strategies and is supported by a Risk Management Committee, chaired by the Chairman of the Board, which reports directly to the Board. At the level of Nanjing Steel Group Co., Ltd., the Risk Control and Compliance Department leads the development and oversight of the comprehensive risk management framework, overseeing the identification, assessment, evaluation and reporting of critical risks in key areas. Additionally, the department has established a specialized risk management team to guide and monitor risk control efforts across all business units and subsidiaries. Each risk management division is responsible for the specialized oversight of specific risks.

Structure		Responsibilities
First Line of Defense	Business Units and Subsidiaries	Business units and subsidiaries implement a tiered and delegated risk management approach, ensuring risks are identified and mitigated at the operational level. Business units bear primary accountability for managing risks within their respective operations.
Second Line of Defense	Leading Risk Management Department Specialized Risk Management Departments	Led by the Risk Control and Compliance Department, specialized risk management departments are responsible for developing risk management policies, standards and specifications along with relevant processes. These departments provide guidance to the first line of defense in risk identification, assessment, monitoring and control. They are accountable for ensuring robust risk management practices are in place.
Third Line of Defense	Audit Department	The Audit Department ensures that risk management processes are effectively implemented both before and during operations, and they conduct oversight and assessments of these activities in accordance with their respective mandates.

The Company's Risk Management of "Three Lines of Defense"

The Company is committed to continuously enhancing its risk management framework. To this end, we have developed the "Risk Control Manual" that establishes a robust risk management system encompassing risk, internal controls, compliance, legal considerations, and various specialized areas. This framework facilitates ongoing efforts to classify and manage risks at different levels. In 2024, in alignment with CITIC Group's comprehensive risk management requirements and the Company's operational realities, we revised the "Comprehensive Risk Management Measures" to further optimize our risk management processes and clarify responsibilities.

Case Launch of Comprehensive Risk Management Initiative

In July 2024, the Company convened a mobilization meeting for our comprehensive risk management initiative, attended by the Chairman, President, and heads of various departments and business units. This meeting marked the official commencement of our comprehensive risk management efforts. Moving forward, we will continue to refine and enhance our risk management system to ensure more precise processes and robust institutional frameworks, enabling us to respond effectively and scientifically to potential risks.

Intelligent Risk Control

The Company relies on the "three lines of defense" responsibilities to establish the Nanjing Steel Group Co., Ltd., Ltd.'s Party Committee's comprehensive supervision management system, covering business, audit, and discipline inspection warning models. The Company has built an intelligent supervision and warning platform that integrates data fusion, model management, issue handling, and subscription-based supervision. This platform achieves integrated warning management, integrated supervision data consolidation, and integrated risk issue resolution, ensuring a safeguard for the Company's high-quality development.

Strengthening Compliance and Risk Control

The Company has established a compliance management mechanism which consists of compliance management departments, functional departments and business units under the leadership of the Group's Risk Management Committee, laying a solid foundation for the operation of compliance management work. The Group's Risk Management Committee, the highest governing body for risk control and compliance management, is chaired by the Chairman. The Risk Control and Compliance Department is designated as the centralized department for compliance management; and functional departments function within their respective responsibilities to identify and manage compliance risks.

The Company actively identifies, organizes and analyzes the full spectrum of risks in its operational processes, and provides targeted guidance and training to significantly enhance risk management capabilities. In 2024, the Company conducted internal control tests across 70 business processes and 1,000 compliance checkpoints, facilitating timely remediation of identified issues and consistently enhancing the level of risk management.

Highlights of Risk Management Initiatives

Internal Control Inspection Framework: Our "Risk Control Manual" has been finalized to provide comprehensive guidance for the Company's internal control efforts. According to the 2024 internal control assessment, no major or material deficiencies were identified. Furthermore, in 2024, the external auditors engaged for internal control audit issued an unqualified opinion.

Empowerment Initiatives for Frontline Units: In response to regulatory risk assessments and operational needs, we regularly provide targeted risk management training for business units. These training sessions offer practical risk control strategies and strengthen employees' risk awareness. In 2024, the Company issued over 30 legal opinions and compliance handbooks.

Targeted Risk Management Projects: We have implemented specialized initiatives, including semi-annual and annual risk identification and assessment sessions, as well as focused reviews of risks associated with overseas investment projects. These thorough analyses enable us to comprehensively identify and mitigate potential risks within our portfolio.

Fostering a Risk Control Culture

The Company is dedicated to cultivating a culture of inclusivity in risk management, empowering all employees to enhance their awareness and capabilities regarding risk prevention and compliance. To this end, we conduct publicity and training sessions on risk control & compliance and utilize various communication channels, such as our official WeChat platform, to share insights on risk management activities and showcase relevant case studies. Additionally, we focus on enhancing risk compliance awareness among key personnel through case discussions, building a foundation for improved risk management practices throughout the organization. In 2024, we continued to reinforce our risk management culture through specialized training and educational initiatives, including the launch of a comprehensive risk management program.

Case L2B (Session 1) Legal Knowledge Exchange on Construction Project Management to Enhance Risk Awareness

In March 2024, the Risk Control and Compliance Department collaborated with the Manufacturing Department to discuss common risk factors in construction project management. The Risk Control and Compliance Department conducted a thorough analysis of 15 operational inquiries raised by the Manufacturing Department and provided optimization suggestions tailored to real-world project management challenges. During this exchange, our legal team offered insights using authoritative cases and the latest regulatory developments, delivering specific recommendations for improvement. This collaboration provided the Manufacturing Department with actionable risk management strategies, enhancing the risk identification and response skills of key personnel while strengthening our compliance and meticulous management in construction projects.

Case Comprehensive Risk Manager Training

In September 2024, the Risk Control and Compliance Department facilitated a centralized training session for over 130 risk management professionals from various functional departments and subsidiaries. This training session focused on best practices in developing an internal control compliance framework and outlined the requirements for an effective comprehensive risk management system. As the first large-scale training since the establishment of our risk management compliance team, this training session was designed to enhance the understanding of risk management principles across departments and subsidiaries, promoting the widespread adoption of risk management practices and elevating the overall awareness and capabilities of our workforce in risk management.

Addressing Conflicts of Interest and Recovery of Interests

To effectively manage and mitigate the risks associated with conflicts of interest, the Company has implemented the "Nanjing Iron & Steel Co., Ltd. Code of Conduct" and the "Regulations on the Declaration and Management of Conflicts of Interest for Employees in Key Positions". These documents clearly define the scope and procedures for managing potential conflicts of interest. We have established a comprehensive reporting mechanism that covers key employees and their immediate family members, including spouses, children, and parents. Reports of conflict of interest are considered a critical factor in personnel selection and appointment processes. In situations where an employee's personal interests may conflict with those of the Company, the responsible parties are held accountable for restitution. This approach reinforces our commitment to safeguarding the Company's legitimate rights and interests. In 2024, we reported zero confirmed conflict of interest cases.

Tax Transparency Management

The Company is committed to enhancing transparency, standardization, and fairness in our tax management practices. We have developed a comprehensive tax management framework that has been implemented across all subsidiaries, ensuring consistency and efficiency in our tax-related operations. Additionally, we have established an integrated communication system between our finance, tax, and operational departments to ensure early engagement with tax considerations in business processes. This proactive approach allows us to identify and resolve potential tax issues swiftly, significantly reducing compliance risks. In 2024, the Company's total tax contributions amounted to RMB 1.2098427 billion.

Protection of Business Secrets

The Company follows relevant laws and regulations, such as the "Law of the People's Republic of China on the Protection of State Secrets," and has established and implemented a confidentiality management system. Upholding the principles of "proactive prevention, focusing on key areas, responsibility at all levels, and accountability for confidentiality in business operations," the Company has formed a Confidentiality Committee, led by the CEO, with members consisting of heads of various units. This committee is responsible for overseeing and managing secret matters, key confidential units, sensitive areas, and employees with access to confidential information. This ensures that confidentiality work is systematic and standardized. Additionally, the Company establishes confidentiality agreements with clients, suppliers, and other stakeholders, clearly outlining the responsibility for protecting commercial secrets, thereby creating a comprehensive confidentiality mechanism that covers both internal and external entities, fully safeguarding the Company's information security and commercial interests.

Anti-commercial Bribery and Anti-corruption

Building a Strong Foundation for Integrity Management

The Company strictly adheres to relevant laws and regulations, including the "Oversight Law of the People's Republic of China" and the "Anti-Money Laundering Law of the People's Republic of China". We have developed key policies such as the "Nanjing Iron & Steel Co., Ltd. Code of Conduct", "Professional Ethics Standards for Internal Auditors", and "360-Degree Evaluation Guidelines for Sensitive Positions". The Company continuously refines its compliance policies and governance processes to mitigate integrity risks. Recent initiatives include the revision of key anti-corruption policies, such as the "Interim Procedures for the Supervision and Inspection of Purchased Scrap Steel", reinforcing preventive mechanisms against unethical conduct.

The Company is committed to building a governance system to manage the risks of business ethics. The Audit and Internal Control Committee, which is under the Board of Directors, systematically supervises the applicability and effectiveness of the Company's business ethics system. The Audit and Internal Control Committee is accountable to the Board of Directors and reports its work to the Board. In 2024, we reported zero cases of money laundering or insider trading, and zero instances of commercial bribery or corruption related to our whistleblowing mechanisms.

"Four in One" Oversight System for Integrity Management

Routine Oversight	Operational Oversight	Grassroots Oversight	Targeted Oversight
Pre-assignment integrity briefings for employees in sensitive roles; middle-level cadres signing the "Integrity Commitment Letter"; real-time updates to integrity records, ensuring ethical compliance in personnel decisions; 360-degree evaluations for high-risk positions; and ongoing governance enhancement projects.	Routine audit checks across tendering, procurement, equipment maintenance and engineering projects; strengthened compliance in bulk raw material acceptance, including procurement policy refinements, advanced automated inspection systems and enhanced management efficiency.	Improved working mechanism and strengthened accountability system, ensuring precise and effective supervision; Business units, Technology & Quality Department and other frontline units conduct internal audits on regulatory compliance and employee accountability, closing the "last mile" of corporate oversight and laying a solid foundation for the Company's high-quality development.	Special compliance audits on equipment procurement, supplier contracts, mobile crane usage and licensing violations; proactive risk prevention measures to ensure compliance and operational integrity.

Intelligent Integrity Governance

The Company has developed an intelligent integrity oversight platform, leveraging business data and proactive alerts to enhance transparency and accountability. In 2024, the Office of Party Conduct and Integrity took on the role of intelligent oversight and launched the Intelligent Discipline Inspection 3.0 platform in April. This platform includes a robust data analytics system that integrates four specialized channels, such as those for bidding and procurement, providing multidimensional data support for supervisory investigations and significantly improving the efficiency and precision of our integrity initiatives. The Company's intelligent integrity oversight platform has been highly recognized by the Central Commission for Discipline Inspection, provincial and municipal discipline inspection commissions, and the CITIC Group's Discipline Inspection and Supervision Team.

Building an Corruption-free Ecosystem

To strengthen the work on integrity in business operations, the Company has issued the "Corruption-free Nanjing Iron & Steel Co., Ltd." declaration. It adheres to the principles of "addressing both symptoms and root causes, comprehensive governance, integrating punishment with prevention, and emphasizing preventive measures". The Company continuously strengthens the construction of the "Three Nos" system - not daring to be corrupt, not being able to be corrupt, and not wanting to be corrupt.

The Company is also dedicated to building a collaborative and win-win integrity ecosystem with partners. The "Integrity and Self-Discipline Commitment Letter" is incorporated 100% into tender documents to constrain partners from engaging in bribery, corruption, bid-rigging and other fraudulent or illegal activities beforehand, effectively preventing the integrity risks of relevant parties. The Company also mandates the signing of the "Integrity Cooperation Agreement" as a prerequisite for contract execution. This agreement explicitly prohibits any form of business or commercial transactions that could influence or relate to the Company's operations, including transactions between individuals, among employees, or between employees and their relatives or friends, ensuring a strict adherence to integrity and ethical standards. In 2024, the Company further enhanced the working mechanism of the "Integrity Cooperation Agreement", ensuring full coverage across the Company's headquarters, eight wholly-owned subsidiaries under the New Industries Group, and 100% of our suppliers.

Case Supplier Integrity Cooperation Forum

In 2024, the Company hosted a Supplier Integrity Cooperation Forum, engaging representatives from various sectors, including equipment and spare parts, engineering projects, alloy auxiliary materials, and labor services. During the event, we presented the "Integrity Cooperation Agreement", elaborating on its core principles, the responsibilities of each party, and the consequences of non-compliance. We also launched the "Building a Transparent and Clean Cooperative Relationship" initiative, encouraging suppliers to cultivate a fair, transparent, and ethical business environment that ensures healthy collaborative efforts. This forum not only strengthened integrity awareness among suppliers but also fostered mutual trust and collaborative success between the Company and its suppliers, playing a vital role in the development of a resilient and sustainable supply chain.

Strengthening Integrity Education

The Company attaches great importance to integrity education. Each year, we hold integrity education seminars, inviting external speakers to provide integrity warning education and training to employees in sensitive positions and the management team. During the on boarding training for new employees, we provide comprehensive training on professional ethics, moral standards, the reporting process, employee and family interest declaration, and the penalty system for violations, ensuring that employees are well-versed in and adhere to integrity management protocols. In 2024, the Company achieved 100% coverage of anti-corruption and other business ethics related training of employees.

Case Convening Integrity Awareness Conference

In 2024, the Company held an Integrity Awareness Conference attended by 435 mid- and senior-level leaders in both virtual and in-person formats. The conference analyzed case studies from within the CITIC Group, the steel industry, and the Company's operations. It served as a reminder for party members and leaders to strengthen their commitment to integrity and self-discipline, emphasizing the importance of ethical practices in their roles. Leaders were encouraged to learn from these examples to drive improvements while reinforcing their understanding of regulatory compliance and disciplinary protocols. This initiative aims to foster a transparent and principled workplace culture.

Case Advancing the "May Day • Integrity Promotion Campaign"

In 2024, the Company launched the "May Day • Integrity Promotion Campaign". This effort, prioritizing adherence to internal party regulations, included a total of 555 educational sessions on party discipline, engaging 10,312 participants in these training programs. Furthermore, through individualized discussions, the Company conducted integrity risk assessments and preventive measures, completing 933 integrity risk interviews and reviewing risks in 13 party organizations. This process identified 689 positions with integrity risks and 1,270 specific risk points, resulting in the development of 1,218 targeted preventive measures.

Improving the Supervision and Reporting Mechanism

The Company has established a comprehensive reporting mechanism, formulating systems such as the "Employee Reporting and Handling Procedures" to accept tips related to various illegal and disciplinary violations. The Company's reporting mechanism is open not only to internal employees but also to external stakeholders. The reporting channels and procedures are included in both the "Tender Documents" and the "Integrity Cooperation Agreement". Whistleblowers can report through various means such as telephone, letters, email, WeChat mini-program or in-person, either anonymously or under their real name. Reports of misconduct will be thoroughly investigated, and individuals found in violation will be referred to the appropriate judicial authorities. The confidentiality of whistleblowers will be strictly safeguarded, and rewards will be offered for substantiated reports. The Company strictly maintains the confidentiality of the whistleblower's basic information and the content of the report, forbidding any organization or individual from obstructing, suppressing or retaliating against the whistleblower under any pretext.

The Company's Reporting Channels

Hotline for Reporting	Email for Reporting	WeChat Mini Program for Reporting
025-57072977	ngjw@njsteel.com.cn	Nanjing Iron & Steel Co., Ltd. Integrity Reporting

Anti-unfair Competition

The Company is committed to maintaining compliance with the "Anti-Unfair Competition Law of the People's Republic of China" and has established robust internal policies against unfair competition, as outlined in our "Code of Conduct of Nanjing Iron & Steel Co., Ltd.". These policies set forth clear standards of conduct for the organization and our employees in all commercial activities, decisively prohibiting any forms of unfair competition. We are dedicated to ensuring our business operations are conducted according to the principles of voluntary engagement, equality, fairness and integrity.

Case Specialized Training on "Unfair Competition and False Advertising"

On April 25, 2024, coinciding with the 24th World Intellectual Property Day, the Company hosted a specialized training session titled "Unfair Competition and False Advertising", featuring a partner from a leading law firm as the guest speaker. The training covered essential updates from the latest revisions of the "Anti-Unfair Competition Law of the People's Republic of China", compliance guidelines for the use of images, fonts, and software, and included analyses of prominent cases of unfair competition. This initiative significantly deepened employees' understanding of intellectual property compliance in advertising and daily operations, effectively enhancing their ability to identify and mitigate risks associated with unfair competition.

02 Environmental

The Company aligns its sustainability strategy with national policy directives, advancing its vision of becoming a "beautiful urban green steel enterprise". The Company considers low-carbon, circular development a key driver of high-quality and sustainable growth, embedding green, low-carbon, and circular economy principles into its core business operations. By leveraging our own industrial characteristics and making efforts in multiple dimensions, we are actively enhancing our environmental management system through digital transformation. We continuously optimize production processes to improve efficiency and sustainability, implement pollution and emissions reduction initiatives, and strengthen our commitment to eco-friendly and sustainable development.

Contribution to the UN SDGs

2024 Key Performance Highlights

- ★ Awarded **Level-A** "Long-Process Steelmaking Enterprise" in **Environmental Performance** by Jiangsu Province for two consecutive years (the **first** in Jiangsu Province)
- ★ Recognized as a **"Green Development Benchmark Enterprise"** in the steel industry for **6** consecutive years
- ★ Granted the **"Excellent Furnace"** award for the 2# 150 t converter of Steelmaking Plant 1 and the 2# 2,550 m^3 blast furnace
- ★ Honored as a **"Jiangsu Provincial Carbon Peak and Carbon Neutrality Pilot Enterprise"**
- ★ Awarded the **"China Industrial Carbon Peak Leader"** title

Energy Use

Energy Governance Framework

To ensure a stable, efficient, and responsible energy supply, the Company has developed a comprehensive energy management system, anchored by policies such as the "Energy Management Regulations", "Energy Use Management Measures" and "Energy and Power Supervision Management Regulations". The Company has established a four-tier energy governance structure, comprising the Board of Directors, the Strategy & ESG Committee, the Low-Carbon & Energy Strategy Committee and the Energy & Power Business Unit, which are responsible for implementation of energy management initiatives.

The Company is certified under ISO 50001 for its energy management system and has passed the annual audit. The certification scope covers 100% of the steel production sector.

Certificate of the Company's Management System for Energy

Strategy and Implementation Path

In terms of management and technology, the Company implements an energy consumption target responsibility system, with dedicated personnel responsible for each energy consumption indicator. We have established a clear incentive mechanism with rewards and penalties, linking the achievement of targets to individual compensation and performance assessments, ensuring the implementation of energy-saving responsibilities. Technologically, the Company actively encourages innovation, and continuously promotes equipment transformation and operational mode optimization. Through increasing energy recovery, reducing energy loss, and improving energy utilization efficiency, the Company continually optimizes overall energy management performance.

Intelligent Energy Management

The intelligent energy management system was launched, encompassing eight types of energy media including water, electricity, wind, and gas. Built with advanced technologies such as IoT, AI and big data algorithm analysis, the system features eight modules including energy monitoring, operational management, and intelligent decision-making.

The intelligent energy management platform broke down departmental barriers, integrating business processes horizontally and data vertically. Through leaner production and more precise energy supply, it achieves integrated energy information across processes, providing innovative solutions for the Company to efficiently utilize energy and resources.

The Company's Intelligent Energy Management Platform

Energy monitoring

Dynamical monitoring of energy operation parameters, with functions for abnormal warnings, intelligent judgment, and fault location, enhancing scheduling and emergency response capabilities.

Operational management

Automatic generation of energy plans and reports based on production data, efficiently managing the quantity and quality of energy.

Intelligent decision-making

Use of big data analysis and modeling to optimize energy scheduling and energy-saving plans, thereby providing decision-making support for emission reduction.

Precision process control

Dynamical tracking of energy usage across processes, thereby achieving refined energy consumption management.

Eight Key Modules of the Intelligent Energy Management System

Energy analysis

Real-time statistics and analysis of energy consumption data across processes, comparing with historical data to identify anomalies and provide optimization recommendations.

Carbon emission management

Real-time calculation of carbon emissions data, supporting integrated management for carbon reduction and helping achieve the "carbon peaking and carbon neutrality" goals.

Energy-saving technologies

Promotion of the application and project management of energy-saving technologies, maintaining a leading position in the industry's energy-saving technology.

Laws and regulations

Integration of relevant energy management laws, regulations, industry standards, and internal regulations to ensure compliance in energy management.

Energy-Saving Projects

In 2024, the Company carried out special energy-saving projects by a series of technical and refined management means: saving nitrogen, water and electricity, enhancing recovery of converter gas and waste heat steam, and reducing solid fuel consumption. These projects push energy-saving efforts toward higher targets.

Key Focus Areas of the Projects	Project Overview and Results
Nitrogen Saving	Through measures such as transformating converter evaporative cooling spray guns, reducing the time spent on cutting and purging large billets in the electric furnace, switching the instrument-controlled gas source from nitrogen to compressed air, and optimizing the pulse spray interval of the lime kiln dust collector, the Company reduced nitrogen consumption by 10,000 cubic meters per hour, achieving an 8% reduction.
Water Saving	The Company advanced projects like the conversion from hidden to exposed industrial water pipelines, the separation of rainwater and sewage, and the replacement of pipes and regulating valves, effectively reducing water consumption and minimizing water resource waste. In 2024, the total amount of new water used by the Company was 26.14 million cubic meters, a decrease of approximately 2 million cubic meters compared to the previous year.
Electricity Saving	Through measures such as leak prevention in sintering machines and the utilization rate improvement of the steelmaking refining furnace, the Company achieved electricity savings of 13.2 million kWh in 2024, significantly improving energy efficiency.
Improvement of Converter Gas Recovery	The Company set up a special task force to regularly analyze and optimize the converter gas recovery process, continuously increasing the gas recovery rate and calorific value, and maximizing the recycling of energy.
Improvement of Steam Recovery	The Company has continually optimized steam recovery management, enhanced control of heat storage tank water levels, and improved heat storage efficiency. The Company's steam recovery volume has steadily increased, setting new historical records multiple times.
Reduction of Solid Fuel Consumption	The Company made efforts to optimize the coking, sintering, and blast furnace processes to reduce solid fuel consumption, lower fuel usage, and further improve energy efficiency in production.

The Company has fully promoted new energy-saving technologies, continuously improving energy efficiency. By taking measures such as the introduction of high-efficiency equipment, process optimization, and the application of energy-saving management systems, we reduce energy consumption and carbon emissions, driving the steel manufacturing industry toward a low-carbon and high-efficiency future.

Oxygen Enriched Combustion Technology

- The oxygen-enriched ignition transformation has been completed, with the oxygen-enriched process steadily advancing across the entire production line. After the oxygen-enriched ignition transformation of the five sintering machines, the Company saves 6,900 cubic meters of blast furnace gas per hour, with an expected annual increase in power generation of approximately 17 million kWh.
- The transformation of intermediate and steel ladles to oxygen-enriched roasting has reduced gas consumption by about 10%, while increasing power generation by over 5 million kWh.

Innovative Application of Low-Temperature Catalysts in Sintering Desulfurization and Denitrification

- The Company implemented the replacement of low-temperature catalysts in a 220-square-meter sintering area. After the replacement, the hourly consumption of blast furnace gas was reduced by approximately 4,600 cubic meters, with an increase of 1,300 kWh in power generation and a 12% reduction in electricity consumption.

Hydrogen Oxygen Cutting Technology

- The continuous casting billet process has been changed to "hydrogen-oxygen cutting", reducing the cutting gap from 6 mm to 4 mm. This reduces metal loss and achieves both energy savings and emission reductions.

Application of Nano-Micro-Porous Insulation Boards in Lime Kilns

- The Company upgraded the kiln refractory structure of the lime kiln by using nano-micro-porous insulation boards. The temperature of the high-temperature zone shell outside the channel decreased from 200° C to 150° C, reducing fuel consumption by 13%. The saved gas annually contributes to an additional 3.2 million kWh in power generation.

Building a Green and Efficient Energy System

Rooftop Photovoltaic Power Generation Facilities

The Company has actively promoted the use of clean energy. In 2024, the Company completed the installation of rooftop photovoltaic systems in several areas, including the Water Plant 1 Center and Finishing Plant.

In 2024

Total Installed PV Capacity
55 MW

Annual PV Power Generation
43,782 MWh

Reduction in Carbon Emission
30,000 tons annually

User-Side Energy Storage Power Station

The Company is actively advancing key energy-saving renovation projects to continuously improve energy efficiency and reduce energy consumption, achieving remarkable results in cost reduction and efficiency enhancement. In January 2024, the Company completed the construction and operation of China's largest user-side energy storage power station, which is fully connected to the grid. The power station has a rated output of 61 MW and a total capacity of 123 MWh, utilizing high-energy-density, safe lithium iron phosphate battery technology. With daily "two charges and two discharges", the station discharges approximately 220,000 kWh per day, which reduces the grid load by about 60,000 kW and in turn remarkably reduces pressure on local peak electricity consumption. This power station significantly improves the peak-shaving ability and power supply stability of the Company's power system, while also benefiting from the peak-valley electricity price mechanism and peak-shaving policies in Jiangsu Province to lower electricity costs. It strongly supports the Company's intelligent and green energy transformation.

Impact, Risk and Opportunity Management

Drawing on operational expertise and insights from external specialists, the Company leverages its energy management system to systematically identify, assess and monitor the impacts, risks and opportunities associated with energy use.

Risks	Opportunities
• Unstable traditional and new energy supplies create energy supply risks. • Evolving policies and market trends necessitate continuous adjustments to the Company's energy structure; failure to adapt could undermine market competitiveness. • The energy transition presents potential challenges, including technology selection risks and high capital costs for equipment upgrades.	• Enhanced energy management practices can lead to greater efficiency, lower energy consumption and cost savings. • By expanding renewable energy adoption and optimizing its energy mix, the Company aims to cut carbon emissions in production, meet the rising demand for low-carbon products, and strengthen its market position.

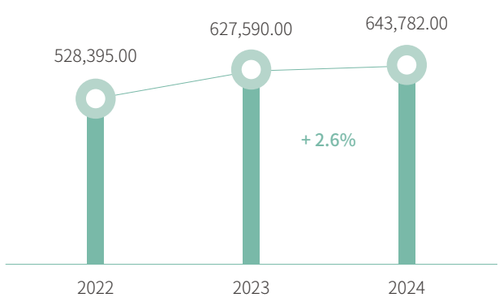
Indicators and Goals

The Company is committed to aligning with national energy conservation and carbon reduction policies, including those issued by the National Development and Reform Commission (NDRC) and other regulatory bodies. In support of the China Iron and Steel Association (CISA) "Extreme Energy Efficiency Initiative", the Company has developed the "Extreme Energy Efficiency Three-Year Action Plan." This initiative encompasses a series of targeted measures designed to enhance energy efficiency, with a goal of reducing comprehensive energy consumption per ton of steel by an additional 10 kg of standard coal equivalent beyond the reductions achieved during the 14th Five-Year Plan period.

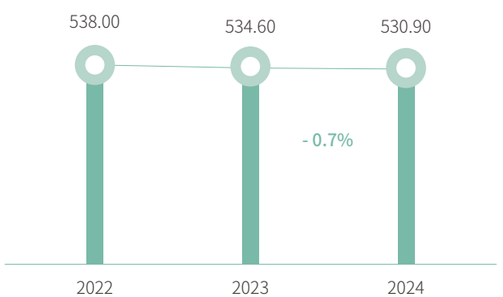
In 2024

The Company achieved a
3.7 kg of coal equivalent reduction in comprehensive energy consumption per ton of steel compared to the previous year

The Company's Renewable Energy Consumptions from 2022 to 2024 (MWh)



The Company's Energy Intensity from 2022 to 2024 (kg of coal equivalent/ton of crude steel)

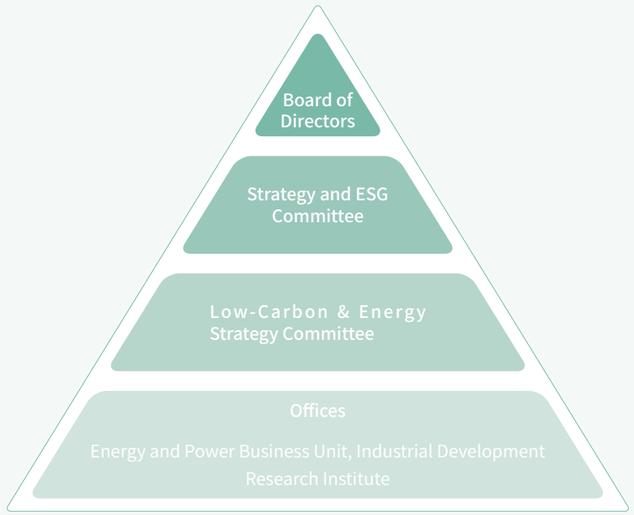


Response to Climate Change

Climate Change Governance Mechanism

The Company is committed to a green and low-carbon transformation strategy, focusing on areas such as carbon reduction in processes, clean logistics, green energy use, low-carbon innovation, energy efficiency improvements, low-carbon transformation, and intelligent new energy. The Company aims to become a global leader in green steelmaking.

The Company has established a Low-Carbon & Energy Strategy Committee, consisting of senior management, relevant department heads, and external experts. The committee is responsible for formulating and implementing the Company's low-carbon and energy strategies, overseeing the promotion of related work, and supporting the implementation of the "dual carbon" strategy. The Chairman of the Board is the highest-ranking official responsible for overseeing the Company's climate change governance.



The Company's Climate Change Governance Structure

- Planning the direction of the Company's green and low-carbon development and formulating strategic measures for low-carbon and energy management
- Reviewing and supervising the implementation of the Company's low-carbon and energy strategies
- Coordinating low-carbon and energy cooperation across various departments and promoting energy management innovations
- Participating in the evaluation, design review, and post-production assessments of key low-carbon and energy projects

The Company has developed its carbon management framework, encompassing carbon footprint assessments, emissions source identification, performance benchmarking, system documentation, operational implementation, internal audits and internal carbon pricing mechanisms. We have built a carbon management system from scratch, completed the standardization, successfully passed the audit, and received the EATNS Carbon Management System Certificate from the Shanghai Environment and Energy Exchange. Under this framework, the Company sets, monitors and evaluates the annual carbon reduction targets and performance of its business units.

System Initiation

- Conduct baseline assessments to evaluate the Company's progress in carbon reduction initiatives.
- Launch the system and drive internal engagement by establishing a Carbon Management Task Force.
- Carry out a carbon management review, formulating strategies for carbon emissions reduction, carbon asset management, carbon trading and carbon neutrality.

System Planning

- Define the structural framework of the system documentation, ensuring it comprehensively covers all aspects of carbon management.
- Establish key objectives, including carbon management boundaries, policies, departmental responsibilities and governance structures.

System Documentation Development

- Develop procedural guidelines and a management handbook.
- Draft policies covering carbon emissions, carbon asset management, carbon neutrality and carbon trading.

Standards & System Training

- Provide training on relevant industry standards, including the "Carbon Management System: Requirements and Implementation Guide".

Pilot Implementation

- Execute system protocols and conduct performance evaluations to assess the effectiveness of carbon management strategies.

Internal Audits & External Certification

- Perform internal audits, management reviews, and continuous improvement measures.
- Undergo external verification and certification assessments, leading to the issuance of the Carbon Management System Certification.

The Company's Carbon Management System Implementation Roadmap

EATNS
碳管理体系
碳管理体系评定证书

The Company's Carbon Management System Certificate

Strategy and Implementation Path

The Company has comprehensively reviewed the list of technologies for addressing climate change in the steel industry. Following an overall strategy of reducing carbon at the source, during the process, and through end-of-process carbon capture, it has implemented the "Ten Carbon Actions" initiative and six technical pathways"[3]. In addition, the Company focuses on building the "N-ZERO" three major zero-carbon systems, promoting the Company's transition from "carbon metallurgy" to "zero-carbon metallurgy" and from "carbon processes" to "carbon-free processes". These systems complement the "Ten Carbon Actions" pathway, forming the top-level framework for the Company's dual carbon initiatives.

"Ten Carbon Actions" Path

- Enhancing Energy Efficiency, Reducing Consumption
- Developing and Promoting Green Energy
- Improving Green Logistics
- Optimizing Scrap Steel Resources for Structural Carbon Reduction
- Enhancing the Development of High-performance Materials
- Expanding Carbon Reduction Pathways in the Market
- Focusing on Breakthrough Technology Research
- Seizing Green Investment Opportunities
- Integrating and Connecting Global Resources
- Promoting Low-Carbon Production and Lifestyles among All Employees

[3] The six technical routes: refer to "extremely high carbon efficiency, steel carbon capture, diversified materials usage, smart manufacturing enabling low carbon, green steel consumption, and hydrogen-rich low-carbon steelmaking".

Low-Carbon Process Technology System

Intelligent carbon reduction, hydrogen-rich injection carbon reduction, carbon dioxide cracking for iron making carbon reduction; Extreme Energy Efficiency carbon reduction; CCUS[4] carbon reduction; electrochemical metallurgy (molten salt electrode oxidization, FFC) carbon reduction; electrolytic metallurgy (molten oxide electrolysis, MOE) carbon reduction; hydrogen-based direct reduced iron (DRI) carbon reduction.

Clean Energy Systems

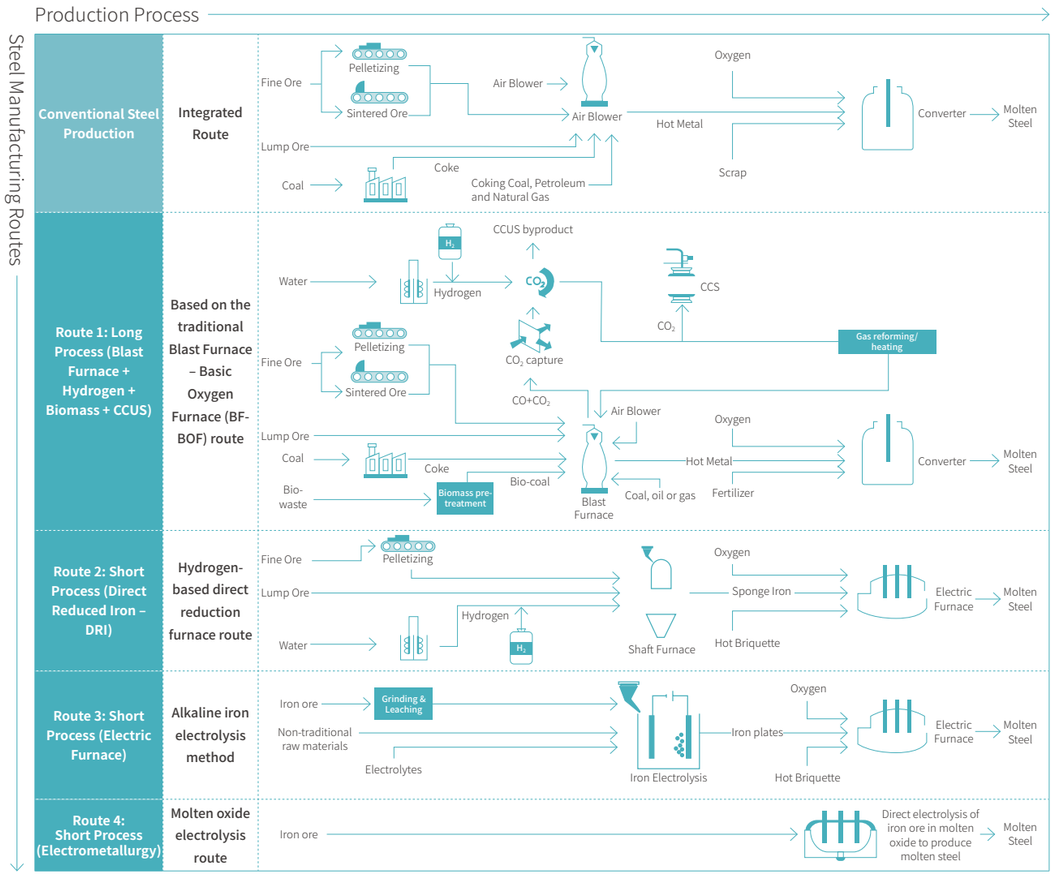
Focus on building a clean energy system primarily composed of solar, nuclear, wind, biomass and hydrogen energy.

Green Product System

Develop a full lifecycle low-carbon product line centered on high-strength, wear resistance, corrosion-resistance, and clad plates. This includes environmentally friendly products for the automotive steel industry (bearings, springs, steel cords), and green structural steel for construction. Additionally, the range covers low-carbon industrial steel products for energy applications, such as pipeline steel, wind power steel, nuclear power steel, hydrogen storage steel, and CO_2 transportation and storage steel.

N-ZERO

Three Major Zero-Carbon Systems



The Company's Carbon Neutrality Technology Roadmap

[4] Carbon Capture, Utilization, and Storage (CCUS) refers to the technology of separating carbon dioxide (CO_2) from industrial production, energy use, or the atmosphere, and either utilizing or injecting it into geological formations for permanent emission reduction.

The Company emphasizes improving employees' professional knowledge of carbon emissions and has conducted extensive "dual carbon" theme training.

Case Multi-level Training on Carbon Peaking and Carbon Neutrality

In 2024, the Company actively launched "dual carbon" employee training, inviting third-party partners to conduct sessions on Life Cycle Assessment (LCA), Environmental Product Declarations (EPD), carbon databases, and EU Carbon Border Adjustment Mechanism (CBAM) knowledge. At the same time, lectures on "Carbon Asset Management and Carbon Neutrality Park Construction in the Steel Industry" and "Carbon Asset Development and Practical Trading Experience in the Steel Industry" were held for company leaders and key department heads to enhance their understanding of the "dual carbon" theory.

In 2024, the Company continuously deepened its low-carbon management system in alignment with the "dual carbon" strategy, strengthened its capabilities in low-carbon management and R&D, and contributed to green and low-carbon transition in the industry through multidimensional collaborative efforts, aiming to contribute to the country's "dual carbon" goals.

Additionally, the Company has actively applied for Jiangsu Province's carbon peak and carbon neutrality pilot program and was successfully selected in the first batch. Our key projects, such as "Key Energy-Saving and Carbon Reduction Technologies for High-Proportion Pellet Iron Full-Process Smelting" and "Carbon Footprint Labeling Innovation System for Key Products in Jiangsu Province", were supported by the 2024 Jiangsu Province Carbon Peak and Carbon Neutrality Technological Innovation Fund.

Low-carbon Technology Research and Application

The Company has actively explored cutting-edge low-carbon technologies, collaborating with the University of Birmingham on the development of technologies including low-temperature waste heat cooling, and conducting research on biomass carbon utilization for low-carbon alternatives in metallurgical processes. In 2024, the Company also advanced "Extreme Energy Efficiency Initiative" accelerating new energy-saving technologies, and expediting the implementation of CCUS-based carbon capture and steelmaking projects.

Case Steel Slag Recycling to Drive Development of Low-Carbon Cementitious Materials

Nanjing Jinbo New Materials Technology Co., Ltd. ("Jinbo New Materials") , the Company's dedicated solid waste recycling platform, has successfully developed a new low-carbon cementitious material out of steel slag, desulfurized gypsum and granulated blast furnace slag, significantly contributing to the R&D of low-carbon technologies. By precisely blending and grinding these waste materials at given ratios, the Company has developed a new cementitious material that meets the 425-grade cement standard. This material has diverse applications, including: commercial concrete, underground backfilling, road grouting, soil stabilization layers and pile foundation mixing. This breakthrough expands the application of steel slag in construction and infrastructure, driving solid waste recycling and reducing disposal costs while lowering carbon emissions by approximately 450 kg per ton, directly contributing to China's "dual carbon" goals.

Participation in the Formulation of Low-carbon Standards

The Company has actively participated in the formulation of low-carbon standards domestically and internationally, driving the green and low-carbon development of the industry. In 2024, the Company took part in the formulation of one international standard "Guidelines for Application of Low-carbon Technologies in Steel Plants" and contributed to two national standards including the "Evaluation Guide for Low-carbon Enterprises in the Iron and Steel Industry", the "Technical Specifications on Processing and Metal Recovery of Steel Slag", one industry standard "Evaluation Methods and Requirements of Low-carbon Products - Steel Products", as well as three group standards such as "Low-carbon Emission Steel Standards". The Company was also deeply involved in the China Iron and Steel Association's EPD (Environmental Product Declaration) platform and helped establish eight product category rules (PCR), enhancing the industry's green product evaluation system.

Industry Collaboration for Mutual Benefits

The Company has actively built collaborative innovation platforms within the industry, promoting low-carbon cooperation for mutual benefits. As the leader of the Yangtze River Delta Carbon Neutrality Industry Innovation Investment Alliance initiated in 2022, the Company has established a "demand-research-application" cooperation platform to promote the implementation of low-carbon technologies. Additionally, the Company has strengthened supply chain low-carbon management, guided upstream suppliers in carbon footprint accounting for multiple categories, and collaborated with strategic partners on equipment procurement and the recycling of waste steel and other circular resources to foster the development of a low-carbon circular economy. We have also signed sustainable development agreements with key clients to help them achieve carbon neutrality goals and jointly drive the development of a green, low-carbon value chain. In 2024, the Company established a strategic partnership with CATL (Contemporary Amperex Technology Co., Ltd.). Focusing on "Zero-Carbon Energy" and "Zero-Carbon Transportation" applications, the Company aimed to develop creative "Zero-Carbon +" applications such as "Zero-Carbon Industrial Parks" and "Zero-Carbon Water-Land Transport Hubs", thereby developing comprehensive zero-carbon solutions for nationwide adoption. In 2024, the Company collaborated with the CISA, World Steel Association and Urban Land Institute (ULI) to advance low-carbon steel initiatives within the real estate sector. By signing the "Cooperation Statement on Low-Carbon Steel for China's Real Estate", the Company commits to proactively promoting the use of low-carbon steel, thereby supporting the low-carbon development goals of downstream industries such as real estate.

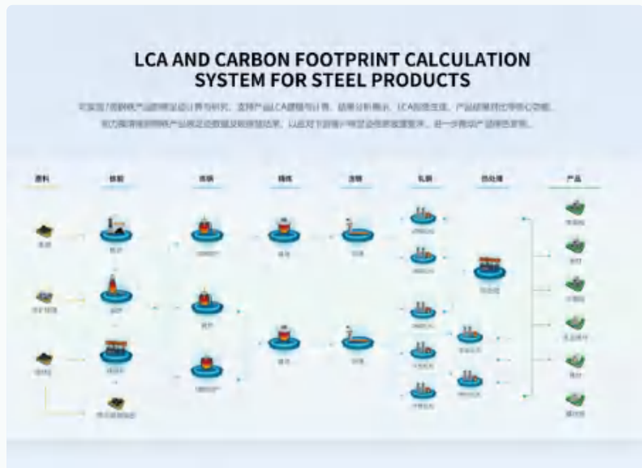
Digital Empowerment for Green and Low-carbon Management

The Company leverages digital technologies to enhance its low-carbon management capabilities, building an efficient carbon footprint calculation and management system. The Company's self-developed LCA calculation platform is now put into use, enabling unified calculation and management of product lifecycle assessments and carbon footprint data. The Company has also developed the CBAM (Carbon Border Adjustment Mechanism) reporting system, which features panoramic data display, reporting, and management functions, enabling fast and accurate preparation of CBAM reports. The system is currently capable of generating reports. Additionally, the Company implemented an internal carbon pricing analysis initiative for CBAM, leveraging weekly domestic and international carbon price trends to forecast future pricing trajectories, providing a solid foundation for CBAM cost analysis.

The Company's CBAM Reporting System

Case Steel Product LCA and Carbon Footprint Calculation System

The Company has established an LCA and carbon footprint calculation system for steel products. The system created a unified business platform, forming a matrix algorithm model for LCA, which can uniformly calculate and manage carbon footprint data for seven major product categories and various steel grades, providing users with accurate carbon data for products. It can also calculate the carbon footprint of upstream and downstream industrial products in the steel industry, greatly improving the Company's automation of carbon calculation and management, and offering technical support for real-time product carbon labeling initiatives. Additionally, the system includes a green design and evaluation database, which helps streamline the product green evaluation process, facilitates comparative analysis of carbon loads from different process paths, and drives the design and development of the Company's low-carbon products.



Impact, Risk and Opportunity Management

To better address potential climate change risks and opportunities, the Company identifies climate change-related risks and opportunities relevant to its operations and assesses their financial impacts through policy research, industry benchmarking and expert advice consulting. This facilitates the integration of climate change-related risk and opportunity factors into the Company's overall ESG management structure and risk management system.

Identification

Six climate-related risks and four climate-related opportunities are identified.

Assessment

The Company assesses climate related risks and opportunities based on its business and strategy, taking into account expert opinions.

Analysis

A matrix of climate-related risks and opportunities is constructed from the assessment results, identifying the materiality of risks and opportunities based on their likelihood of occurrence and impact.

Category	Risk	Risks and Opportunities Overview	Impact	Potential Financial Impacts	Countermeasures
Risks	Policy and legal risks	○ Starting from May 2024, the Shanghai Stock Exchange (SSE) officially implemented the "Self-Disciplinary Supervision Guidelines for Listed Companies No. 14 - Sustainability Report (Trial) ". This guideline designates "addressing climate change "as one of the key issues. In November 2024, the SSE further issued "Self-Disciplinary Supervision Guidelines for Listed Companies No. 4 — Compilation of Sustainability Reports", clarifying the disclosure details regarding climate change issues. Enterprises are required to invest resources to establish a comprehensive climate management system to comply with regulatory disclosure requirements. ○ The steel industry will be included in the national carbon market in the future, increasing the Company's carbon compliance cost and risk. ○ Starting from 2026, the European Union will implement the CBAM, imposing additional carbon taxes on imported carbon-containing products like steel, cement, fertilizers, and aluminum.	Low	Operating income ↓ Operating costs ↑ Credit risks ↑	The Company has formed a Low Carbon & Energy Strategy Committee to implement a standardized carbon management framework. Guided by the "Plan-Do-Check-Act" (PDCA) principle, the committee engages in continuous optimization and refinement of the system. Using digital technology to enhance low-carbon management, the Company has developed an efficient carbon footprint calculation and management system, including an internal product carbon footprint LCA platform and CBAM carbon emissions data reporting system. The Company actively conducts research on the integration of the steel industry into the national carbon market. We are also undertaking simulations for carbon market registration and compliance trading to ensure robust preparedness for formal market participation.
	Market risks	○ With the global focus on green and low-carbon development, there is a rapidly growing market demand for green and low-carbon steel products. Customers like Schaeffler and Volvo are advancing green products in collaboration with value chain partners. This trend intensifies industry competition. If the Company cannot adapt to the green transformation in time, we might lose market share. Additionally, due to the demand for low-carbon development, the use of scrap steel has significantly increased, and the continuous supply of scrap steel faces challenges.	Medium to low	Value of fixed assets ↓ R&D investment costs ↑	The Company advances the development of green products. Focusing on lightweight, long-lasting, fire-resistant, composite, and environmentally friendly product properties, the Company develops and promotes high-strength, ultra-high-strength steel, high-grade wear-resistant steel, functional materials, corrosion-resistant steel, and other high-end varieties. The Company enhances supply chain risk management to address supply fluctuations of raw materials like scrap steel.
	Technical risks	○ To adapt to the low-carbon and green development trend, the Company needs to invest in low-carbon technologies like low-carbon metallurgy to meet market demand. The maturity of relevant technologies is currently limited, accompanied by high uncertainty. The R&D costs and investment for large-scale commercial applications are substantial.	Medium	Value of fixed assets ↓ R&D investment costs ↑	The Company is actively exploring cutting-edge low-carbon technologies such as cryogenic energy storage, low-temperature waste heat refrigeration, conducting research on biomass carbon to explore low-carbon alternatives in metallurgical processes, and advancing CCUS projects.
	Reputational risks	○ Regulatory bodies, investors, the public, media and other stakeholders are increasingly focused on how companies address climate change, green low-carbon development, and sustainable practices. Failure to respond adequately to these trends may lead to reputation risks. Therefore, the Company must allocate more resources to meet stakeholder expectations,	Low	Operating income ↓ Operating costs ↑	The Company communicates its efforts and achievements in tackling climate change through sustainability reports.
	Acute physical risks	○ Intensified climate change could lead to an increased frequency of natural disasters such as floods in the Yangtze River Basin, potentially impacting the Company's product transportation, supplier deliveries, and consequently, the Company's overall stability in production and operations.	Low	Operating income ↓ Operating costs ↑ Value of fixed assets ↓	The Company has established a comprehensive emergency plan for extreme weather events and conducted various drills to improve employees' emergency response capabilities. Annual budgets and disaster-preparedness materials are also prepared for extreme weather conditions.
	Chronic physical risks	○ Sustained high temperatures and increased rainfall may lead to higher equipment failure rates and reduce machine uptime. Additionally, uncomfortable working conditions could affect employees' health and productivity, increasing operational costs.	Low	Operating costs ↑ Value of fixed assets ↓	The Company regularly maintains equipment and other fixed assets and has established supply chain risk management mechanisms to reduce the potential impact of chronic physical risks on operations.
Opportunities	Products and services	○ The introduction of "dual carbon" policies has led to a growing demand for green steel products. Focusing on the development of green and low-carbon steel products helps the Company explore new growth areas, meeting market and customer demands for low-carbon products and services.	Medium to low	Operating income ↑ Credit risks ↓	The Company is actively promoting green innovative products to meet the increasing demand for green steel products in industries such as new energy, automotive, construction, and shipping.
	Technology investment & development	○ By investing in and developing emerging low-carbon technologies, the Company accelerates technological innovation and application, creating intellectual property results that contribute to technological investment returns and long-term economic benefits.	Low	Operating income ↑	The Company is conducting research and applications of innovative low-carbon technologies such as direct-reduction ironmaking, hydrogen-based steelmaking, and CCUS.
	Resource efficiency	○ Through digital platform building, process optimization, and other methods, the Company improves resource and energy efficiency, promotes energy conservation, and helps reduce operational costs.	Low	Operating costs ↓	The Company has launched a intelligent energy management system covering water, electricity, wind, gas, and other energy types, realizing lean production and precise energy supply optimization, and integrating energy information across processes.
	Energy types	○ By replacing traditional high-carbon energy with clean and renewable energy sources, the Company meets regulatory requirements for steel enterprises and improves its energy structure while reducing energy expenses.	Medium to low	Operating costs ↓	The Company purchases green electricity and builds photovoltaic power generation units, energy storage systems, and wind power projects to promote green energy applications.

Indicators and Goals

On the foundation of a scientifically structured low-carbon transformation system, the Company has set goals to achieve a carbon peak by 2030, develop processes and technologies featuring 30% carbon reduction by 2035 and carbon neutrality by 2050, and has developed a three-phase "carbon peaking and carbon neutrality" strategy.

Phase One

Deep Consumption Reduction Stage (2021-2030)

Achieve stable total energy consumption, reduce energy intensity, and expand new energy layouts.

Phase Two

Electrification Stage (2031-2035)

Gradually transition from long processes to shorter processes, achieving a new energy ratio of over 30%.

Phase Three

Deep Carbon Reduction Stage (2036-2050)

Focus on deep decarbonization and "carbon neutrality", with the mature recycling application of new technologies and comprehensive popularization of new energy sources.

In 2024, the Company successfully reduced Scope 1 and Scope 2 emissions compared to 2023, achieving a 0.48% decrease in Scope 1 emissions and a significant 16.38% decrease in Scope 2 emissions. The Company continues to advance its three-phase "carbon peaking and carbon neutrality" strategy, enhancing energy utilization efficiency and carbon emission management.

The Company's Scope 1 and Scope 2 Greenhouse Gas Emissions from 2022 to 2024

Indicators	Unit	2022	2023	2024	Year-on-year growth rate
Greenhouse gas emissions (Scope 1)	Tons of CO_2 equivalent	17,328,579	19,074,153	18,983,266	-0.48%
Total greenhouse gas emissions (Scope 2)	Tons of CO_2 equivalent	1,764,253	1,571,653	1,314,286	-16.38%
Total greenhouse gas emissions (Scope 1 + Scope 2)	Tons of CO_2 equivalent	20,434,193	20,645,806	20,297,552	-1.69%

The Company's Scope 3 Greenhouse Gas Emissions in 2024

Indicators	Unit	2024
Total greenhouse gas emissions (Scope 3) [5]	Tons of CO_2 equivalent	640.42
Greenhouse gas emissions (Scope 3) - employee commuting	Tons of CO_2 equivalent	5.75
Greenhouse gas emissions (Scope 3) - business travel	Tons of CO_2 equivalent	634.67

[5] The Company has quantified and verified the Scope 3 emissions from employee commuting and business travel for the year 2024. Subsequently, it will proceed with the quantification of other types of Scope 3 emissions.

Green Products

The Company has actively responded to the global green transition trend by promoting the development of green innovative products that cater to the increasing demand for green steel products in industries such as automobiles, construction, and shipping, and enhancing its competitiveness and market share in the global green steel industry.

In terms of green innovative products, the Company focuses on such performance as lightweight, long lifespan, fire resistance, composites, and environmental friendliness, developing and promoting advanced varieties such as high-strength/ultra-high-strength steel, high-grade wear-resistant steel, functional materials, and composite, and corrosion-resistant steel. These efforts support key national clean energy sectors like vessel and marine engineering, nuclear and wind power, and new energy vehicles, aiding the green transformation and upgrading of national industries. In 2024, the Company achieved multiple milestones in the R&D of green innovative products.

In 2024

The Company achieved multiple milestones in the research and development of green innovative products.

Awards	Content	Awarding Institutions
Second Prize of the National Science and Technology Progress Award	Functional and Green Design, Preparation, and Support of Refractory Materials for Green Steel Manufacturing	Central Committee of the Communist Party of China, and State Council of the People's Republic of China
Second Prize of the Science and Technology Progress Award by the China Steel Construction Society	Key Technologies for the Development and Structural Application of High-Performance Refractory Steel Series	China Steel Construction Society
The Eighth Batch of Single Champions in the Manufacturing Industry	Ultra-High Strength Wear-Resistant Steel Plate	Ministry of Industry and Information Technology of the People's Republic of China

To advance the iteration of green steel varieties, the Company continuously enhances the performance of special steel, reduces steel consumption, and achieves reduced steel usage in downstream industries.

Representative Green Innovative Products

High-manganese Low-temperature Steel

High manganese low-temperature steel, a new generation of nickel-saving low-temperature material, uses C, Mn, and Cr as the primary alloying elements. It boasts excellent low-temperature mechanical properties, low thermal expansion coefficient, and non-magnetic characteristics. Compared to traditional 9% Ni steel, it has lower prices for both the base material and matching welding materials, which can reduce the engineering construction costs for users. High-manganese low-temperature steel can be used in fields such as ship fuel tanks for liquefied natural gas (LNG), ship liquid cargo tanks, land storage tanks, and mobile tanks. In the future, it will also be further applied to the storage and transportation of extremely low-temperature substances such as liquid hydrogen and liquid helium. The Company's high-manganese low-temperature steel is the first in China to be certified by international classification societies, such as ABS (American Bureau of Shipping), DNV (Det Norske Veritas),BV (Bureau Veritas), and LR (Lloyd's Register), and we have passed the technical evaluation of the Special Inspection Institute, making us the only company in China with qualifications to supply both marine and land-based high-manganese low-temperature steel, successfully breaking the foreign technological monopoly. The Company has exported 6mm high manganese low-temperature steel plates to South Korea for use in LNG tank container projects, marking international recognition of its technology and market competitiveness.

High Corrosion-Resistant Nickel-Based Alloy Composite Plates

The high corrosion-resistant nickel-based alloy composite plates perform excellently in handling corrosive media, combining corrosion resistance and substrate toughness. It effectively combats issues like pitting corrosion, sulfide stress corrosion, and hydrogen-induced cracking, significantly extending equipment lifespan and reducing overall costs. This also plays a crucial role in reducing China's dependence on nickel imports. The Company developed the nickel-based alloy composite plates and supplied them to a major domestic container manufacturer. The eight tanks produced were successfully delivered for the Belt and Road Initiative's Central Asia natural gas chemical project, filling a gap in China's hot-rolled nickel-based alloy composite plates.

Extreme Specification High Corrosion-Resistant Special Alloys

Super stainless steel, nickel-based alloys, and other extreme specification high corrosion-resistant special alloy materials are designed for harsh environments such as petroleum, chemicals, and offshore development, meeting the corrosion and heat resistance needs of extreme environments. Leveraging our complete medium and heavy plate production line, the Company successfully supplied the world's widest nickel-based alloy plates (3,300 mm-wide N08811 and 3,000 mm-wide N06625). This reduces welding volume and associated risks for clients while significantly improving the safety and reliability of the equipment. The Company's breakthroughs in this field further enhance its global competitiveness in the high-end special alloy plate sector.

High-Strength Hydropower Steel

The Company has taken the lead in China by successfully developing a comprehensive range of low-weld crack-sensitive high-strength hydropower steels, including grades of 550MPa, 600MPa, 800MPa, and 1000MPa. Notably, the 1000MPa high-strength hydropower steel boasts a yield strength of ⩾ 890MPa and a tensile strength ranging from 950 to 1,130MPa, with a transverse impact value of at least 100J at -60° C, demonstrating exceptional toughness. The Company is the first in the domestic steel industry to pass hydrostatic burst tests for model steel diverter pipes as well as technical evaluations for new hydropower products, effectively overcoming localization challenges for 1000MPa high-strength hydropower steel. The Company's high-strength hydropower steel products are now being supplied in substantial quantities to key projects, including the world's largest and most technically challenging hydroelectric station, the Baihetan Hydropower Station on the Jinsha River, as well as the Changlongshan pumped storage power station in Zhejiang Province, which features the highest rated hydraulic head in the country. Additionally, Nanjing Steel supplies the Fengning pumped storage power station in Hebei, contributing to the Beijing Winter Olympics, and the Qinyuan pumped storage power station in Liaoning, a strategic project for revitalizing Northeast China. Moreover, these products have been exported to significant hydropower projects in Indonesia, Vietnam and Pakistan.

9-Series Permanent Magnet Ferrite Ultra-Pure Iron Powder

Permanent magnet ferrite, known for its high magnetic permeability, saturation magnetization, good corrosion resistance, and temperature stability, is ideal for use in motors, generators, magnetic sensors, magnetic storage devices, and magnetic adsorption devices. The pre-sintered material for permanent magnet ferrite is one of the key materials in the production process of permanent magnet ferrite. It offers several advantages, including reducing sintering temperature, enhancing magnetic performance, and ensuring product quality. In November 2024, the Company launched the Pre-sintered Material Project for 9-Series Permanent Magnet Ferrite Ultra-Pure Iron Powder, marking China's first production line using ultra-pure iron powder as raw material for manufacturing pre-sintered materials for 9-Series permanent magnet ferrite. It is another proof of the Company's accelerated development of new productive forces in the field of new materials.

In addition to developing various green and high-performance steel products, the Company also conducted extensive fundamental research in areas such as steel corrosion resistance technology, accumulating significant technical expertise to extend product life spans.

Case Building an Atmospheric Corrosion Observation Station in Indonesia to Fill Data Gaps for Products in Typical Environments

The Company focuses on innovative R&D in steel corrosion resistance technology, aiming to extend product lifecycles, reduce resource waste, and support the country's development strategy. Indonesia is a key country in China's Belt and Road Initiative. The harsh marine environment characterized by high temperature, humidity, salt fog, and radiation accelerates the corrosion and aging of various steel and polymer materials. However, corrosion resistance data for steel products in this region remains absent.

In response to the Belt and Road Initiative and to strengthen cooperation with Indonesia in infrastructure development and economic trade, the Company partnered with a corrosion and protection data center to jointly establish an atmospheric corrosion exposure site in Indonesia. This collaboration will help accumulate corrosion performance data for the Company's corrosion-resistant products in Indonesia.

This research can not only effectively extend the service life of the Company's corrosion-resistant products, providing reliable support for material selection in major engineering projects and equipment service safety, but also facilitate the Company's expansion into Southeast Asian markets, promoting green development and sustainable economic cooperation.

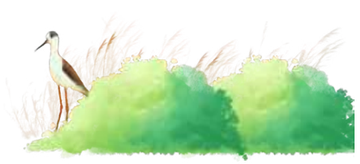
The Company supports the national development of the green and low-carbon industry, promoting the green application scenarios of its products. In 2024, the Company's sales of steel for new energy uses (including steel for wind power, nuclear power, and hydropower) reached over 610,000 tons, an increase of more than 2% year-over-year.

Case Developing and Applying Low-Temperature Steel for LCO_2 Storage and Transportation

With the rapid advancement of the "dual carbon" strategy, the demand for carbon capture, utilization and storage (CCUS) in the shipping industry is steadily increasing. By 2030, it is projected that the LCO_2 (liquefied carbon dioxide) market will require over 55 large LCO_2 carriers[6] to meet the demand generated by offshore storage projects and other related projects. This market presents vast potential, with significant growth expected in future demand.

In 2024, the specialized material P690QL2 developed by the Company was employed in the world's largest LCO_2 transport vessel, and set to support Norway's Northern Lights CCUS project. In addition, the Company, in collaboration with enterprises in upstream and downstream industries, signed a Joint Development Agreement (JDP) and successfully developed a new type of low-temperature steel for LCO_2 storage and transportation. This advanced material is designed for constructing larger-scale CO_2 storage tanks capable of operating at lower temperatures. After rigorous testing by DNV, the product meets its standards and performs at an internationally leading level. It is suitable for the construction of storage tanks for ultra-large low-temperature, low-pressure LCO_2 carriers, and the Company has received certification from the classification society.

[6] Data source: Rystad Energy Research Report "CO_2 sets sail: Carbon shipping on the rise as emitters search for large-scale storage options".



Case Development of High-Strength, Weather-Resistant Bridge Steel to Support the Green Construction of Sichuan-Tibet Railway

As steel-structure bridges evolve toward higher strength, heavier loads, and larger spans, the safety and reliability of bridge structures demand higher quality steel plates. Considering the need for rapid construction, lifecycle cost efficiency, and environmental protection, the use of weather-resistant steel and stainless steel composite plates in bridge construction has proven highly effective. High-strength, tough, low yield-strength ratio, lightweight, weldable, and atmospheric corrosion-resistant high-performance, long-lifetime weather-resistant bridge steel has become the main direction for steel used in bridge structures. These materials do not require coatings, thus reducing the need for maintenance and lowering maintenance costs, while also extending the lifespan of the structure. The welding performance is also excellent.

The Company is responsible for a key R&D project under China's 14th Five-Year Plan, successfully developing 500-550 MPa grade weldable weather-resistant bridge steel plates and 420-500 MPa grade weather-resistant bridge steel and stainless steel composite plates. These products are supplied for the Daduhe Changheba Dam Bridge and Jinshajiang Bridge on the Sichuan-Tibet Railway, supporting the railway's construction, promoting the building of a strong transportation infrastructure, accelerating the development of green high-performance steel bridges, and significantly reducing carbon emissions and environmental pollution. This has important ecological benefits within the context of China's "dual carbon" policy.

Case Leading the National Key R&D Project on "Development and Demonstration of Special Alloys for Ultra-Low Temperature Clean Energy Storage Tanks"

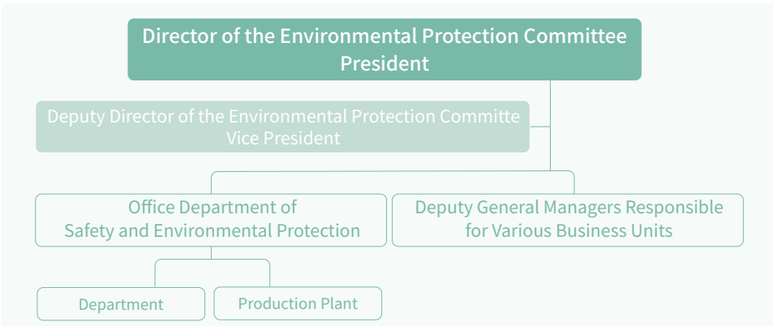
As hydrogen energy emerges as a strategic, innovative sector essential for the transition of the national energy system, advancements in its storage and transportation technology have become crucial to ensuring national energy security. As a key player in low-temperature materials development in China, The Company is dedicated to driving progress in this field. In 2024, as the principal entity, we successfully applied for and received approval for the National Key Research and Development Program project titled "Development and Demonstration of Special Alloys for Ultra-Low Temperature Clean Energy Storage Tanks". This project addresses the urgent demand for safe and cost-effective storage and transportation of liquid hydrogen in the clean energy landscape. Our objective is to develop ultra-low temperature high-manganese steel and accompanying welding materials tailored for spherical liquid hydrogen storage tanks. This initiative aims to overcome existing challenges related to the quality control of high-manganese steel cast slabs and the efficiency of continuous casting processes. By mastering end-to-end manufacturing techniques, we plan to engineer and demonstrate new high-manganese steel liquid hydrogen storage tanks. The project plays a pivotal role in addressing critical issues, such as the exorbitant costs of current stainless steel storage materials which have constrained the growth of affordable and safe hydrogen storage and transportation solutions in China. Ultimately, this undertaking is expected to foster the high-quality development of the hydrogen energy value chain, providing significant social, economic and ecological benefits.

By the end of 2024, the Company had received multiple green product certificates. Among these, our thick steel plates and rebar products have published Environmental Product Declarations (EPD), while our bearing and wire products have received ISO 14067 certification for product carbon footprint. Furthermore, our high-end wire products have achieved ISO 14021 certification for recycled materials.

During the 15th Five-Year Plan period, the Company will focus on the development and innovation of green products, aiming to create a series of high-end green, high-performance products, including those for high-end offshore vessels, frontier hydrogen storage and ultra-low temperature containers, special composite plates, and special alloys. This will further drive the Company's growth in the field of green steel products, laying the foundation for long-term benefits. At the same time, the Company will intensify R&D efforts on various products such as high-manganese steel, low-density steel, large-thickness gear steel, and high-end mold steel, leveraging the capabilities of overseas research institutes and other innovation platforms to drive industry technological innovation and the application of new green materials.

Environmental Compliance Management

The Company is firmly committed to compliance with relevant laws and regulations, having established comprehensive environmental emergency management protocols, including the "Emergency Preparedness and Response Management Procedures". The Company closely monitors and controls environmental risks, continuously improving its environmental risk management mechanism. It has essentially formed an environmental supervision framework of "multi-departmental coordination and multi-faceted strategies", focusing on mitigating risks and ensuring the safety of the environment. In 2024, we maintained a clean environmental compliance record, with no violations or penalties imposed by regulatory authorities.



Environmental Management Organizational Structure of the Company

The Company's Environmental Management System Certificate

The Company is certified under ISO 14001 for its environmental management system and invites third-party institutions every year to conduct audits of all systems of government offices and departments, business units and production plants within the steel business, thereby enhancing its environmental management.

Pollutant Emissions

We are continuously enhancing our pollutant emission management framework, focusing on intelligent environmental protection systems, atmospheric pollutant management, clean logistics and warehousing, and wastewater treatment. We implement effective strategies and pathways for pollution prevention and control, proactively managing impacts, risks, and opportunities while regularly monitoring emission indicators and tracking progress toward our sustainability goals.

Pollution Control Framework

The Company strictly adheres to laws and regulations such as the "Environmental Protection Law of the People's Republic of China", the Atmospheric Pollution Prevention and Control Law of the People's Republic of China, the Water Pollution Prevention and Control Law of the People's Republic of China, the Solid Waste Pollution Prevention and Control Law of the People's Republic of China, and the Noise Pollution Prevention and Control Law of the People's Republic of China, and has established over twenty management systems including the "Environmental Responsibility System", "Regulations on Reporting and Investigating Environmental Pollution Incidents", "Hazardous Waste Management Methods", "Solid Waste Management Procedures", "Water and Air Pollutant Emission Control Procedures", "Noise Control Procedures", "Environmental Facility Management Procedures" and "Procedures for Management of Environmental Monitoring and Measurements". These systems deepen effective management of environmental matters and effectively fulfill our environmental protection responsibilities.

Guided by the environmental protection policy of "compliance with regulations, safety and health, continuous improvement, and green development", the Company has established a sound long-term environmental management mechanism and an Environmental Protection Committee to implement the environmental responsibility system, creating a three-tier environmental management network at the Company, business unit, and plant levels. Each level features dedicated environmental management bodies and professional staff who fulfill their respective environmental protection duties.

Intelligent Environmental Protection System

The Company has launched its "Eco+Intelligent" intelligent environmental protection system, which creates a comprehensive management system integrating environmental-related business, data, and routine office tasks. This platform connects all environmental-related business processes and facilitates the digitalization of business processes with scientific decision-making, refined management and targeted governance, supporting the Company's green development.

The system is designed with key applications such as unorganized emission inventories, facility operation monitoring, video surveillance, and clean transportation, enabling the online and intelligent management of environmental information. The system deeply integrated nine core business functions, enabling the visualization of monitoring data, hierarchical and classified emission management, and seamless integration with production systems, treatment equipment, the Internet of Things (IoT), and mobile applications. We built a digital environmental protection system with multi-system connection, full-area monitoring, and intelligent management, helping the Company complete our ultra-low emission transformations. Additionally, we employed the "Bag Filter Intelligent Diagnostic System" to monitor equipment operating status in real time. By using AI to analyze the efficiency and power consumption of bag filters, the system ensures dust collection effectiveness while reducing electricity consumption.

Air Pollution Emissions

The Company places a strong emphasis on managing atmospheric pollutant emissions and successfully achieved ultra-low emissions certification for its entire process in 2023. In 2024, the Company enhanced its long-term management practices in accordance with Level A environmental performance standards. This included ongoing targeted environmental inspections and the rigorous operation and maintenance of pollution control facilities. Several environmental remediation projects were implemented, such as advanced treatment of flue gases from blast furnaces and hot air stoves, co-firing converter gas in rolling mill heating furnaces, replacing low-temperature catalysts in sintering machines, and improving the landscape along industrial tourism routes. As a result, the company has met key Level A performance indicators, achieving a compliance rate of over 95% for ultra-low emission targets across all processes and an 80% clean logistics ratio. In March 2024, the Company was recognized as Jiangsu Province's first steel enterprise to achieve Level A environmental performance. In December 2024, the Company successfully retained its Level A environmental performance designation in Jiangsu Province.

During the 2024 Central Environmental Inspection, we achieved "zero complaints" and "zero public grievances". In November 2024, the Ministry of Ecology and Environment highlighted the Company's successful compliance with ultra-low emissions on its official website. Additionally, in February 2025, the Ministry featured the Company in a press conference as a case study, demonstrating how businesses can achieve a dual benefit of environmental protection and profitability during their green transformation. The Company was also the only steel enterprise specifically acknowledged at this event.

The Company's environmental performance received public commendation from the Ministry of Ecology and Environment through various official communications.

Clean Logistics and Warehousing

Innovating Logistics and Delivery Modes

The Company promotes the "Taxi Delivery Mode" in the delivery process for customers[7]. All vehicles are equipped with a navigation system and registered in the logistics information system. Customers can place orders independently via the direct-to-factory consumer platform (C2M platform) at the Rebar Mall. The Company's information system automatically assigns transport tasks based on predefined preference algorithms, optimizing vehicle delivery routes and reducing transportation emissions.

Building a Clean Logistics System

The Company continues to build a clean logistics system. Leveraging the advantage of our riverside terminal and rail transport, the Company has increased the proportion of clean logistics, including rail, waterway, and pipeline, to over 80%. A 2.3-kilometer-long enclosed belt conveyor system has been constructed to transport granulated blast furnace slag directly to a superfine powder processing plant.

Electrifying Transportation Within Plants

The Company has upgraded our bulk raw material transport vehicles from the "National V" emission standard to the "National VI" standard, while also introducing electric heavy trucks and independently developing electric locomotives for in-house material transportation, reducing emissions generated during transportation. In 2024, the Company replaced over 30 traditional diesel vehicles with electric heavy trucks and replaced nearly 800 vehicles with those subject to the "National VI" emission standard. The Company's No. 2 Iron Plant has been fully equipped with electric locomotives.

Promote Intelligent Warehousing

The Company continues to promote intelligent warehousing. We have consolidated scattered small warehouses into an intelligent three-dimensional storage warehouse, automating storage management. By optimizing storage operation routes, the Company has effectively improved warehouse space utilization and reduced the operating time and frequency of warehouse equipment, significantly lowering electricity consumption. In addition, all lights in the intelligent three-dimensional warehouse are LED lamps, further reducing energy consumption and carbon emissions.

[7] "Taxi Delivery Mode": The Company has established an online real-time interaction system between the finished product warehouse and transportation organization dispatch, achieving automatic order distribution and vehicle dispatching, and promptly aligning customer orders with surplus logistics vehicles in society.

Wastewater Treatment

The Company has equipped its production plants with advanced industrial circulating water and domestic wastewater treatment systems, including reclaimed water systems and biochemical water treatment facilities in coking processes. This allows effective treatment of production wastewater, ensuring the majority of wastewater is recycled, thereby significantly reducing water consumption. In 2024, the water recycling rate reached 98.2%, and the Company was not subject to any regulatory warnings or penalties for violating wastewater discharge regulations or standards.

Management Measures for Production Wastewater

Closed-loop Management of Biochemical Water in Coking Process

All biochemical water in the coking process was directed to the blast furnace slag disposal system, achieving zero discharge.

Reinforcing Supervision over the Quality of Clean Industrial Water

The Company strictly monitored the quality of clean water in all production units, ensuring proper control of water supplementation and drainage to avoid direct discharge and prevent water pollution risks, maintaining compliance with water quality standards.

Improving Wastewater Collection and Treatment

The Company carried out extensive upgrades to the comprehensive wastewater collection and treatment systems in key production units, replacing key rainwater discharge valves to ensure controlled rainwater discharge and the proper connection of production wastewater to the wastewater treatment system to prevent and control the risk of water pollution.

Recycling Reclaimed Water and Water Resources

The centralized reclaimed water recycling station processes up to 130,000 tons of production and domestic wastewater per day. Most of the treated reclaimed water is returned to the "Jiulong Lake" reservoir for industrial water, which is then mixed with freshwater from the Yangtze River and reused in production, ensuring the recycling of water resources.

Conducting Emergency Drills for Water Pollution Prevention and Control

The Company conducted emergency drills for the three-level water pollution prevention and control system, aimed at enhancing employees' awareness and capabilities in water environment emergency response and handling. This ensures that in the event of a sudden water pollution incident, the Company can quickly respond and effectively mitigate the impact.

The Company's "Jiulong Lake" Reservoir for Industrial Water

Case EPC Project for Wastewater Treatment Facilities at Coking Park, Indonesia Morowali Industrial Park

A subsidiary of The Company, Besino Environment Ltd. (Besino Environment), has invested in an EPC project to construct wastewater treatment facilities at the coking park within the Indonesia Morowali Industrial Park. The project has a daily processing capacity of 19,200 cubic meters and is responsible for treating ammonia-steam wastewater, chemical production wastewater, and domestic sewage from the coking plant. This treated wastewater is fully recycled into production processes, effectively mitigating the environmental impact on the adjacent "Coral Triangle" area.

Impact, Risk and Opportunity Management

The implications of pollutant emissions for the Company's operations primarily revolve around operational costs and brand reputation. Leveraging a tiered environmental management framework, the Company systematically manages the effects, risks, and opportunities associated with pollutant emissions.

Risks

- Regulatory and compliance risks: Exceeding emissions thresholds may result in fines from regulatory authorities and could even lead to mandatory production shutdowns for corrective action.
- Pollution incidents can attract public scrutiny and damage the corporate image.

Opportunities

- Investing in environmentally friendly production technologies can enhance overall environmental performance and bolster the Company's reputation.
- Reducing emissions may qualify the Company for environmental tax benefits.

Indicators and Goals

The Company has set annual goals for pollutant emissions and maintains continuous oversight of its emissions performance across various pollutants. By the end of 2024, the Company has achieved all its environmental goals.

- A Level-A Environmental Performance Enterprise
- Zero Major Environmental Pollution Incidents
- 100% Compliance Rate for Supervisory Monitoring
- 100% Operational Synchronization of Environmental Protection Facilities
- 100% Comprehensive Utilization Rate of Hazardous Solid Waste
- Total Emissions Meeting the Requirements of the Emission Permit

The Company's Emission of Atmospheric Pollutants (2022-2024)

Indicators	Unit	2022		2023		2024	
		Allowable emissions	Emissions	Allowable emissions	Emissions	Allowable emissions	Emissions
Total particulate matter emissions	Ton	14,262.83	6,614.09	14,200.39	2,821.07	6167.85	2,695.32
Total sulfur dioxides (SO_2) emissions	Ton	4,304.39	1,214.24	4,160.45	1,502.34	4160.45	1,520.09
Total nitrogen oxide (NO_x) emissions	Ton	7,177.45	2,089.72	7,000.49	2,505.26	7000.49	2,719.11
Total Particulate Matter Emission Per Ton of Steel	Ton/ton crude steel	/	-	/	0.26	/	0.24
Sulfur dioxides (SO_2) emission per ton of steel	Ton/ton crude steel	/	0.19	/	0.14	/	0.13
Nitrogen oxides (NO_x) emission per ton of steel	Ton/ton crude steel	/	0.11	/	0.23	/	0.24

The Company's Emission of Water Pollutants (2022-2024)

Indicators	Unit	2022		2023		2024	
		Allowable emissions	Emissions	Allowable emissions	Emissions	Allowable emissions	Emissions
Chemical oxygen demand (COD) emission in wastewater	Ton	311.61	74.45	311.61	134.07	311.61	130.89
Ammonia nitrogen (NH_3-N) emission in wastewater	Ton	10.23	2.78	10.23	4.91	10.23	1.60
Chemical oxygen demand emission per ton of steel	kg/ton crude steel	/	0.007	/	0.01	/	0.01
Ammonia Nitrogen (NH_3-N) Emission per Ton of Steel	kg/ton crude steel	/	0.0003	/	0.0004	/	0.0001

Water Resources Utilization

The Company manages the use of production water in accordance with policies and rules such as the "Energy Management Regulations", "Energy Usage Management Measures", and "Environmental Facility Management Procedures". Embracing the water-saving philosophy of "less intake, less leakage, less discharge", we control water sources for production, monitors monthly water consumption for each production line, and mandates that each plant research and implement water-saving measures. Furthermore, the Company organizes research on water conservation and water quality improvement technologies to promote the application of water-saving technologies and further reduce water consumption in the production process.

Water Intake Management

The Company places great importance on the sustainable use and management of water resources, ensuring legal and compliant water extraction and minimizing the environmental impact of water extraction activities. In 2024, the Company extracted zero water from water-scarce areas. The Company optimized water usage indicators based on annual production dynamics and continuously improved water resource efficiency through scientific regulation and refined management. In addition, the Company directly used the warm discharge water from the nearby Huaneng Power Nanjing Plant, which is typically used for cooling the main units, in our production processes. This not only reduces the impact of the elevated temperature of the cooling discharge water on the Yangtze River ecosystem but also decreases the Company's use of freshwater drawn from the river.In 2024, the Company increased our use of discharge water from the Huaneng Nanjing Power Plant by 1.14 million cubic meters, and its freshwater consumption per ton of steel was 2.3 cubic meters per ton, achieving annual target of reducing the freshwater consumption per ton to less than 2.5 cubic meters per ton.

In 2024

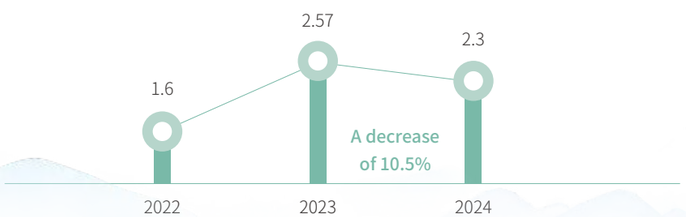
Year-on-year Increase in the consumption of return water from the Huaneng Power Plant:

1.14 million cubic meters

Freshwater consumption per ton of steel:

2.3 cubic meters per ton

The Company's Freshwater Consumption Per Ton of Crude Steel from 2022 to 2024（Cubic meter per ton of crude steel）



Water Usage Management

The Company carried out several water-saving transformations to continuously improve production water efficiency. In 2024, the Company completed several projects, including the conversion from hidden to exposed industrial water pipelines in the sintering machine area, the upgrading of the wet dust removal system in the steelmaking converters to a dry dust removal system, and the reconstruction of underground pipelines into overhead systems, effectively reducing industrial water consumption and enhancing the safety and manageability of water facilities. The Company's water management maintains an advanced level in the industry and was awarded the title of Water-saving Enterprise by the Jiangsu Provincial Water Resources Department.

Sinter Plant	Power Plant	Steelmaking Plant 1	Steelmaking Plant 2
During dual line maintenance shutdowns, the conversion from hidden to exposed industrial water pipelines was completed in the area of the #3 Sinter Machine and the 180 desulfurization area. After this renovation, all water pipelines in the sintering zone 1 were laid overhead, effectively solving the leakage of underground pipe networks.	The cooling tower circulating water drainage for the #4 Machine was renovated. All industrial cooling water from Machine 1 to Machine 3 was centrally recycled, saving 110 m^3/h of industrial clean water.	The #3 converter dust removal system was changed from wet dust removal to dry dust removal. In the refining workshop, controls were focused on the turbid recycling water[Turbid recycling water[8] usage of two RH refining furnaces. A reward and penalty system was established to optimize water flow during vacuum pumping and to ensure a timely stop of water use when vacuum pumping is not required. These measures resulted in a reduction of water consumption by approximately 700 m^3/h.	Cross-connection of cooling water at the main hydraulic stations of some continuous casters was improved to reduce water waste before startup, saving 380 m^3/h of water.

The Company also emphasizes water-saving awareness and regularly conducts water-saving training to improve employees' understanding of water resource protection and efficient utilization. This fosters a positive atmosphere where all employees participate in and practice water-saving measures.

Case "Water Use and Saving" Themed Week Event

To enhance the water-saving awareness of all employees and promote the Company's water-saving emission reduction and green development, on March 22, 2024, the 32nd "World Water Day" and the 37th "China Water Week" publicity campaign, as well as the "Yangtze River Protection Youth Forum" roadshow in enterprises, were jointly held by the Jiangsu Provincial Department of Water Resources, the Nanjing Municipal Water Authority, the Yangtze River Channel Management Office of Nanjing, and the Company. The Company organized a "Water Use and Saving" themed week event during the "World Water Day" and "China Water Week" in 2024. During the event, each unit established a "Water Use and Saving" working group. The group conducted special inspections, analyzed water usage efficiency, and performed water balance tests to identify water usage issues. In addition, action plans were developed based on production operations to optimize water resource efficiency.

[8] Turbid recycling water: It refers to the water that originates from the blast furnace slag flushing pump room, which is used for flushing slag in the blast furnace, travels along the slag channel back to the slag settling pond, and after settling, re-enters the pump room intake well for recycling.

Waste Treatment

The Company adheres to the principles of "reduction, resource recovery, and harmlessness", and follows a management system of "rigorous source control, tight process control, and stringent endpoint management". Embracing the concept of green development throughout the entire lifecycle of products, the Company applies various resource recovery technologies to continually reduce the generation of waste during production and enhance the comprehensive utilization efficiency of solid waste.

General industrial solid waste produced by the Company (hereinafter referred to as "solid waste") includes converter slag, granulated blast furnace slag, dust ash, iron scale, and sintering desulfurization ash. For solid waste, the Company vigorously pursues both internal and external comprehensive utilization. In 2024, the Company further strengthened the process control requirements for general industrial solid waste, in accordance with the "Standardized Management Guidelines for General Industrial Solid Waste" issued by the Ministry of Ecology and Environment. This includes monitoring the entire process of generation, transportation, disposal, and utilization, standardizing the qualifications and capability approval requirements for end customers, and establishing on-site inspection standards. The Company also clarified the management of internal basic archives to ensure the compliant disposal and utilization of solid waste produced at the factory.

General Industrial Solid Waste Comprehensive Utilization Measures

Iron containing materials such as dust ash and iron scale	Directly returned to the raw material process for batching
Steel slag and refining slag	Processed and utilized by associated treatment facilities
Metal charge	Returned to the production system for comprehensive utilization and sale of slag tails
Granulated blast furnace slag	Used to produce slag micro-powder and directly sold as raw material to the cement industry
Desulfurization ash	Directly sold as raw desulfurization ash materials to the construction industry

The Company strictly adheres to governmental regulatory requirements for management, enhancing the monitoring system for the entire lifecycle of hazardous waste. The hazardous waste generated from the Company's production and operations includes waste oil, waste oil drums, waste paint drums, waste lead-acid batteries, waste ion exchange resins, electric arc furnace dust, tar slag, and biochemical sludge, etc. Among these, electric arc furnace dust, tar slag, and biochemical sludge are returned to the production system for comprehensive use, while the remaining is disposed of by qualified disposal entities.

Furthermore, the Company actively develops new collaborative pathways within the steel industry for the co-disposal of hazardous waste. This includes utilizing steelmaking furnaces to dispose of waste oil drums generated and waste steel produced by the Company and external enterprises as raw materials for incineration. These efforts fulfill environmental responsibilities and alleviate the government's burden regarding hazardous waste landfill space. The Company is the first iron and steel enterprise in Jiangsu Province to receive an exemption license for the incineration of waste metals.

Tailings Management

The Company adheres to the principle of "prevention first and comprehensive governance" and strengthens environmental management measures for tailings ponds to prevent and control tailings pollution. Our subsidiary, Anhui Jin'an Mining Co., Ltd. (hereinafter referred to as "Jin'an Mining"), implements environmental management measures for tailings ponds in strict compliance with the "Law of the People's Republic of China on Prevention and Control of Soil Contamination" and the " Management Measures for the Prevention and Control of Environmental Pollution Caused by Tailings" among other regulations. Jin'an Mining regularly inspects and monitors environmental pollution risks in tailings facilities according to the Company's "Tailings Management Policy". It also produces environmental risk event assessment reports compiled by external experts to promptly identify and assess potential risks, develop corrective and control measures, and ensure that the operations of tailing ponds comply with environmental protection requirements, minimizing environmental pollution.

Key Environmental Management Measures for Jin'an Mining's Tailing Ponds

Dust Control Measures

Spray systems are improved, with scheduled watering each day to prevent dust.

Flood Drainage Management during Flood Season

Before the flood season, manual cleaning of the return channels of tailing ponds is carried out, with sludge pumped back into the ponds to prevent pollution caused by the discharge of return water.

Regular Sampling and Monitoring

Quarterly sampling of groundwater and dust around the tailing ponds is conducted to ensure that the results meet national standards.

Joint Defense and Emergency Drills

Each year, the Company signs a joint defense agreement with downstream communities and conducts an environmental safety drill at the tailings storage facility ahead of the flood season to mitigate potential risks.

Dust Control Measures and Re-greening

The reutilization of tailings as a resource represents a green initiative that not only helps address land and aggregate shortages but also minimizes environmental impact of tailings. Jin'an Mining is actively exploring innovative ways to repurpose tailings, integrating tailings into concrete mixing stations, ready-mix mortar, drainage pipes and other building materials, thereby transforming waste into valuable resources. In 2024, Jin'an Mining upgraded its production processes to improve product fineness and significantly boost product quality, strengthening the market competitiveness of tailings. These enhancements have enabled it to better meet the growing demand for high-quality materials, with annual tailings sales exceeding 800,000 tons.

Circular Economy

The Company is fully committed to the principle of circular economy by optimizing the use of waste materials and by-products, continuously refining resource allocation and maximizing resource efficiency to lower production costs while minimizing environmental impact.

In our approach to steel scrap recycling, we have implemented the "Self-Produced Steel Scrap Recycling Regulations" and "Self-Produced Alloy Steel Scrap Recycling Regulations" to regulate the recycling process for internally generated steel scrap. We encourage our rolling mills to classify alloy steel scrap, facilitating more efficient reuse in the steelmaking process. The Company is also advancing the development of Phase 1 Work of the Rotary Hearth Furnaces and Steel Slag Recycling Project. This Phase 1 Work has successfully completed pilot testing, producing approximately 100,000 tons of material by repurposing steel slag, granulated blast furnace slag and desulfurization gypsum sourced from nearby power plants. Upon completion, we anticipate achieving 100% internal recycling of iron- and zinc-containing dust. In 2024, the Company purchased 1,517,000 tons of steel scrap, resulting in a total steel scrap consumption of 1,919,600 tons.

Case Pioneering Steel Scrap Recycling Initiatives

In August 2024, Jinhuan Recycling Resources Co., Ltd. ("Jinhuan Resources") secured a major contract for the 2024–2025 steel scrap recycling program of a leading central state-owned enterprise, formalizing the partnership through a strategic cooperation framework agreement. Following the project's launch, Jinhuan Resources initiated the disposal of obsolete materials for the enterprise in October, starting with approximately 1,050 tons of steel scrap from the enterprise's subsidiary, Jinling Petrochemical. As the project progressed, Jinhuan Resources demonstrated outstanding performance, leading to an influx of invitations from petrochemical companies across the country for their obsolete materials disposal services. This successful bid and subsequent collaborations not only mark a significant breakthrough for Jinhuan Resources in the realm of steel scrap recycling but also reinforce the Company's strategic positioning in this sector, establishing a solid foundation for advancing a circular economy, optimizing resource utilization and minimizing industrial waste.

Case Advancing Steel Slag Recycling Through Innovative Asphalt

Steel slag, a major by-product of steel production, represents a critical area of focus in enhancing resource utilization within the steel industry. Nanjing Jinbo New Materials Technology Co., Ltd. ("Jinbo New Materials"), the Company's dedicated solid waste recycling platform, has successfully developed steel slag asphalt aggregate—a new paving material designed as an alternative to traditional basalt aggregate. This innovative material boasts superior thermal stability, water resistance and durability. In 2024, Jinbo New Materials partnered with the Nanjing municipal government in Jiangsu Province to implement a pilot project along a 10-kilometer stretch of China National Highway 328, where approximately 50,000 tons of steel slag asphalt aggregate were successfully laid as part of the road's reconstruction spanning from the Ningyang border to the Longchi Interchange. This project not only significantly enhanced the value of steel slag but also paved the way for new methods of waste recycling in the steel industry, serving as an exemplary model for industry peers.

Case Besino Pioneers Waste Treatment and Resource Recovery

Besino is actively engaged in advancing comprehensive R&D in the treatment and recovery of general industrial solid waste and hazardous waste. Besino has formed a strategic partnership with a leading German firm specializing in particulate separation to develop an innovative process for recovering coal fines from gasification ash while effectively isolating other inert materials. This collaboration has led to the establishment of a gasification ash treatment facility with a daily capacity of 600 tons, thereby mitigating the resource waste and environmental impact typically found in traditional ash disposal methods.

Ecosystem and Biodiversity Conservation

The Company is dedicated to advancing ecological sustainability and is committed to integrating biodiversity protection and restoration into its business operations. To this end, we have developed and implemented a comprehensive suite of biodiversity management policies, including the "Biodiversity Statement" and the "Ecological and Environmental Statement". These initiatives encourage active participation from stakeholders, including employees, production facilities and our supply chain, thereby enhancing the transparency and rigor of our biodiversity management efforts.

Biodiversity protection is embedded within the Company's overarching sustainability governance framework. The Board of Directors serves as the principal authority for biodiversity governance, taking full responsibility for developing and monitoring the Company's biodiversity strategies and objectives. The Board of Directors, as the highest governing authority, is responsible for developing and monitoring the Company's biodiversity strategies and objectives. The Strategy and ESG Committee oversees the management and advancement of biodiversity initiatives, ensuring the effective implementation of related policies. The relevant departments and subsidiaries are tasked with executing our biodiversity management measures, ensuring that our policies and action plans are effectively integrated into daily operations.

Key Biodiversity Management Initiatives

- Identify, assess and evaluate the impact and dependency of our production activities on biodiversity at all operational sites and their surrounding ecosystems.
- Conduct regular ecological risk assessments for existing facilities, and incorporate biodiversity as a mandatory criterion in the preliminary evaluation processes for new facilities.
- Work closely with suppliers to ensure that the sourcing of raw materials and associated processes are conducted in a manner that respects biodiversity, and collaborate to mitigate the risks of deforestation.
- Regularly conduct biodiversity conservation training and awareness-raising activities for company employees and external stakeholders.

Located adjacent to the Yangtze River, the Company is committed to transforming its factory grounds into a garden, assessing the impact of its operations and construction on the surrounding ecology, particularly on the Yangtze River ecosystem. We actively engage in water resource conservation and restore the ecological environment around our plant by developing an ecological wetland park, fulfilling our responsibility to protect biodiversity.

Improvement in the Water Quality of Surrounding Water Bodies

The Company collaborates with Nanjing Jiangbei New Area to conduct frequent and comprehensive river discharge rectification projects. In 2024, the quality of water discharging into the Shitou River consistently met the Class III surface water quality standards.

Vegetation Restoration and Plant Greening

We combined Arbor Day activities to plant native species and has established comprehensive plant maintenance plans and standards. We monitored and promptly removed invasive species to promote ecological restoration and development, thus protecting the integrity and stability of plant genetics. In addition, taking advantage of the opportunity of the renovation and construction of old factory buildings in the factory area, the Company demolished the original 120, 000 square meters of open-air raw material yard and rebuilt 26, 000 square meters of landscape green space to promote the greening of the factory area and effectively improve the green landscape of the factory area.

Protection of the Biodiversity of the Wetland Ecosystem

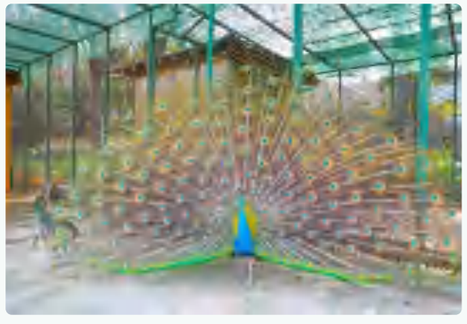
The Company has established a small-scale wildlife sanctuary - Peacock Garden. By improving the water quality of Jiulong Lake and its surroundings, it provides a habitat for wild birds. We also actively organized staff to monitor bird species and genetic conservation.

Riverside Ecological Wetland Park

The Company is proactively advancing the conservation of plant genetic resources by revitalizing riverside ecosystems through the establishment of a riverside ecological wetland park. This initiative involves the intentional planting of diverse species, including Metasequoia, Koelreuteria paniculata, Cinnamomum camphora, Salix and Photinia, which create favorable conditions for the propagation and growth of native plant populations. Additionally, we employ advanced propagation techniques, such as cutting propagation, to harness the potential of seeds, roots and stems harvested from existing plants in the park, thereby enhancing plant diversity and contributing to ecological restoration efforts.

Case Creating an Ecological Zoo for Harmonious Coexistence

The Company has transformed its original open-air storage yard into a water reservoir to meet the ecological needs of animals with higher environmental requirements, such as peacocks. Additionally, an animal park has been established within the "Circle of Harmony" area, serving as an important part of the factory's ecological environment. The park includes an observation area, feeding area, and interaction zone, fostering harmony between humans, nature, and animals. The construction of the zoo reflects the Company's commitment to ecological conservation and provides an ecological recreational space for both employees and visitors.



03 Social

Adhering to the corporate vision of "creating a world-class respected enterprise intelligent life entity", the Company has always insisted on safety, compliance and innovation, and continuously strengthened its responsibility and management capabilities in supply chain security management, human capital management, ensuring safe operation, and practicing social responsibility. and enhancing product competitiveness through leading intelligent manufacturing and fine steel R&D systems, pushing the Company to a higher stage of development, and developing in coordination with surrounding communities, which not only achieves economic benefits, but also promotes common prosperity in society.

Contribution to the UN SDGs

2024 Key Performance Highlights

- ★ Won **2** second prizes of the National Science and Technology Progress Award and **1** special prize of the Metallurgical Science and Technology Award
- ★ Served as the lead editor for **2** international standards, and cumulatively led and participated in the drafting of **105** international, national, industry, and group standards
- ★ Owned **186** products reaching international leading or advanced levels
- ★ Won multiple awards including China's **"Leader"** in Industrial Data Governance, Jiangsu Province's **"Intelligent Transformation, Digital Transformation and Internet Connection" Benchmarking Enterprise, etc.**
- ★ Employee satisfaction: **84.28** points
- ★ Employee training coverage rate **100%**
- ★ Organized **46** cultural and sports events, with **4,240** employee participations
- ★ Successfully passed the **ISO 45001** system supervisory audit with no non-conformities or observations
- ★ **7** production units achieved Level 1 Certification in Production Safety Standardization, while all production units attained Level 2 Certification.
- ★ **1,365** production safety training sessions, **100%** employee coverage
- ★ Conducted the Rural Doctor Health Assistance Project for **7** consecutive years
- ★ Amount of external donations and public welfare investment reached **RMB 820,500**
- ★ Built the Nanjing Steel Cultural and Sports Park, the first national **"Green Building Three-Star"** certified sports venue

Innovation-driven Development

Innovation Management Mechanism

The Company has set up an innovation management structure led by the Innovation Committee. The Innovation Committee has established an Advancement Office, which in turn has set up an Advancement Working Group. The Advancement Working Group is divided into two major groups: the Technical Professional Group and the Management Professional Group. The Technical Professional Group is led by the Science and Technology & Quality Department, while the Management Professional Group is led by the Strategic Operations Department., to further deepen R&D innovation and technological breakthrough efforts. The Company has formulated institutional documents such as the "Management Measures for Joint Scientific Research Platforms", "Innovation Management Reward Measures", "Grassroots Micro-Innovation Results Management Measures", and "Technical Partnership Management Measures" to continuously promote scientific research innovation.

The Company integrated internal and external resources to establish institutes like the New Materials Research Institute, Digital Applications Research Institute, and Industrial Development Research Institute. We also established a "2+4+7+N"[9] open, high-end R&D platform framework at the international and national levels, creating a leading and open global innovation network.

The Company's Innovation Management Structure

[9]The Company's "2+4+7+N" R&D platform framework comprises two international research institutes (the Company's UK Research Institute and the Company's Japan Research Institute), four national-level platforms (the National Enterprise Technology Center, the National Accredited Laboratory, the National Materials Environmental Corrosion Platform, and a Postdoctoral Research Station), and seven provincial-level platforms (including the Jiangsu Province Enterprise Academician Workstation, the Jiangsu Province Key Laboratory for High-end Steel Materials, the Jiangsu Province Shipbuilding Steel Engineering Technology Research Center, the Jiangsu Province Academician Enterprise Research Institute, the Jiangsu Province Low-Temperature Steel Engineering Center, and the Jiangsu Province Industrial Design Center, among others).

Strategy and Implementation Path

Stimulating Innovation

The Company continues to stimulate internal innovation vitality and promote the deep integration of the innovation chain and industrial chain by selecting innovative projects, implementing innovation awards, and creating innovation platforms.

The Company divides innovation projects into three levels: corporate level, department level and grassroots micro-innovation, and manages innovation results in a hierarchical manner. In 2024, the Company recognized 854 micro-innovation initiatives from employees, significantly enhancing engagement and creativity among frontline staff. For technology partnership projects that have entered the mature growth stage, the Company will provide incentive bonuses to technology partners and teams. In 2024, a total of 58 individuals were rewarded as technology partners.

On the innovation platform front, the Company established 96 employee-driven innovation platforms, encompassing model workers' studios, technician innovation studios, and expert innovation studios. Notably, 28 of these studios have received municipal recognition in Nanjing. Additionally, the Company founded the Nanjing Iron & Steel Co., Ltd. Digital Innovation Studio Alliance, concentrating on enhancing digital capabilities at the operational level. This alliance facilitates collaborative innovation across 11 studios, creating a supportive environment that nurtures innovation while motivating talented individuals.

The Company holds innovation conferences regularly to comprehensively summarize annual innovation work, clarify future work goals and ideas, and invite industry experts to give special lectures to provide advice for improving the Company's innovation work. 2024 Innovation Conference made it clear that cultivating new quality productivity is the theme and direction of the Company's development.

Innovation and Digitalization Conference 2024

Award Ceremony for Nanjing Innovation Studios

Promoting Innovative Projects

The Company continuously advances the initiation and implementation of innovative projects, refining management in aspects such as project sequence expansion, award settings, and professional collaboration. In 2024, the Company initiated 71 corporate-level innovation projects, including 29 major innovation projects, spanning six innovation categories: process research, product development, green low-carbon technologies, equipment technology, intelligent manufacturing, and business management.

The Company continues to promote product innovation and technological advancements. Among its notable achievements, the Company has successfully developed a range of advanced steel materials, including ultra-low-temperature nickel-based steel, thick (⩾ 100mm) crack-resistant steel, ultra-high-strength structural steel plates rated at 1,300 MPa, high-grade (600 HB) wear-resistant steel, acid-resistant pipelines for subsea applications, high manganese steel for low-temperature applications, and specialized steel for large container ships requiring high-energy welding. 9% Ni steel for ultra-low temperature and ultra-high strength wear-resistant steel have won the national "Manufacturing Single Champion Product" award. In 2024, the Company developed high-performance products such as weldable weather-resistant bridge steel plates rated at 500-550 MPa, as well as weather-resistant bridge steel and stainless steel composite plates rated at 420-500 MPa. Additionally, the Company developed the Q690DR steel, tailored for next-generation low-cost, high-capacity hydrogen storage containers. These innovations are instrumental in supporting multiple key construction projects.

Case Development of High-Capacity High-Pressure Hydrogen Storage Container Steel

The Company led a national R&D initiative under the "14th Five-Year Plan" focused on "Design and Manufacturing Technology for High-Reliability High-Pressure Hydrogen Storage Vessels". As part of this project, the Company has developed Q690DR, a new generation of low-cost, high-capacity steel for hydrogen storage containers. This involved comprehensive work on the composition process design, industrial trials, and the development of compatible welding materials and techniques, alongside performance evaluations. The outcome is a pioneering technology for tailoring steel with an anti-hydrogen composition system, achieving a tensile strength of 800 MPa for quenched and tempered high-strength steel. The Company has established a robust industrial preparation technology for producing this steel grade, enabling mass production capabilities, and effectively filling a crucial gap in the market for low-cost, high-capacity high-pressure hydrogen storage materials and welding technology.

Participation in the Development of Standards

The Company takes an active role in the formulation of industry standards, promoting collaborative development within the sector. As of the end of 2024, we have led or participated in drafting a total of 105 standards across international, national, industry and group levels, with 186 products and technologies achieving internationally recognized leading or advanced status. In 2024, several key international, national, industry and group standards that we spearheaded or contributed to, filled critical gaps in various technical fields and significantly enhancing the global influence and credibility of Chinese steel products.

Standards Developed or Contributed to by the Company in 2024

Title of Standards	Level	Role
General Requirements for the Delivery of Steel Plates and Strips for Pressure Equipment	International Standard	Principal Author
Nickel Alloy Steel with Specified Low-Temperature Performance for Pressure Equipment Steel Plates and Strips	International Standard	Principal Author
Steel Plates for Pressure Equipment - Part 8: Homogeneous and Heterogeneous Rolled Composite Plates	National Standard	Contributing Author
Design and Analysis of Pressure Vessels - Part 2: Materials	National Standard	Contributing Author
Thin-Walled Structural Steel Plates for Large Span Shipbuilding	Industry Standard	Principal Author
Steel Plates for Urban Monorail Transit System Tracks	Industry Standard	Principal Author
Low-Temperature Steel Plates for Carbon Dioxide Transportation Vessels	Group Standard	Principal Author
Low-Alloy High-Strength Steel with Low Susceptibility to Welding Cracking for Hydropower Applications	Group Standard	Principal Author

Multi-sector Technical Cooperation

The Company continues to deepen its industry-education-research cooperation, sharing innovative resources and achieving complementary advantages, thus driving the innovative upgrade of products and processes. By the end of 2024, the Company had engaged in industry-education-research exchange and cooperation with 405 scientific research institutes worldwide.

Furthermore, we engage in annual technical exchanges with prominent mining companies such as Rio Tinto, BHP, Vale, and Anglo American, sharing insights and best practices in areas including product technology, low-carbon development, and blockchain initiatives.

In targeted technical sectors, the Company has formed the "Green and Efficient Manufacturing Technology Innovation Alliance for Bridge Steel" in collaboration with esteemed organizations such as the China Railway Bridge Survey and Design Institute Group Co., Ltd. and China Railway No. 2 Engineering Group Co., Ltd. This alliance has been officially recognized as an innovative consortium by the Nanjing Municipal Government.

Industry-University-Research Collaboration Platform of the Company

Postdoctoral Research Workstation

The Company's postdoctoral workstation was established on June 19, 2008. In 2024, 1 postdoctoral fellow have graduated, and a total of 8 people have graduated. 2 people have joined the station in 2024, and there were 3 doctors in the station. The research topics include "Research on Iron Oxide Scale Control Technology of Special Hull Structural Steel", "Research and Application of Steel Microbial Corrosion Control Technology" and "Research on Corrosion Mechanism of High Manganese and Low-temperature Marine Engineering Steel in Liquid Ammonia and Marine Atmosphere".

Campus Internship Program

The Company offers extensive internship opportunities for students needing professional practice, addressing the issue of professional internships for students and securing talents for the Company in advance. In 2024, the Company recruited a total of 84 interns.

The Company's Provincial Innovation Research Platforms

Jiangsu Province Industrial Design Center

- The Jiangsu Province Industrial Design Center is an R&D institution that integrates the design of special steel materials, process design, simulation and emulation, analytical testing, and application inspection. Its aim is to promote the deep integration of industrial design and manufacturing, providing systematic solutions for the R&D and industrialization of key technologies for new special steel materials.

  Leveraging this platform, the Company has developed a range of innovative products, including thick slab crack-resistant steel, high-performance bridge steel, and specialized composite materials, effectively addressing gaps in the domestic market.

Jiangsu Province Low-Temperature Steel Engineering Research Center

- The Jiangsu Province Low-Temperature Steel Engineering Research Center focuses on the key technological breakthroughs in low-temperature steel, conducting research on nickel-saving ultra low-temperature steel for containers, and overcoming critical core technologies in low-temperature steel. It has developed high-end products such as 9Ni, 7Ni, 5Ni, 3.5Ni and high-manganese steel, achieving a substantial improvement in the comprehensive performance and overall quality of low-temperature steel products such as nickel-based steel.

Jiangsu Province Shipbuilding Steel Engineering Technology Research Center

- The center is primarily dedicated to the development of new products, research on cutting-edge technologies, and the commercialization of scientific innovations in shipbuilding steel. Through the capabilities of this research center, the Company has achieved numerous industry-leading advancements in shipbuilding steel. In 2024, it received an "Excellent" rating in the performance evaluation of enterprise R&D institutions (Engineering Technology Research Centers) in Nanjing, ranking among the top performers.

The Company is actively engaging in partnerships with prestigious universities, including Tsinghua University, Beijing University of Science and Technology, Northeastern University, and Southeast University. These collaborations focus on high-end product development, overcoming core technological challenges, intelligent applications, and low-carbon process research, resulting in over ten successful initiatives. Several of these projects have already been implemented and translated into tangible business growth, contributing to the Company's commitment to high-quality development.

Joint Training Program for Outstanding Engineers with Southeast University

Case Collaboration with Rio Tinto Group for Ecosystem Development in the Supply Chain

Over the past two decades, the Company has fostered a stable and long-term partnership with Rio Tinto Group, encompassing areas such as raw material sourcing, digital innovation, and carbon reduction initiatives. In October 2024, both parties took a significant step in deepening this collaboration by signing a Memorandum of Understanding on Ironmaking Decarbonization Technology Cooperation. Following this agreement, we will work closely with Rio Tinto's technical team to jointly explore innovative projects in mixed powder ore grinding, pelletizing, and biomass applications, aiming to co-create a new low-carbon metallurgy ecosystem.

Case Strategic Cooperation Agreement with Shanghai Exchange Group

In November 2024, Nanjing Steel Group Co., Ltd. signed a strategic cooperation agreement with Shanghai Exchange Group, aligning our goals and leveraging complementary strengths to drive progress towards achieving dual carbon targets. Through this partnership, we have jointly established a framework agreement for the development of a carbon factor database. Under the guidance and support of the China Iron and Steel Association, the two parties aim to create a carbon emission factor database that reflects localized characteristics and operational realities in China, with the intent of promoting its adoption internationally.

Case Launch of the "Development Strategy Study for the Low-Carbon Industry Chain in Jiangsu Province's Steel and Transportation Sectors"

In November 2024, we held the launch meeting for a key strategic consulting project titled "Development Strategy Study for the Low-Carbon Industry Chain in Jiangsu Province's Steel and Transportation Sectors". This initiative is a collaborative effort involving Beijing University of Science and Technology, the Jiangsu Metallurgical Industry Association, and the Jiangsu Metal Society. The project focuses on the integrated green and low-carbon development of the steel and transportation industries, engaging in cross-industry research while addressing the specific development context of Jiangsu. Our goal is to provide actionable technological pathways and policy recommendations that will assist in establishing a low-carbon development model within the industry chain in Jiangsu.

Impact, Risk and Opportunity Management

Relying on a sound innovation management structure and platform, the Company organizes the identification, assessment and monitoring of the impact, risks and opportunities of scientific and technological innovation throughout the Company's production and operations. Technological innovation has a significant impact on the Company's production efficiency, product quality, production costs, market competitiveness, etc., and is the core driving force for the Company's high-quality development.

Risks	Opportunities
• Technology application risks, such as high data collection costs, poor model generalization, and data security issues • Technology investment risk: R&D and innovation require a lot of upfront investment, and the speed of updates and iterations is fast, which may cause investment failure	• Respond to the national science and technology innovation policy, expand the market for high-end products, and continuously enhance the Company's competitiveness

Indicators and Goals

The Company has rooted innovation in its cultural genes, insisted on technological innovation to drive industrial development, and is committed to providing customers with high-quality products. By 2024, the Company has achieved its goal of R&D investment exceeding 3% of operating revenue. The Company continues to track scientific and technological innovation-related indicators such as the number of patent applications and authorizations, the number of scientific and technological projects, the number of scientific and technological awards, and the number of standards compiled, and has achieved rich scientific and technological innovation results.

Proportion of R&D Expenditure in Operating Revenue from 2022 to 2024

Indicators	Unit	2022	2023	2024
Proportion of R&D Expenditure in Operating Revenue	%	3.46	3.31	3.96

In 2024

The Company received a variety of prestigious awards, including 2 Second Prizes of the National Science and Technology Progress Awards, 1 Special Prize and 1 First Prize of the Metallurgical Science and Technology Awards, as well as 3 Second Prizes and 1 Third Prize of the Metallurgical Science and Technology Awards, 1 Third Prize of the Jiangsu Provincial Science and Technology Awards, 1 First Prize of the Hebei Provincial Science and Technology Awards, 1 Second Prize of the Zhejiang Provincial Science and Technology Awards, and 1 Second Prize of the China Steel Construction Society's Science and Technology Awards. Furthermore, the Company secured a total of 236 patents, including 76 for inventions.

The Company has a total of 82 achievements that have won provincial and ministerial-level science and technology progress awards

The Company has also led and participated in the drafting of 105 international, national, industry and group standards.

The Company has undertaken more than 14 national-level projects

Including 1 under the National High-Tech R&D Program (863 Program) and 13 key R&D plan projects.

These achievements underscore the Company's commitment to innovation, garnering widespread recognition from national, provincial, municipal, and industry stakeholders. Below is a summary of key technology innovation awards received in 2024:

Awards	Project Title	Awarding Bodies
2023 National Science and Technology Progress Award - Second Prize	Green Clean Steelmaking Technologies and Applications Utilizing Carbon Dioxide Resources	Central Committee of the Communist Party of China State Council of the People's Republic of China
2023 National Science and Technology Progress Award - Second Prize	Functional and Green Design, Preparation, and Support of Refractory Materials for Green Steel Manufacturing	Central Committee of the Communist Party of China State Council of the People's Republic of China
Special Prize for the 2024 Metallurgical Science and Technology Award	The Company's core innovations in key technologies in total factor digital production operations and intelligent manufacturing.	China Iron and Steel Association Chinese Society for Metals
2024 Metallurgical Science and Technology Award - First Prize	Next-Generation Wear-Resistant Steel Technology and Engineering Applications Leveraging TiC Regulation	China Iron and Steel Association Chinese Society for Metals
2024 Metallurgical Science and Technology Award - Second Prize	Development and Application of Key Technologies for Lean Manufacturing in High-Quality Steel Continuous Casting and Cooling	China Iron and Steel Association Chinese Society for Metals
2024 Metallurgical Science and Technology Award - Second Prize	R&D and Industrialization of High-End Alloy Welding Wire Steel	China Iron and Steel Association Chinese Society for Metals
2024 Metallurgical Science and Technology Award - Second Prize	Development and Application of Key Technologies for High-Quality Rare Earth Intermediate Alloys	China Iron and Steel Association Chinese Society for Metals

Protecting Intellectual Property

The Company is committed to strict compliance with the relevant IP laws and regulations, including the "Patent Law of the People's Republic of China", the "Copyright Law of the People's Republic of China" and the "Trademark Law of the People's Republic of China", to ensure robust protection of intellectual property rights. 2024, the Company is fully committed to enhancing its brand influence and taking active measures to combat infringements, while strengthening intellectual property protection and innovation awareness.

While protecting its own intellectual property rights, the Company attaches importance to the value of intellectual property rights, and respects the intellectual property achievements of others. Our intellectual property management representatives have signed a "Commitment to Compliance in Intellectual Property Protection." In terms of trademark management, we require all business units to rigorously assess the legality of trademark usage during the early stages of new product development. If there is a need to register or use a trademark, it must be reported to the Company's risk compliance department in advance for trademark search and registration. The registration application process will be discussed jointly by the Risk Compliance Department and the Strategic Operations Department, and a professional organization will be commissioned to conduct infringement risk analysis and retrieval to prevent the risks brought about by the use of unregistered trademarks.

Case Hosting a Series of Intellectual Property Awareness Initiatives

In April 2024, in conjunction with "National Intellectual Property Week", The Company organized a series of awareness and training events. These included specialized sessions on "Unfair Competition and False Advertising" and "Patent Writing and Mining." Additionally, we disseminated articles on intellectual property protection via our WeChat Official Account, video platforms, and other media outlets to cultivate a positive environment for IP awareness. In the "Patent Writing and Mining" workshop, external experts delivered a session on "Unlocking High-Quality Patents to Foster New Productive Forces", covering essential patent principles, writing techniques, application processes, and strategic planning.

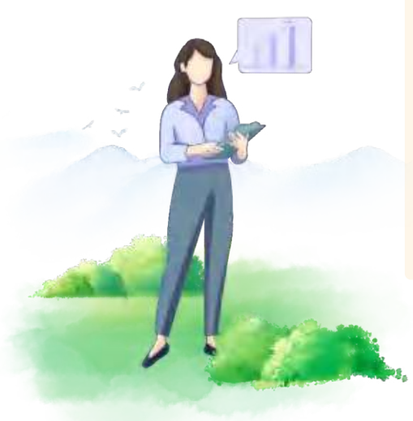
Safety and Quality of Products and Services

Quality Management System

The Company is committed to continuously optimizing its quality management system to enhance operational efficiency and elevate overall quality standards. In 2024, our quality systems—including ISO 9001, IATF 16949, API Q1, ISO/TS 22163, and the nuclear power quality management system—operated effectively and successfully passed audits conducted by third-party certification bodies.

In the same year, the Company revised 27 quality manuals and procedure documents based on the 10th edition of API Q1 standard for the oil and gas industry. Our focus on critical products allowed us to undertake a comprehensive overhaul of our steelmaking quality management system, systematically identifying quality control points throughout the production process and promoting continuous improvement. This initiative aims to establish a comprehensive, systematic, and scientific quality management framework that enhances product quality.

The Company's ISO 9001, IATF 16949, API Q1 and ISO/TS 22163 Certificates



Strategy and Implementation Path

Production Technical Assurance

The Company has orderly promoted various quality management tasks, achieved the upgrade and improvement of billet / material logistics, controlled the risks of process changes, and carried out closed-loop improvement tracking for abnormal problems, promoting the stable improvement of the Company's product quality. The Company conducted 7 internal audits and process audits, 12 product audits, 2 special audits and other multi-level and multi-method audits. The Company has achieved remarkable results in the construction of key laboratories and testing centers, and has introduced artificial intelligence (AI) technology to further optimize product performance testing and material analysis capabilities.

Key Quality Management Initiatives

Optimization of Digital Quality Management Systems

Based on process supervision and exception handling, we develop functional applications for management, technology and positions. Aiming at the problem that numerous information systems make job operations cumbersome, we adopt "one screen with multiple effects" as the design idea and innovate job-oriented control pages such as heating furnaces, process alarms, and exception handling. We innovate the docking mode of intelligent quality management system and positions to achieve effective coordination between manufacturing execution system (MES) and quality management system (QMS).

Realization of Precise Raw Material Acceptance

The automated sampling of raw materials such as coal coke, ore, and alloys operates stably, with an automated sampling rate of 100% (except for a small amount of special-shaped materials such as cored wire), ensuring the standardization and fairness of sampling; the analysis methods for 10 new varieties such as industrial silicon and ferrotungsten have been developed to provide support for the division's variety steel production and cost reduction.

Enhancement of Finished Product Testing and Analysis

Passed the re-evaluation and expansion review of the China National Accreditation Service for Conformity Assessment (CNAS), and added 5 new test standards and methods, including the American and national standards NDT (drop hammer test method for the non-ductile transition temperature of ferritic steel) and the American standard SSC (sulfide stress corrosion test). The intelligent metallographic system model is continuously iterating, and the accuracy of the Class A inclusion algorithm exceeds 85%.

CNAS Expansion Certification for the Laboratory

Quality Culture Development

The Company places utmost importance on developing a robust quality culture. In 2024, we launched several quality training initiatives aimed at enhancing the overall workforce's awareness of and commitment to quality management. Beyond traditional training, we actively implemented competitive activities designed to foster practical skill development in quality management.

Case Training on Quality Management System

In July 2024, the Company conducted a two-day training session focused on the API Spec Q1 (10th Edition) "Quality Management System Requirements for Organizations Supplying Products for the Petroleum and Natural Gas Industries". More than 80 professionals from the Technology Quality Department, the Plate Division and various functional departments participated. The training significantly boosting employees' understanding of and abilities related to this vital quality management framework.

In September 2024, the Company invited external experts to provide training on the new ISO 22163 standards for quality management systems in the railway industry. Over 100 participants, including the Company's leaders and heads of various business units and functional departments, attended the training session, further enhancing our organization's quality management capabilities.

Case The "Quality Month" Themed Activity

In September 2024, to strengthen employees' understanding of quality management principles, the Company organized a themed lecture series titled "From Quality Management to Quality Operations". This event attracted over 300 leaders and technical quality management professionals from various functional departments, business units and production facilities. The Company also launched the "Quality in My Heart" knowledge contest, which uses a flexible approach of using exams to promote learning, emphasizes the education of quality knowledge, and fosters a quality culture atmosphere.

Case "The Company's First AI Human-Machine Competition – Metallographic Testing"

In May 2024, as part of our "Thousand Models for Hundred Scenarios" initiative, the Company hosted "The Company's First AI Human-Machine Competition – Metallographic Testing". This innovative competition introduced a collaborative format, allowing traditional metallographic testing methods to be evaluated alongside intelligent metallographic recognition systems. The competition emphasized important metrics such as testing speed, accuracy, stability, and overall cost-effectiveness, providing valuable insights into the performance of both approaches in practical scenarios. This initiative was aimed at accelerating the integration of advanced technologies like AI into our operational processes, continuously enhancing the sophistication of our quality management practices.

Impact, Risk and Opportunity Management

Product quality directly affects a company's market competitiveness and brand influence, risks and opportunities of product quality through an effective top-down quality management system.

Risks	Opportunities
• If effective quality management is not carried out, the Company will face risks such as loss of customers, increased operating costs and damaged reputation.	• Continuously providing high-quality products will help the Company enhance its brand reputation and continuously expand its market share in the high-end market and international market.

Indicators and Goals

The Company is committed to continuously optimizing the quality management system, improving quality control capabilities, ensuring the stable operation of the quality management system, and continuously improving the product inspection pass rate. By 2024, the Company has achieved the goal of exceeding 98.35% of the pass rate of integrated raw material steel types.

Quality Management Related Indicators of the Company from 2022 to 2024

Indicators	Unit	2022	2023	2024
Pass rate of integrated raw material steel types	%	98.48	98.56	98.58

The Company's 2024 Quality Management Honors and Awards

"Excellent Organization Award for Standardization" from the National Steel Standardization Committee

"Practice of Improving Quality Management Based on the Intelligent Control System of the Whole Process of Plates" declared by the organization won **the title of National Quality Benchmark**

Three products including acid-resistant pipelines won the title of "Three Excellent Products" in the steel industry

Organized and registered **181** quality control (QC) activity projects, and **16** QC projects won national, industry, provincial and municipal awards

7 teams won national, industry, provincial and municipal awards, and were awarded **the National Quality Trustworthy Team**

Customer Responsibility

Guaranteeing Service Quality

The Company continuously strengthens pre-sale, in-sale and after-sale customer services, and has formulated customer relationship management systems including "Centralized Management Measures for Customer Opinions and Suggestions (Trial)", "Customer Visit Management Measures (Trial)", "Precise Customer Profile Entry Rules (Trial)", "Customer Satisfaction Management Procedures", "Regulations on the Management of Market Quality Objections". We have established six major service and communication channels: "customer hotline, customer service email, on-site reception, visiting exchanges, delivery tracking, and specialized symposiums", to listen to and respond to customer voices. To promptly respond to customer suggestions or needs, we have also established a requirement to reply within 48 hours.

In addition to establishing regular and close communication with customers, the Company also holds annual customer-focused conferences to share the latest information on the market, industry, products, and technology, actively promoting a cooperative, win-win industrial ecosystem. In 2024, the Company held a total of 9 annual customer seminars, with a total of 680 customers participating in the seminars.

Case Enhancing Collaborative Customer Engagement to Elevate Service Standards

In line with our product categorization and customer segmentation analysis, the Company has systematically identified key clients with high transaction volumes, significant profit contributions, and strong engagement levels for targeted outreach initiatives. Led by the marketing department, we organized joint visits involving representatives from sales, finance, logistics, technical quality, and production departments. The goal of these engagements is to gather valuable feedback on our products and services while addressing the specific challenges faced by our strategic customers.

As of the end of 2024, the Company has conducted 34 cross-departmental and cross-professional joint visits throughout the year, collecting 108 customer opinions and suggestions in 8 categories. All identified issues were promptly communicated to the relevant departments, ensuring effective monitoring and follow-up on resolution efforts. The outcomes of these resolutions were systematically communicated back to our clients. The Company's quick response forms a closed loop in management and is widely recognized by customers.

Case Convening 2024 Engineering Machinery Steel Customer Seminar

On August 14, 2024, the Company held a 2024 Engineering Machinery Steel Customer Seminar to discuss the construction of the steel + equipment manufacturing ecosystem under the new situation and to promote the sustainable development of the engineering machinery industry. The Company actively promotes the integration of upstream and downstream of the industrial chain, and through sharing resources and complementing each other's strengths, jointly responds to market changes and challenges, and pushes the entire industrial chain towards higher quality and higher efficiency.

Case Convening the 2024 Shipbuilding and Offshore Engineering Special Customer Seminar

On October 17, 2024, the Company held the 2024 Shipbuilding and Offshore Engineering Special Customer Seminar, working together with industry experts and partners to provide suggestions for the high-quality development of the shipbuilding and offshore engineering industry and the steel industry. The meeting held a ceremony to announce that the Company's JIT+C2M customized distribution has exceeded 1.5 million tons. The Company's innovative JIT+C2M personalized customization model produces high-quality and efficient customized products in large quantities and provides timely services to meet customers' small-batch and multi-variety personalized needs, creating higher value for customers.

Customer Feedback and Satisfaction

The Company has implemented a robust customer complaint management system, using both offline channels—such as dedicated customer forums, in-person receptions, and site visits—and online avenues, including "One Order, One Evaluation" and follow-up calls. Customer complaints are first received and processed by the Customer Service Center, which delegates issues to relevant departments based on predefined responsibilities. The resolution process is monitored closely, and feedback is provided to customers, thereby completing the management loop.

In addition, we conduct annual customer satisfaction surveys. In 2024, our overall customer satisfaction score reached 95.77, reflecting an improvement of 0.67 points over the previous year. Issues identified through these surveys are thoroughly analyzed, leading to the creation of corrective action reports that ensure effective implementation of necessary changes. The Company has been honored with titles of "Excellent Strategic Cooperation Manufacturer" from China Railway Fourth Engineering Bureau Group Co., Ltd. and "Five-Star Supplier" from Jiangnan Shipyard (Group) Co., Ltd.

Exploring Intelligent Services

The Company is actively leveraging digital technologies to enhance market analysis and customer service. We have developed several key documents, such as the "Assessment Method for Customer Data Quality in the Launch of the Intelligent Operations Center Marketing Module" and "Regulations for Customer and End-User Data Management". With the Intelligent operation center - marketing module platform as the core, the Company has created the window to serve customers externally - Nanjing Steel's C2M cloud business platform, built a "black market analysis and smart management system", and constructed an intelligent marketing management system centered on customer service. This system integrates various business processes—including sales, production, logistics, finance, and quality—into a cohesive intelligent marketing management model.

Technology Empowering Customer Service

Order Delivery Warning

The focus is on implementing early warning of abnormal order delivery data, and a total of 7, 072 warnings were issued in 2024. The production disposal rate increased from 93% to 100%, and the sales settlement rate increased from 89% to 97%.

Closed-Loop Management of Quality Issues

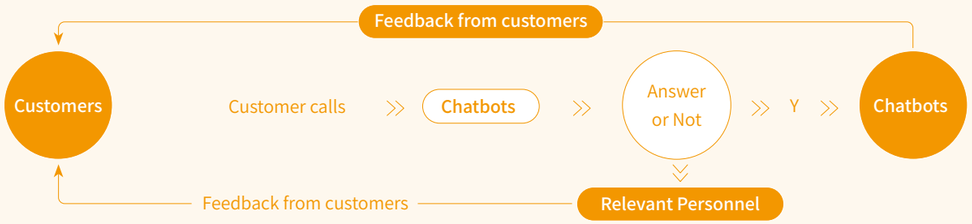
We have set up an online channel within our intelligent marketing platform to effectively track and resolve quality disputes, ensuring that customer feedback is addressed in a timely manner.

Customer Service Intelligent Robot

By piloting intelligent outbound and inbound calling, we have integrated AI voice bots that facilitate seamless human-machine interaction via mobile platforms.

Case Enhancing Service Quality with AI-Powered Chatbots

The Company harnesses AI technologies to support customer service representatives. Through human-machine interactions, we can rapidly identify and respond to customer needs. This approach allows for seamless collaboration with sales, logistics, finance, and technical teams, enabling us to provide 24/7 customer service and significantly enhance customer experiences. By the end of 2024, more than 80% of customer inquiries were successfully handled by our automated chatbot system.



Commitment to Responsible Marketing

The Company is dedicated to the principle of responsible marketing, ensuring full compliance with relevant laws and regulations, including the "Advertising Law of the People's Republic of China". We have established a comprehensive responsible marketing framework that sets clear guidelines for managing our marketing activities. Continuous enhancements to our compliance management processes encompass marketing, pricing, distribution, and operations, thereby mitigating the risk of non-compliance. In 2024, we implemented ESG and responsible marketing training for all marketing personnel, with the objective of achieving zero incidents of litigation related to responsible marketing throughout the year and ensuring that all product and service information complies with regulations.

Supply Chain Security and Management

Supplier Management

The Company aims to establish a "transparent, cost-reducing, safe and efficient" green procurement management system, working towards creating a fair, transparent, and efficient responsible supply chain.

Supplier Compliance Management

The Company has established policies such as the "Supplier Management Implementation Measures" and "Supplier Performance Management Assessment Measures", standardizing supplier management through systemic procedures. In 2024, we further refined the "Supplier Management Regulations" and "Supplier Qualification Management Implementation Measures", streamlining the supplier onboarding process and enhancing performance oversight, as well as establishing robust mechanisms for penalty enforcement and recovery. We also broadened the scope of our upstream supply chain management, clarified information standards, and implemented a hierarchical management framework. As of the end of 2024, the Company has a total of 1,851 qualified suppliers, including 567 core suppliers.

Additionally, we have established a dynamic evaluation system that assesses suppliers throughout their entire lifecycle. This includes individual contract evaluations, monthly assessments, and annual reviews. We have introduced a "Negative Point Accumulation Mechanism" to facilitate real-time visualization, analysis, monitoring, and early warning of evaluation outcomes, ensuring that we maintain strong supplier performance and compliance standards.

As of the end of 2024

the Company has a total of **1,851** qualified suppliers

including **567** core suppliers.

Supplier Lifecycle Management Process

Supplier Selection and Qualification	Based on the supplier cooperation performance, a potential - qualified access upgrade system is established to strictly control the supplier entry threshold.
Performance Assessment	Based on the suppliers' daily performance, we conduct dynamic supervision on suppliers through order-by-order evaluation, monthly evaluation, annual evaluation, and "negative points accumulation mechanism" to ensure that they continue to meet the requirements.
Classification and Tiering	Suppliers are classified into four tiers—A, B, C, and D—based on performance outcomes, leading to the establishment of a "Qualified Supplier Directory." Non-compliant suppliers are required to implement corrective actions, while exemplary suppliers are recognized and rewarded.
Anomaly Management	We categorize supplier-related anomalies related to integrity, honesty, and performance and establish tailored response mechanisms and procedures for each category to address any unforeseen challenges effectively.
Termination and Exit	Suppliers who fail to meet evaluation standards will be required to execute corrective and preventive action plans. Should they remain non-compliant after these interventions, the Company will consider terminating the partnership, as necessary.

Commitment to Supply Chain Security

The Company prioritizes supply chain risk management by establishing clear objectives and detailed strategies to address various risks, including supplier resource shortages, declining competitiveness, dependencies, and equity risks. Our goal is to create a robust risk response framework that ensures the security and stability of our supply chain.

Optimizing Supplier Geographic Distribution

To mitigate the impact of uncontrollable external factors such as climate and regulatory changes, we strategically diversify our supplier base across various regions. This approach helps us avoid supply chain disruptions caused by single points of failure, thereby reducing concentration risks and minimizing the potential effects of unforeseen events. We have formed supply assurance partnerships with multiple companies to build a stable and diversified supply network.

Establishing Long-term Collaborations with Industry Leaders

For critical materials, such as coal and coke, we enter into long-term agreements with leading firms to enhance supply chain stability. We prioritize selecting these top-tier companies as strategic partners to bolster our resilience against potential risks.

Advancing Domestic Sourcing Initiatives

We are committed to promoting the localization of specific equipment and spare parts to reduce reliance on imported products, thereby enhancing our self-sufficiency and mitigating risks associated with supply interruptions.

Intelligent Supply Chain Ecosystem Development

The Company actively advances the construction of an intelligent supply chain ecosystem by developing an integrated intelligent procurement platform. This platform connects and integrates procurement business data previously scattered across various systems, creating an intelligent supply chain system characterized by "full process online, one-click business operations, integrated procurement management, transparent quality data, dynamic inventory visibility, and full traceability", supporting the enhancement of the Company's operational capabilities. Additionally, with a full-process and customer-centric approach, a supplier service management platform is constructed, offering personalized self-service for suppliers such as information publication, business node inquiries, and push notifications.

The Company has built a platform called "Xinzhi Chain", which comprehensively uses big data, industrial mechanism models, blockchain, artificial intelligence and other technologies to create a professional third-party full-process trusted and traceable digital intelligent bidding and tendering transaction platform, which can realize intelligent bidding, online automatic bidding, automatic clarification, automatic bid evaluation, automatic writing of bid evaluation reports and other functions, and combined with APP mobile applications to meet the more flexible and diverse procurement needs of third parties.

In September 2024, we officially launched our new supplier management platform, which integrates 12 management modules covering the entire lifecycle of supplier relationships. This platform establishes 52 performance evaluation metrics and six qualification management processes, enabling fully digitized management from supplier selection and onboarding through assessment, classification, and exit. This greatly enhanced our management efficiency. Furthermore, we introduced a comprehensive supplier portal that allows suppliers to actively monitor process progress and evaluation results. We also expanded our research and interaction module to encourage mutually beneficial partnerships among suppliers, fostering trust and promoting collaborative success.

Collaborative Supplier Development

The Company is committed to fostering a supplier ecosystem built on a win-win collaboration model. We prioritize close partnerships with our suppliers and have established diverse communication channels to facilitate this engagement. These channels encompass both online methods, such as text alerts, phone communications, and surveys, as well as offline approaches, including on-site visits, second-party audits, and supplier forums. By maintaining consistent and meaningful dialogue, we aim to collectively explore growth opportunities within the industry.

In 2024, we conducted on-site visits to 24 new suppliers and performed second-party audits on 49 suppliers. During these engagements, we facilitated training sessions to enhance suppliers' capacity for fulfilling their delivery commitments. Additionally, we organized two supplier roundtable discussions focused on coal, coke, and raw and auxiliary materials, where representatives reflected on our collaborative journey and explored strategies for deeper future cooperation.

2024 Coal and Coke Supplier Roundtable Discussion

2024 Raw and Auxiliary Materials Supplier Roundtable Discussion

Supply Chain ESG Management

The Company has publicly issued its "Supplier Code of Conduct", which clearly defines expectations for suppliers in key areas such as human rights, social and labor rights, health and safety, environmental stewardship, data privacy, and business ethics. We are committed to embedding ESG management criteria throughout our supplier onboarding, evaluation, and monitoring processes to continuously enhance our supply chain's ESG performance.

Suppliers are required to comply with national laws and regulations, provide training to their employees on environmental issues and occupational health and safety, adhere to environmental protection laws, and implement necessary measures to mitigate their environmental impact.

Our audit processes focus on verifying credentials such as environmental management system certifications, business licenses, and occupational health and safety management certifications.

We closely monitor our suppliers' ESG performance and will address any incidents related to integrity, environmental standards, or safety as part of our risk management processes.

Promotion of Transparent Procurement

The Company establishes integrity agreements with suppliers, firmly opposing corrupt, monopolistic and other unfair competitive practices, strictly enforcing penalties for misconduct, and ensuring suppliers operate legally and compliantly.

In 2024

100%

of suppliers signed the Integrity Agreement

Management of Conflict Minerals

The Company strictly complies with relevant regulations to ensure that all sourced raw materials are free of conflict minerals—specifically tantalum, tin, tungsten, and gold (3TG)—originating from conflict-affected or high-risk areas. During the supplier onboarding process, we have integrated conflict minerals investigation requirements into our evaluation criteria, mandating that suppliers provide relevant certifications for responsible sourcing. Should any supplier be implicated in disputes regarding conflict minerals, we will decisively terminate collaboration to uphold the compliance and sustainability of our supply chain.

Equal Treatment for Small and Medium-sized Enterprises

In our business operations, we uphold a commitment to fairness by treating all enterprises, regardless of their size, with equal consideration. We adhere strictly to unified access criteria as outlined in our supplier management policies. In 2024, we maintained a strong track record, with no overdue payments owed to SMEs.

Recognizing the challenges faced by SMEs in meeting their obligations, we have proactively introduced support measures. Acknowledging the cash flow needs of certain suppliers, we facilitated access to preferential payment processes and provided additional services where needed. Furthermore, in instances where suppliers experience disruptions due to natural disasters or other force majeure events, we will judiciously adjust their performance evaluations. Deliveries delayed as a result of such events will be exempt from penalties upon verification.

Intelligent Manufacturing and Digital Factory

Digital Transformation Results

In the context of the global digital wave driving the intelligent upgrading of industries, digital transformation has become a key factor in enhancing enterprise competitiveness and innovation capacity. The Company continues to advance its intelligent strategy featuring "digitizing all business operations and operationalizing all digital capabilities", constantly innovating digital technologies, accelerating digital transformation, and deepening the application of digital technologies in the steel industry, thereby contributing to the intelligent development of the industry. The Company's digital transformation achievements have won multiple awards, including the country's first batch of excellent intelligent factories and China's industrial data governance "leader".

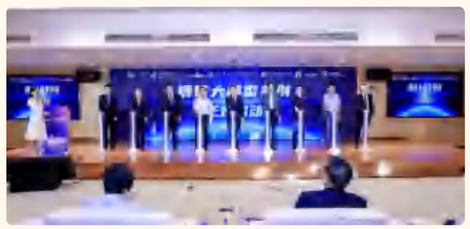
The Company's Key Digital Achievements and Awards

Awards	Content	Awarding Institutions
2024 National Excellence-level Intelligent Factory (First Batch)	Steel Personalized Customization Intelligent Factory (Excellent Level)	Ministry of Industry and Information Technology of the People's Republic of China, National Development and Reform Commission, Ministry of Finance of the People's Republic of China, State-owned Assets Supervision and Administration Commission of the State Council, State Administration for Market Regulation of the People's Republic of China, National Data Administration
Second place in the Industrial Manufacturing circuit of the 2024 "Data Elements ×" competition national finals	Data element-driven collaborative Intelligent operations platform for the steel industry chain	National Data Administration
Special Prize for the 2024 Metallurgical Science and Technology Award	The Company's core innovations in key technologies in total factor digital production operations and intelligent manufacturing.	China Iron and Steel Association and the Chinese Society for Metals
2024 Typical Cases of Digital Transformation in the Manufacturing Industry	Application of total factor resource optimization technology and reshaping of resilience and extreme competitiveness of steel enterprises	Ministry of Industry and Information Technology of the People's Republic of China, and China Academy of Information and Communications Technology
2024 Outstanding Cases of Digital and Green Collaborative Transformation	The Company's Intelligent Energy Integrated Control Platform	Office of the Central Cyberspace Affairs Commission

With outstanding digital achievements and industry-leading innovation, the Company continues to lead the intelligent transformation and upgrading of the steel industry. At various summits, the Company has showcased its technological advantages, cutting-edge applications, digital development accomplishments, and future potential.

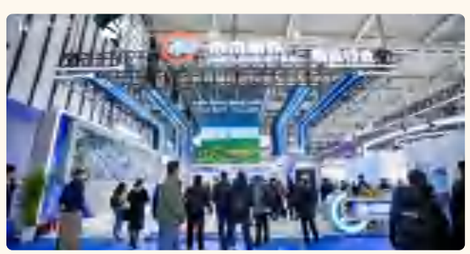
Case Showcasing Digitalization and AI Strength at the 2024 World Artificial Intelligence Conference

In July 2024, the 2024 World Artificial Intelligence Conference & High-Level Meeting on Global AI Governance took place in Shanghai, showcasing the latest achievements and technological strengths in AI worldwide. The Company, as a key participant in the CITIC Group exhibition, presented its cutting-edge MR digital worker technology and innovative AI applications. The MR Digital Worker exhibited core features such as remote collaboration, real-time data collection, intelligent diagnosis, and visual guidance. These capabilities effectively solve issues such as low efficiency and inaccurate data recording in traditional industrial inspections. Through the MR glasses, on-site workers can quickly obtain equipment status information, while experts can guide and collaborate remotely in real time, significantly improving inspection efficiency and accuracy, while reducing labor costs and operational risks. At the "Intelligent CITIC Pioneering the Possible Together" AI + Initiative Release Conference, hosted by CITIC Group, the Company participated in the launch ceremony of the steel industry's joint AI model creation and released an integrated intelligent operations center solution for steel enterprises. This solution focuses on "intelligent manufacturing + business management + ecosystem", demonstrating the Company's deep expertise and leading strength in digital transformation and AI.



Case "Nanjing Steel's Power" Debuts at the World Intelligent Manufacturing Conference, Demonstrating Digital Intelligence and New Quality Productivity

From December 20 to 22, 2024, the Company appeared at the World Intelligent Manufacturing Conference held in Nanjing, Jiangsu Province, with the theme of "Made in China, Nanjing Steel's Power", and fully demonstrated its latest achievements in the field of digital transformation and intelligent manufacturing. The Company's intelligent helmets, intelligent manufacturing solutions and advanced industrial robot technology have attracted the attention of many domestic and foreign companies, fully demonstrating the Company's achievements in cultivating new digital productivity and high-quality development. As one of the first national "digital pilot" enterprises, the Company continues to demonstrate the demonstration effect of "digital pilot", continuously strengthens cooperation and exchanges with all parties in digital achievements, and further promotes the application and integration of intelligent manufacturing concepts and technologies in a wider range of fields.



Digital Transformation Strategy

From the early overall enterprise resource planning (ERP), to the subversion of the traditional large-scale steel production and service model with the new "JIT+C2M" model, to the implementation of the "digitizing all business operations and operationalizing all digital capabilities" strategy, the Company continues to explore and move forward steadily on the digital-driven road.

Building on years of experience and achievements in digitalization, the Company has established a new strategy, using "industrial intelligence and intelligent industrialization" as a technological path. The Company is driving " intelligent manufacturing and digital transformation", practicing a three engines-driven model of "Industrial Internet + Data Governance + Artificial Intelligence", and focusing on the future, aiming to reshape the manufacturing value chain through digital and intelligent transformation.

In the fields of intelligent production, intelligent operation, intelligent interconnection, digital services, etc., the Company has created three high-growth curves of "innovation-driven, digital transformation, and new industry fission", realizing digital production operations horizontally and vertically, and connecting the digital twins of the entire process of raw materials, ironmaking, steelmaking, and steel rolling. The Company has explored the construction of enterprise-level large models in the steel vertical field, driving changes and innovations in its management model.

The Company's Digital and Intelligent Transformation

In the digital transformation strategic planning during the "14th Five-Year Plan" period, the Company, under the advanced technology architecture driven by the three core engines of "Industrial Internet + Data Governance + Artificial Intelligence", comprehensively promoted the work of intelligent transformation, digital transformation and networking around the transformation goal of "industrial intelligence and intelligent industrialization". In terms of artificial intelligence, the Company is prioritizing the "Thousand Models for Hundred Scenarios"[10] project, deepening its application in production and business collaboration, and creating new models that integrate AI into business scenarios in the steel industry. This will make the business processes more automated and intelligent. In terms of data asset management, we vigorously enhance the operational capabilities of data assets, strengthen data quality supervision, keep up with the country's cutting-edge policies, and through the systematic construction of data assets and the inclusion of assets in the balance sheet, enable the accumulated data resources to be mined and utilized, unleash the potential of data as a core production factor, and enhance the operational capabilities of intelligent industrialization. Simultaneously, in response to cybersecurity challenges and regulatory requirements, the Company is strengthening information security management and building a comprehensive technical defense system to ensure the safety and sustainability of the digital transformation.

In 2024, in order to promote the full-scenario application of artificial intelligence technology in the steel industry, the Company established the AI Artificial Intelligence Research Institute and shared offices with the Digital Application Research Institute. At the same time, the Company jointly built the Joint Innovation Center for Steel Intelligent Manufacturing Technology with the University of Science and Technology Beijing. The institute will be committed to cultivating high-level artificial intelligence professionals, strengthening cooperation with domestic and foreign universities and research institutions, exploring innovative application models of artificial intelligence technology in the steel industry, and promoting the high-quality development of the Company and the industry.

To implement the national strategies and accelerate intelligent transformation, the Company launched the three-year special action plan for "Thousand Models for Hundred Scenarios". This plan aims to explore application scenarios of big data models across the Company's production, operation, and management, empowering business through "data + models". The Company solicited relevant topics from its business divisions and administrative departments, and organized bi-weekly thematic reporting meetings to advance the development of internal model application scenarios. In 2024, the Company collected 198 relevant topics. By the end of 2024, 120 of these topics had been put into use.

Examples of Deployed Models in the "Thousand Models for Hundred Scenarios" Project

Integrated Intelligent Ore Blending and Cost Estimation Model

An optimal quality-cost/benefit ore blending calculation model, an actual cost control and ore blending plan evaluation model and a decision model for ore procurement cost-effectiveness are used to help calculate the most cost-efficient or benefit-optimized blending solutions.

Intelligent Coal Blending Model

This model automates and intelligently blends coal types, allowing for the complementary advantages of different coal types. It rationally utilizes coal resources, ensuring the quality of coke while reducing coking costs.

Peak-Valley Power Generation Efficiency and Effectiveness Improvement Model

This model optimizes the balance between power generation efficiency and peak-valley generation. It ensures that each cubic meter of gas delivers maximum value during peak times while providing precise guidance for optimal load distribution across different units at varying loads, enhancing overall power generation efficiency and resource utilization.

Comprehensive Data Governance

The Company was a pioneer in the industry, initiating comprehensive data governance with the "Data Management General Principles" as the foundation. A matrix-based data governance organization was established to streamline management processes. In 2024, the Company further improved its data governance system, considering feedback and actual needs. New rules on data quality and security were added to the data management assessment system, ensuring more standardized and efficient governance. The Company has passed the GB/T 36073-2018 Data Management Capability Maturity Assessment Model (DCMM) robust level (level 3) certification.

[10]"Thousand Models for Hundred Scenarios" refers to the intelligent application scenarios centered around smart production, operation, and ecosystems, where intelligent application models are established to achieve full coverage of core production and operations processes.

Digital Talent Development

The Company aims to "cultivate high-end management talent, core professional technical talents, and outstanding operational skill craftsmen", continuously optimizing its talent cultivation system for intelligent and digital transformation, and vigorously developing a digital talent pool. The Company advocates for the concept that "everyone understands IT" and "everyone is a data analyst", and has pioneered the creation of a digital talent series in the steel industry. This includes establishing a complete system and mechanism for talent recruitment, growth, selection, and mobility. Through the establishment of "operation technology (OT) + information technology (IT)" training mechanism in each business unit and production plant, the Company selects outstanding integrated talents and assists the growth of digital talents in all aspects. The Company's senior management takes the lead in learning AI concepts and technologies, actively promotes the learning and application of AI in the field of the Company's management, and further strengthens the Company's digital transformation strategy.

The Company regularly conducts diverse digital training programs, offering multi-level and multi-domain training projects covering digital tools, data analysis, artificial intelligence, and big data applications. In 2024, specific training programs such as "Specialized Training for Field Engineers", "Elite Training Camp for Project Managers about Intelligent manufacturing and Digital Transformation", and "Intelligent BI Data Analysis Training" were launched to improve employees' professional skills and practical capabilities in digital transformation. Additionally, the Company uses online learning platforms, external expert lectures, and other resources to encourage employees to learn the latest digital technologies and enhance the digital literacy of all staff.

The Company actively promotes AI knowledge education, regularly inviting industry experts and scholars to conduct online and offline seminars, discussing the advantages, risks, and potential social impacts of AI technologies. The Company has also produced AI knowledge guides, manuals, and videos with simple and easy-to-understand content, helping the public understand the basic principles and application scenarios of AI, improving digital literacy and awareness of technological ethics, and jointly advancing the healthy development of AI technologies.

Case Elite Training Camp for Project Managers about Intelligent manufacturing and Digital Transformation

The Company held the "Elite Training Camp for Project Managers about Intelligent manufacturing and Digital Transformation" in May 2024, with 38 participants from 21 departments. The curriculum covered topics such as project management plan formulation, stakeholder identification, communication and risk management, project control and performance reporting. Through case analysis and scenario exercises, participants gained practical knowledge. This training camp effectively enhanced the project management team's capabilities, laying a solid foundation for further advancing the Company's "Intelligent Manufacturing and Digital transformation" initiatives.

Case Business Intelligence (BI) Data Analysis Training

From August to November 2024, the Company carried out intelligent BI data analysis training, focusing on cultivating data analysis talent and uncovering the value of data applications. The training, combining online and offline teaching, included 80 business staff members. The primary goal was to enhance the core skills of junior and senior BI engineers, with a 97.5% pass rate for junior BI engineers and a 65.5% pass rate for senior BI engineers. The training successfully implemented 15 practical data analysis scenarios, such as "First Pass Yield Analysis for Plate and Cast Billet Original Steel Grade" and "Special Steel High Line Factory Energy Consumption Analysis", helping business departments dig deeper into production data potential.

Digital Technology Application

The Company remains focused on the integration of digital and physical processes, utilizing digital technologies to continuously optimize production processes, reduce costs, and improve production efficiency. In 2024, the Company carried out a number of digital projects around key areas such as production and manufacturing, operation management, green and low-carbon, to achieve refined management, intelligent decision-making and intelligent manufacturing.

Case Launch of Integrated Platform for Smart Energy Management and Control

In 2024, the Company launched an integrated energy management and control enhancement project. Utilizing technologies such as big data and digital twins, the project established a dataset for energy management by setting up over 300,000 data collection points for various energy media, including water, electricity, and gas. This initiative aimed to create a closed-loop energy-saving management system. The project involved centralized control upgrades for multiple processes, modernized energy data collection networks, and developed energy management and control interfaces. It enabled precise energy forecasting and scheduling, enhanced emergency response capabilities, and supported energy conservation and emission reduction efforts. The Company innovatively built a centralized management system, pioneering a screen monitoring mode that integrates data from multiple systems to track energy dynamics in real-time and ensure stable production. By employing intelligent models for refined management, the project also developed a carbon emission management module to advance carbon footprint accounting, thereby highlighting the green advantages of its products. After its implementation, the project consolidated energy stations, reduced the number of control rooms and terminals, optimized energy allocation, and achieved reductions in energy consumption and costs. It generated additional annual benefits of over 50 million yuan, driving the Company's green and efficient development.

Case Intelligent Metallographic Inspection System

The Company has deeply integrated key technologies such as intelligent equipment, intelligent rating algorithms, and Software-as-a-Service (SaaS) platforms to automate, digitize, and make the entire metallographic inspection process intelligent. This system covers the entire process, including sample surface polishing, cleaning, drying, automatic corrosion cleaning, blowing, automatic positioning and photographing, as well as automatic platform and AI-based rating, significantly improving inspection efficiency and providing more accurate results.

Looking ahead, the Company will continue to focus on core areas such as production, logistics, energy, quality, and operational management. With a direction toward high-end, green, intelligent, and integrated digital development, the Company will advance intelligent manufacturing and digital transformation, achieving cost reduction, quality improvement, and efficiency gains while cultivating new productive forces for the future.

Data Safety and Privacy Protection

Information Security Management System

The Company strictly abides by the "Cybersecurity Law of the People's Republic of China", "Personal Information Protection Law of the People's Republic of China", "Data Security Law of the People's Republic of China" and other laws and regulations, has formulated the "Information Security Management System", and built a complete information security management system. The Digital Application Research Institute is the supervisory and management body for the Company's information security work and reports to the Company's senior executives in charge of information security and digitalization. The Company's Chairman is the primary person responsible for information security and digital management. In 2024, the Company engaged all employees to sign a "Cybersecurity Responsibility Agreement", significantly enhancing awareness of cybersecurity across the organization and ensuring the protection of the Company's data assets.

In 2024, the Company had a total of 8 systems that completed level protection registration and on-site evaluation. The Company passed the annual on-site audit of the ISO 27001 Information Security Management System and obtained a certificate. The system covers 100% of the Company's R&D-related information security management activities for the steel industry information management system and its subsidiary Jiangsu Jinheng Information Technology Co., Ltd.

The Company's ISO 27001 Information Security Management System Certification

Information Security Risk Management Initiatives

The Company has developed a comprehensive and scientifically sound security framework, guided by national laws, regulations, technical standards, and industry best practices. This framework considers our current information security landscape and anticipates future risk trends, providing clear and feasible implementation strategies. Since 2021, we have simultaneously advanced data governance and compliance initiatives, which have effectively standardized our data management processes and enhanced their accuracy and regulatory compliance.

In addition, we are committed to institutionalizing data compliance risk management, embedding it into our operational framework. By reinforcing the security and compliance of our data and network infrastructures, we are establishing a solid foundation for digital transformation and sustainable, high-quality growth. In 2024, the Company did not have any information leaks or customer privacy violations.

Enhancing Source Governance

The Company continues to prioritize source governance of information security by integrating it into the entire lifecycle management of our systems. This approach ensures that security considerations are inherently woven into system design, implementation, and deployment. By integrating security concepts into design plans and thoroughly assessing security factors, we ensure logical architecture and innate security, achieving a unification of high reliability, performance, and security. Through the enforcement of robust safety controls during project execution, we have established standardized processes that strengthen our information security framework.

Risk Intelligence Response Mechanism

We have also developed an efficient risk intelligence response mechanism to quickly address external information security alerts. By leveraging external intelligence services, we access and disseminate the latest threat information, equipping us to respond promptly to emerging threats and enhancing our risk mitigation and emergency response capabilities, ultimately making our information security management more proactive and effective.

Digital Asset Classification and Tiering & Risk Investigation

The Company has undertaken a comprehensive assessment of its existing digital assets, categorizing and prioritizing them based on relevance to business operations, potential impact, and usage frequency. Additionally, we have implemented a vulnerability scanning and remediation protocol that spans the entire lifecycle of our systems, which includes comprehensive scans before deployment, assessments prior to any changes in firewall policies, and regular evaluations of key systems to ensure sustained and comprehensive security measures.

Collaboration with External Security Partners for Penetration Testing

The Company collaborates with reputable external security firms to conduct thorough penetration testing, simulating real-world attack scenarios to assess the robustness of our systems. We tackle the issues identified during these evaluations and implement corrective actions, establishing a solid foundation for safeguarding our high-value asset vulnerabilities (HVV). In 2024, the Company participated in the cybersecurity attack and defense drill organized by CITIC Group and the national network protection operation, and did not receive any problem notifications.

Privacy Protection

When processing personal information, the Company fully informs the subject of the processing purpose, scope of application, etc., and obtains the subject's authorization and consent; and ensures the security of personal information through measures such as encrypted transmission, encrypted storage, desensitized display, and permission control to prevent information leakage, damage, and loss. The Company's business does not involve processing customers' personal privacy information.

The Company regularly organizes information security awareness-raising activities such as attack and defense drills and information security training, and has established a normalized mechanism in 2024. In 2024, the Company's information security training has covered all employees.

Case Cybersecurity Awareness Training in 2024

In July 2024, to reinforce the cybersecurity awareness of all employees and align with CITIC Group's directives for enhancing cybersecurity standards, the entire workforce participated in a "Cloud Classroom" cybersecurity awareness training program. The curriculum covered essential topics such as "Fundamentals of Office Network Security" and "Network Security Planning, Design, and Best Practices at the Company" equipping employees with the knowledge to recognize and respond to cybersecurity risks and advancing the overall level of the Company's cybersecurity management practices.

Technology Ethics

The Company always adheres to the principle of "technology for good" in the R&D and application of artificial intelligence technology, advocates compliance with scientific and technological ethics, and ensures that technological innovation complies with social responsibility. The Company regularly conducts science and technology ethics training and seminars to enhance the science and technology ethics awareness of all employees, strengthen the deep integration of technological innovation and social responsibility, promote the healthy and orderly development of artificial intelligence technology, and create greater value and welfare for society.

Employees

Compliant Employee Hiring

Safeguarding Employee Rights

The Company strictly adheres to the "Labor Law of the People's Republic of China and the Labor Contract Law of the People's Republic of China", as well as relevant local regulations. We have developed comprehensive management policies, including the "Labor Contract Management Guidelines" and the "Temporary Workforce Management Guidelines," which govern employment practices and personnel mobility to uphold and respect employees' fundamental rights.

We have also established a "Human Rights Statement" that articulates our commitment to key principles, including the prohibition of discrimination, punitive measures, child and underage labor, human trafficking, forced labor, fair working hours, equitable compensation, and the rights to freedom of association and collective bargaining. We have achieved certification under the SA8000 Social Accountability Management System, becoming one of the first companies in the Greater China region to receive this certification. In 2024, our SA8000 system underwent a renewal audit, and our management frameworks are operating effectively and in compliance with ongoing certification standards.

The Company adheres to the principle of equal pay for equal work, strictly prohibits illegal acts such as forced labor, the use of child labor and underage workers, workplace harassment, and any form of punishment including corporal punishment, intimidation, abuse, fines, or any other physical or mental coercion or verbal insult. We stringently protect employee privacy, respect the customs and traditions of ethnic minorities, and oppose all forms of discrimination based on race, ethnicity, region, social background, class, nationality, lineage, religious beliefs, physical disability, gender, age, sexual orientation, education, language used, marital status, or any other differences. In 2024, the Company achieved full compliance with its collective bargaining agreements, with 100% of employees covered. Additionally, the labor contract signing rate reached 100%, and every employee in the steel division became a member of the union.

Work Hour Policy	○ Work hours are scheduled in accordance with national laws and regulations, and forced overtime is strictly prohibited. ○ **Standard Work Hour System:** Employees work no more than 40 hours per week. ○ **Comprehensive Work Hour System:** Employees' monthly or quarterly work hours do not exceed the standard 40 hours.
Overtime Policy	○ Overtime work during public holidays is compensated at three times the usual wage. ○ Regular overtime is compensated by either time off in lieu or at a rate of 1.5 to 2 times the normal wage.
Leave Policy	○ Employees are entitled to statutory holidays as prescribed by national regulations. ○ Employees are granted paid annual leave, family visit leave, marriage leave, maternity leave, paternity leave, lay-off leave, and bereavement leave as per national regulations.

The Company's Work Hours and Leave Policies

In 2024

the Company achieved full compliance with its collective bargaining agreements, with

100%

of employees covered.

Additionally, the labor contract signing rate reached

100%

The proportion of employees in the steel main business who have joined the trade union is

100%

Certificate of the Company's SA8000 Social Accountability Management System

Enhancing Talent Recruitment

The Company embraces a strategic approach focused on precise talent selection and integrated planning, aimed at harmonizing talent acquisition with organizational growth. In its recruitment initiatives, the Company actively targets "high-potential" candidates. On one hand, there is a strong commitment to attracting professionals in metallurgy, materials science, mechanical engineering, and electrical engineering—fields that are central to our core business. On the other hand, the Company is widening its talent pool by seeking out high-potential individuals from emerging disciplines such as computer science, measurement and control, statistics, and energy management, thereby fully addressing the evolving needs of the organization. From 2023 to 2024, the Company won honors such as "China's Favorite Employer for College Students" and "Excellence in Human Resources Management" from the Human Resources Service Provider.

Furthermore, the Company is continuously expanding its recruitment channels and strengthening collaborations with academic institutions and research organizations. Partnerships have been established with prominent universities, including Shanghai Jiao Tong University, University of Science and Technology Beijing, Beijing Institute of Technology, Southeast University, Hohai University, and Yanshan University to create joint outstanding engineering talents development programs that enhance our talent pipeline.

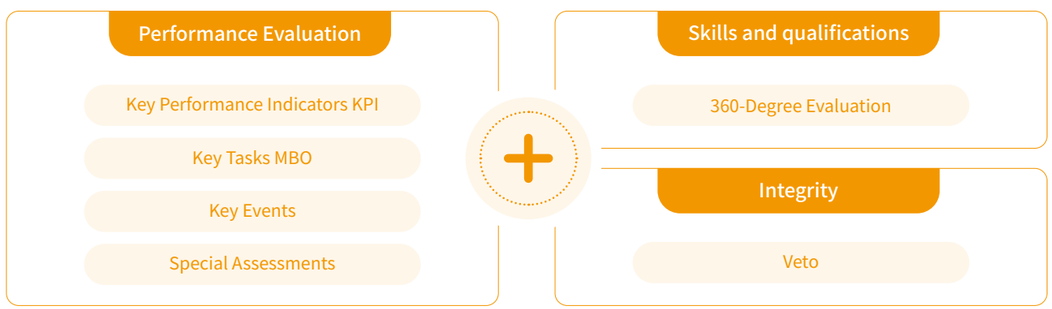
The Company's Campus Recruitment Event

Case Designated as an "Employment Internship Base" in Jiangbei New Area

In 2024, the Company participated in the selection process for the "Jiangbei New Area 2024 Employment Internship Base". This effort involved refining our intern management system, developing mentoring frameworks, and optimizing the internship growth checklist and reporting mechanisms. As a testament to our commitment, the Company was recognized as one of seven enterprises appointed as an "Employment Internship Base" in the Jiangbei New Area.

Optimizing Remuneration and Welfare

The Company has formulated the "Remuneration Management Measures", clearly defining the principles of human resource and remuneration management, establishing and standardizing remuneration management standards, and providing competitive industry and regional remuneration to attract and retain more talents. In 2024, the Company further optimized the salary distribution mechanism, increase the night shift pay standard for front-line shift workers and the meal subsidy for all employees, and improve the salary and benefits of grassroots employees. The implementation of performance-based variable compensation has now encompassed all employees.



The Company's Performance Evaluation Framework

S-level employees

- The Remuneration and Appraisal Committee of the Company's Board of Directors formulates the annual performance appraisal method for the S-level employees based on the production and operation plan in the Company's annual budget. The appraisal content includes the Company's business performance indicators and the performance indicators of their respective areas of responsibility.

C-level employees

- The Company's Human Resources Department formulates a unified performance appraisal method, and the appraisal contents include such dimensions as work performance, capability and quality.
- Each section should refer to the Company's performance appraisal method to implement its respective performance appraisal of C-level employees.
- Performance appraisal results serve as an important basis for the training, employment, rewards and punishments, as well as salary verification of C-level employees.

E-level employees

- The Company's Human Resources Department formulates a unified performance appraisal method, and the appraisal contents include work performance and comprehensive quality.
- Each second-level unit should organize and carry out its respective performance appraisal of E-level employees in accordance with the Company's performance appraisal method.
- Performance appraisal results serve as an important basis for the training, employment, rewards and punishments, and salary verification of E-level employees.

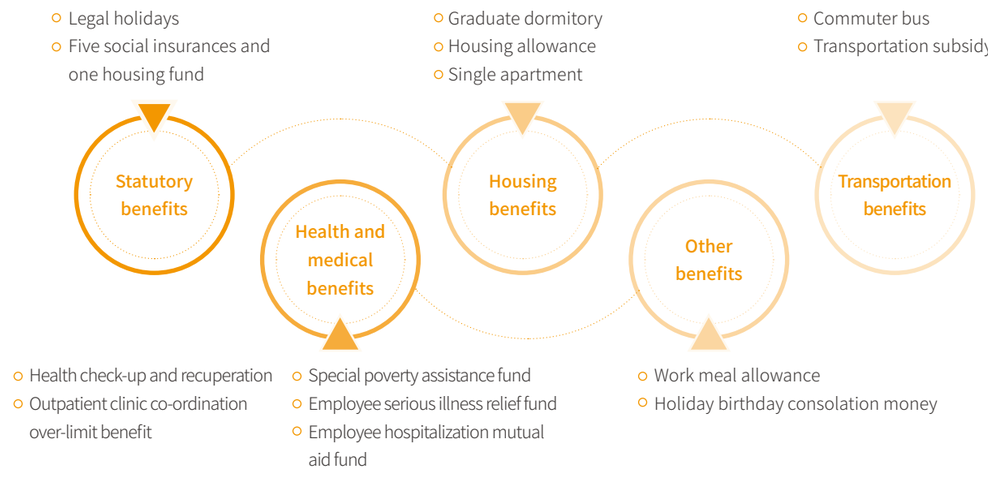
(O/T-level employees)

- The Company's Human Resources Department formulates a unified performance appraisal method, and the appraisal contents include work performance and comprehensive quality.
- Each unit formulates and implements its respective performance evaluation guidelines for general employees in accordance with the Company's performance appraisal method, and conduct separate appraisals for O-level employees and operation sequence (T) employees.
- Performance appraisal results serve as the main basis for general employees regarding income distribution, job adjustment, rank assessment and awards for advanced and outstanding performance.

The Company's Employee Performance Evaluation Guidelines

The Company has established a comprehensive and diversified benefit system. In addition to the mandatory social insurance and housing fund contributions required by law, we also provide employees with additional benefits including supplemental medical insurance, housing support, transportation and meal allowances. In 2024, the Company achieved a 100% rate for both the payment of employees' pension insurance and the distribution of retirement benefits.

Diversified Employee Welfare System



The Company's Diversified Employee Benefits System

In the realm of health benefits, the Company has developed a unique four-tier support system that includes "Basic Medical Insurance, Steel Benefits Insurance, Nanjing Benefits Insurance, and Targeted Assistance". This system offers tailored health check-up programs, allowing employees to conveniently select hospitals and schedule appointments online. Furthermore, the Company provides comprehensive services such as report interpretation, routine health monitoring, and psychological counseling, thereby nurturing the overall physical and mental well-being of its employees. In 2024, the Company further enhanced the structure and regulatory compliance of the "Steel Benefits Assurance" supplementary medical program, streamlining its operations by partnering with a third-party commercial insurance provider.

The Company provides dormitories for campus recruits from regions outside Nanjing. The dormitory area includes a basketball court and a gym, and the dormitories are equipped with washing machines, refrigerators, microwaves, etc., alleviating the housing pressure on employees who are recent graduates. Additionally, the Company is committed to advancing the digital and intelligent transformation of its cafeteria services, displaying nutritional information for menu items and monitoring employees' dietary intake to promote healthier eating habits.

In 2024

"Steel Benefits Insurance" has benefited

10,859 people

and the mutual medical insurance fund has subsidized

RMB **8.8773** million

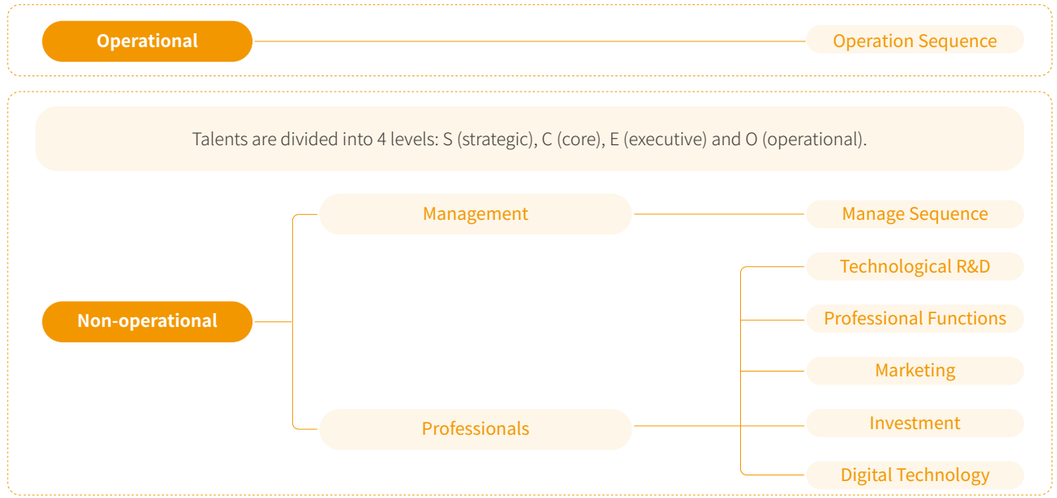
The Company's Staff Gym, Sports Field, and Canteen

Cultivating Career Growth

Promotion and Development

Aligned with the development strategy and talent cultivation blueprint, the Company has formulated the "Employee Career Development Management Measures". Based on the needs of company development and employee growth, a "three-vertical and four-horizontal" diversified career development system has been established. Different sequences and levels of qualifications and promotion mechanisms have been set, effectively motivating employees' enthusiasm for learning and value creation. Qualification standards for positions are established based on criteria including education, professional field, age, work experience, contributions to the field, performance results, and professional titles or certifications, establishing different levels of thresholds.

This culminates in a diversified development system of three categories, seven sequences and four levels. The Company continuously optimizes the structure of its cadre force, strengthens team building and the diversification of talent teams, actively recruits high-end leading talents and digital technology experts, and maintains a mix of new and experienced leaders to fully mobilize the initiative of employees at all levels and age groups to engage and innovate.



The Company's Talent Development Framework

In 2024, the Company further refined the career development channel of the digital and intelligent sequence, subdivided the three professional fields of data management, data development, and artificial intelligence, and designed the S-, C-, E-, and O-level title specifically. From top-level strategy to front-line execution, a complete link of digital and intelligent career development has been built, and each level plays an indispensable role. In the future, as the digital and intelligent process accelerates, these positions will deeply integrate technology and business and become the core engine driving the Company's growth.

Career Development of Talents in Digital Intelligence

	Data management	Data development	Artificial intelligence
S	Chief data scientist		
C	Chief information architect	Big data development technical director	Chief expert in AI (intelligent decision-making, content and big models, AI+R&D/energy)
E	Business area data manager	Chief engineer/senior engineer	Chief algorithm researcher/senior algorithm researcher
O	Data manager/Data manager assistant	Engineer/Assistant engineer	Algorithm engineer/Assistant algorithm engineer

Digital Talent and Intelligent Development System of the Company

In the employee career development process, the Company adheres to a structured seven-step protocol for job appointments that includes publishing recruitment announcements, accepting individual applications, conducting qualification reviews, organizing evaluation panels, executing centralized assessments, deliberating results, and publicly announcing outcomes. This comprehensive approach ensures equity in career advancement and promotion opportunities for all employees.

The Company has established the "Human Resources Reserve Center Management Policy" to optimize job resources , thereby creating a dynamic internal circulation mechanism for human resource reserves. This initiative aims to enhance employee engagement and effectively utilize existing talent. In October 2024, the Human Resources Reserve Center was officially launched, facilitating internal job alignment through measures such as differentiated compensation structures, inventory assessments of job requirements, retraining programs, and mutual selection processes.

In 2024

After the establishment of the Human Resources Reserve Center, the Company completed the internal transfer of

21 people

Employee Cultivation and Empowerment

Centered around the "14th Five-Year Plan" 1+3+N development strategy system, and focusing on three high-growth curves, i.e. "innovation fusion, digital and Intelligent metamorphosis, and new industry fission", the Company has developed various inter-discipline talent programs such as the "Nanjing Steel Dragon" reserve management cadre training, the procurement and sales elite camp, the finance elite camp, and international talent spoken language training camp, etc.

Case "Nanjing Steel Dragon" Reserve Management Cadre Training

In 2024, the Company developed talent profiles for the "Nanjing Steel Dragon" reserve management cadre training, which were utilized to design targeted training plans and course content. A total of 141 participants engaged in this program, which featured both general and specialized training courses. General courses included team management, customer-centric communication, and public speaking, while specialized courses focused on innovative thinking, structured analytical skills, problem-solving techniques, and effective conflict management. This comprehensive training approach has laid a solid foundation for nurturing future management talent.

Case Procurement and Sales Elite Training Camp

In 2024, the Procurement and Sales Elite Training Camp selected participants based on career potential assessments and comprehensive interviews, enrolling 119 individuals. The camp offered a diverse range of courses, including general topics such as company strategy decoding and public speaking, as well as specialized training on procurement and marketing fundamentals, techniques, and negotiation strategies.

As a result of the training, procurement employees developed a win-win mindset and an ecosystem-oriented perspective, acquiring essential procurement knowledge and actively engaging in strategy formulation to reduce costs. Sales personnel evolved into "product experts," gaining in-depth understanding of product features, functions, benefits, and competitive analyses, thereby enhancing their market analysis and evaluation skills.

Case Development of Internal Trainers

To strengthen the training capacity for onboarding new employees and shift leaders, the Company has focused on cultivating a cadre of internal trainers from key areas such as party building, corporate culture and corporate strategy. These trainers are experienced professionals and managers with substantial theoretical and practical expertise. The Company has organized offline empowerment workshops to help these trainers compile best practices and develop courses covering a diverse array of topics, including safety, strategy, quality, on-site management, innovation, equipment management, corporate culture, integrity, digital transformation, human resources, and communication skills.

By the end of 2024

the Company had designated **17** junior internal trainers across various functional areas, with each trainer averaging **3** training sessions, collectively reaching over **300** employees and effectively advancing the Company's internal talent development efforts.

The Company attaches great importance to the construction of its scientific and technological talent team and continuously strengthens the empowerment and cultivation of leading technical talents. In 2024, the Company achieved the following recognitions: 1 individual was selected for the second level of Jiangsu Province's "333" Talent Project; 3 individuals were selected for the third level of Jiangsu Province's "333" Talent Project; 2 individuals were recognized as Outstanding Young and Middle-Aged Talents in Nanjing. 1 enterprise expert studio was established in Jiangbei New Area. In addition, the Company has introduced policies such as the "Visiting Engineer" program and the "Joint Cultivation of Digitalization Doctoral Candidates" initiative to support high-end scientific and technological talents in continuing their education and professional development. These efforts ensure that their capabilities are fully used and continuously enhanced.

New Employee Training at the Company in 2024

Case Visiting Engineers' Outbound Training Mechanism

In order to improve the Company's innovation ability, utilize advanced foreign and weak domestic technologies, solve the Company's technical bottlenecks in areas such as variety, process, quality, equipment, intelligent manufacturing, digital transformation, etc., and strengthen the training of professional and technical personnel, the Company has established a visiting engineer dispatched training mechanism, and issued the "Visiting Engineers Overseas Training Management Measures (Trial)" in February 2024.

Through the processes of unit recommendation, project preliminary review, and comprehensive evaluation, combined with the situation of external resource platforms, we recommend one overseas project each in the three professional fields of process research, intelligent manufacturing, and green and low-carbon.

Case Joint Cultivation of Digitalization Doctoral Candidates

The Company continues to deepen its talent training methods, adding joint cultivation of digitalization doctoral candidates, and cooperating with the Doctoral Training Center for Digital Transformation of the Metal Materials Industry jointly established with five universities such as the University of Leicester in the UK to select outstanding masters to pursue excellent digital doctorates with cutting-edge metal materials knowledge + advanced digital capabilities.

Moreover, the Company places a strong emphasis on reforming the development of industrial workers while continuing to implement its talent-driven company strategy. We have issued the "Implementation Guidelines for the Development and Reform of the Industrial Worker Workforce at Nanjing Steel Group Co., Ltd. for 2024," aimed at enhancing the career pathways for skilled workers and accelerating the cultivation of high-skilled leaders.

In 2024, the Company organized a total of 342 labor and skills competitions, including 240 competitions focused on precision and specialization and 102 skill championships across various job functions. A total of 21,739 employees participated, representing a 9.3% increase from the previous year. This initiative ensured comprehensive and high-quality engagement across various job categories, significantly contributing to improvements in employee skill levels and the development of a high-skilled workforce.

The Company has established the Company's Artisan Academy to enhance the skills of industrial workers and foster a culture of craftsmanship. In May 2024, the Company's Artisan Academy, along with eight other national steel industry artisan academies, jointly launched the "National Steel Industry Artisan Academy Alliance" to advance the training of highly skilled talent in the sector.

Opening Ceremony for the Company's Artisan Academy

The Company has made notable progress in its workforce reform initiatives, successfully developing a significant number of new Level 8 artisans and recognized craftsmen at both national and provincial levels. The Company has been honored with several prestigious awards, including the "National May 1st Labor Award," recognition as a "Pilot Enterprise for Enhancing Employee Quality of Life" by the All-China Federation of Trade Unions, designation as a "Model Unit for Creating Happy Enterprises" by the Jiangsu Provincial Federation of Trade Unions, as well as being named an "Outstanding Vocational Skill Assessment Institution" in Jiangsu Province. Additionally, we were recognized as a "Demonstration Unit for Reforming the Industrial Workforce in the Machinery, Metallurgy, and Petrochemical Industries" within the province, reflecting its commitment to excellence and sustainable workforce development.

Building a Warm and Supportive Workplace

Strengthening Democratic Communication

The Company continually improves employee communication channels, including the "Employee Online" platform, face-to-face interactions, randomly selected trade union representatives attending meetings, and monthly fixed-theme discussions. In addition, the Company utilizes the Employee Representative Congress to gather employee feedback, actively promoting their involvement in corporate governance and decision-making processes.

Each year, the Company conducts employee satisfaction surveys, assessing critical dimensions such as management effectiveness, compensation structures, work environment, and collaborative culture. In 2024, the survey yielded a satisfaction score of 84.28, remaining consistent with the previous year. In response to lower satisfaction ratings related to compensation distribution and work-related stress, the Company has developed and implemented targeted improvement plans. These plans include regular tracking and feedback mechanisms to evaluate their effectiveness and continuously enhance employee satisfaction and overall well-being.

Case Employee Representative Congress

In March 2024, Nanjing Steel Group Co., Ltd. held its inaugural Employee Representative Congress, during which a new round of collective agreements was established. This new framework adopts a "1+4" model, comprising one master contract alongside four specialized agreements: the "Employee Technical Innovation Collective Contract" the "Labor Safety and Health Collective Contract", the "Wage Structure Collective Contract", and the "Women's Rights Protection Collective Contract".

During this congress, employee representatives submitted 245 proposals, with an additional 129 discussions and suggestions raised by various delegations. Four key proposals were prioritized, addressing areas such as night shift compensation, travel reimbursement policies, the distribution of personal protective equipment (PPE), and the allocation of office computers. The Company is committed to actively following up on these key proposals, ensuring that employee concerns are effectively addressed.

Case Engaging with Frontline Employees

In March 2024, the Company held its first group discussion with frontline employees at the Special Steel Division's Specialty Products plant, where 14 frontline employees participated in open discussions. During this discussion, representatives discussion the Company's labor union engaged with employees, collecting their insights and addressing their concerns while collaborating with relevant departments for timely responses to reasonable requests.

Caring for Employees

The Company is committed to providing comprehensive support for its employees, enhancing their overall well-being and fostering a harmonious workplace culture. We prioritize the rights of female employees, exemplified by our signing of a specialized collective agreement focused on their protection. By the end of 2024, we have established three four-star and one five-star "Loving Maternal and Infant Rooms", along with two "Carnation Service Stations for Female Employees" recognized by the Nanjing Municipal Federation of Trade Unions. In the same year, our outreach efforts supported 385 female employees with both financial assistance totaling RMB 377,300 and organized gynecological check-ups for 1,421 women, achieving a remarkable participation rate of 93%.

The Company also extends its care to employees' families, operating summer care programs for employees' children for three consecutive years. In addition, we host a variety of cultural and recreational activities for employees' children around International Children's Day, focusing on cultural heritage preservation, environmental awareness, and fun sports events.

In our efforts to support employees facing personal challenges, we actively monitor situations such as illness or hospitalization and provide financial assistance as needed. For those with particularly difficult circumstances, we implement a series of supportive initiatives, including home visits and targeted aid for employees' children or those with health issues. Our ongoing "Warmth Delivery" campaign maintains detailed records of employees in need and encompasses various assistance efforts throughout the year, including visits around the Lunar New Year, Children's Day support, back-to-school aid in the fall, and continuous welfare initiatives. By the end of 2024, we have reached out to a total of 18,631 person-times, distributing RMB 19,118,300 in support.

Case Blue Energy Hi-Tech Group's Commitment to Multinational Care and Building an Inclusive Workplace Ecosystem

Our subsidiaries provide robust benefits and cultural support tailored to the needs of local employees. For instance, Blue Energy Hi-Tech Group ("Blue Energy Group") offers complimentary meals, including customized Indonesian dishes, and ensures vacation entitlements for both Chinese and Indonesian staff. We also provide free round-trip airfare for employees traveling home to visit family and offer comfortable housing for high-performing staff, selecting outstanding individuals for training opportunities at our headquarters.

To foster team cohesion and a sense of belonging, Blue Energy Group regularly organizes team-building activities that include employees from different backgrounds. Events such as tug-of-war competitions, soccer matches, and mooncake-making sessions promote camaraderie across cultural divides. Furthermore, Blue Energy Group respects employees' religious beliefs and cultural traditions by maintaining an on-site mosque and providing breakfast, food, and gifts during significant holidays, such as Eid al-Fitr, thereby celebrating important local festivals together.

Intelligent Human Resource Management

The Company recognizes human resource management as a critical component of its strategic vision. By integrating digital technology into HR practices, we are committed to developing a Digital Human Resources (DHR) system that enables data-driven decision-making and enhances operational efficiency.

The DHR system provides real-time insights into organizational structure, workforce dynamics, and remuneration data. In alignment with our strategic growth objectives, we have assembled a specialized team to benchmark against industry leaders, identify gaps, and address key challenges. This has led to the development of customized performance and talent management modules tailored to the Company's unique requirements, facilitating comprehensive oversight of our organizational structure, resource allocation, business processes, and critical talent. Furthermore, the DHR system is designed for seamless integration with other systems and utilizes the Company's data lake for self-service analytical capabilities, allowing for intelligent human resource data analysis. This empowers managers at all levels with timely and accurate information for personnel management and strategic decision-making. The DHR system was honored with the "First Prize for Modernization of Management Innovation Achievements in Metallurgical Enterprises" at the 21st Conference.

In 2024, the Company further enhanced the DHR system with a focus on upgrading attendance tracking, implementing virtual simulation training, and developing cockpit projects to further improve human resource management efficiency.

Enriching Employee Activities

The Company promotes the concept of "Happy Nanjing Steel, Healthy Life", and has established a Cultural and Sports Association led by the Party Committee Secretary and Chairman. This association includes fourteen specific clubs such as football and calligraphy, attracting 3,233 members. The Company provides employees with 63 venues for basketball, football, table tennis, and other activities, aiming to ensure "events in every month and activities in very week". In 2024, the Company organized 46 cultural and sports events, with 4,240 employee participations.

Case Hosting the Cultural and Sports "Champion Tournament"

In 2024, the Company launched the employee cultural and sports event known as the "Champion Tournament". This event featured 37 different events over a span of nine months. The competition included nine major sports events, attracting 1,344 participants and culminating in the crowning of 41 champions, while the cultural segment also comprised nine major events, engaging 2,000 participants and producing 18 champions. Overall, the competition saw a total of 4,240 individual participations throughout the year.

Additionally, seizing the momentum from the "Champion Tournament", the Company selected outstanding athletes to represent itself in various events at the 17th Workers' Sports Meeting in Nanjing. Our teams participated in eight competitions, including basketball, badminton, table tennis, mass sports, workplace exercises, chess, dragon boat racing, and orienteering, with a total of 330 participants. The teams achieved commendable success, securing third place in the overall standings.

The Company also organized a series of cultural performances, including a New Year celebration and annual goal-setting rally, a summary and commendation event for the July 1st celebration, and a golden autumn song festival. All performances featured employee-created content, highlighting their diverse talents and reflecting the vibrant cultural life within the Company as well as employees' enthusiastic involvement in shaping its cultural landscape.

Summary and Commendation Event for the July 1st Celebration

Safe Operation Assurance

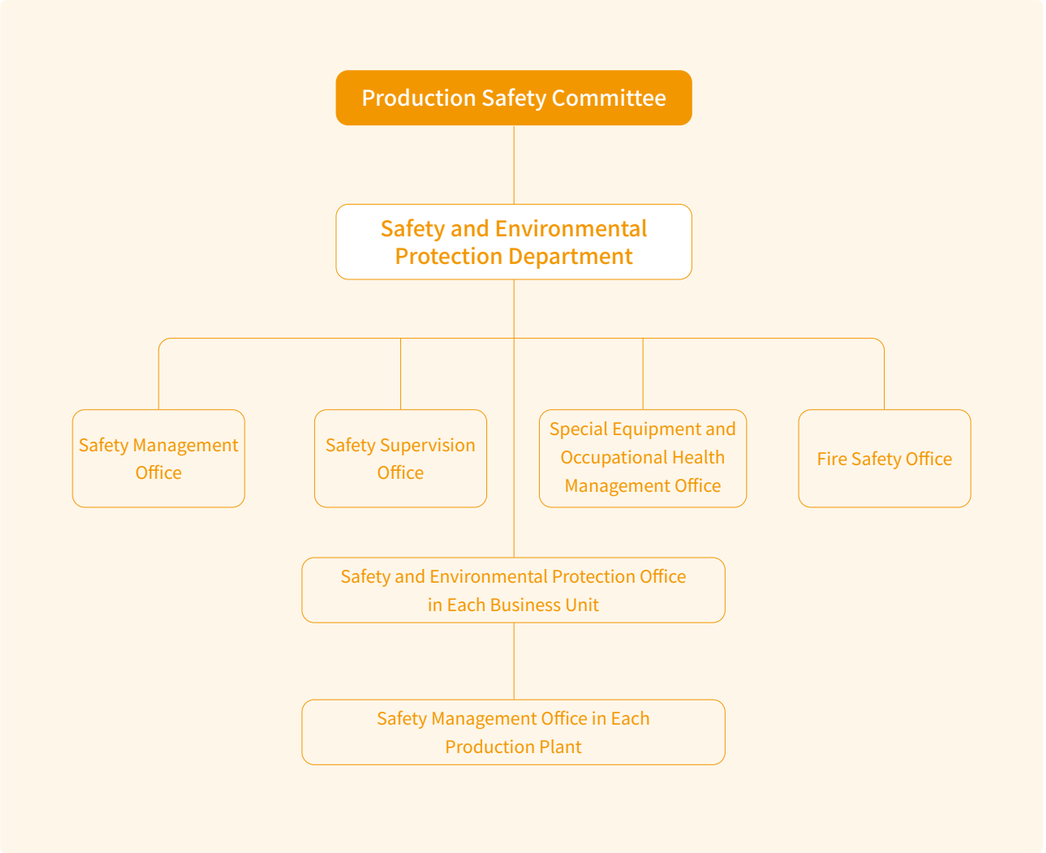
Safety Management Basics

The Company rigorously adheres to laws and regulations such as the "Work Safety Law of the People's Republic of China" and the "Law of the People's Republic of China on Prevention and Control of Occupational Diseases". The Company has formulated numerous systems and management regulations including the "Production Safety Responsibility System", "Safety Training Management Regulations", "Hazard Identification, Risk Assessment and Risk Control Procedures", "Management Regulations for Production Safety Accident and Hazard Identification and Control", and "Management Regulations for Dangerous Operations" to ensure production safety through systematic regulations.

In 2024, adhering to the principle of "Three Managements and Three Musts", we fully updated our production safety responsibility system across four levels—leadership, functional departments, business units and production facilities. This helped establish a dynamic optimization mechanism for safety responsibilities that extends from the corporate level to individual production sites. The Production Safety Committee, composed of senior and middle management, along with employee representatives (with directors comprising 5% and employee representatives 2%), oversees the unified leadership of our safety production efforts. The Safety and Environmental Protection Department is responsible for formulating company-wide safety regulations and implementing necessary safety measures. Each business unit and production site have established safety management departments, requiring specialized teams to integrate safety responsibilities into their operational duties, thereby achieving a comprehensive approach to safety management in production.

The Company sets the safety indicator as the first KPI for managers at all levels. The Company's president signed a "Safety Target Responsibility Letter" with the general managers of each business unit and the main persons in charge of relevant departments. Each business unit, production plant, and workshop signed the "Safety Target Responsibility Letter" step by step. All front-line employees are required to sign a safety commitment card to clarify the safety responsibilities, management standards, and reward and punishment rules for each position, and strictly implement the safety performance appraisal policy to ensure that every employee understands and practices safety responsibilities.

In 2024, the Company organized safety supervisors from each business unit and production plant to form a safety inspection team to carry out six rounds of safety performance inspections on various aspects such as the safety production responsibility system, major risks, and emergency response. Incentives and assessments were given to the heads of units with high and low safety performance rankings.



The Company's Production Safety Management Framework

Guided by our health and safety management philosophy of "Regulatory Compliance, Safety and Health, Continuous Improvement, and Sustainable Development", we have successfully passed the annual audit for the ISO 45001 Occupational Health and Safety Management System certification. By the end of 2024, our steel manufacturing sector has achieved 100% compliance with ISO 45001 standards. As of 2024, a total of 7 production units of the Company have passed the on-site review of the Ministry of Emergency Management and obtained the first-level enterprise certification of safety production standardization, and all production units of the main steel business have obtained the second-level enterprise certification of safety production standardization.

The Company's Occupational Health and Safety Management System Certificate

The Company has built a distinctive "2+1" occupational health and safety management system to promote the deep integration of the concept of safe development into the Company's entire process of production, operation and management.

Effective Implementation of Safety Management

Safety production standardization

(Thirteen elements including safety production objectives, organizational structure and responsibilities, safety investment, etc.)

Occupational Health and Safety Management System of The Company

(The safety management framework and ten standard requirements established by ISO 45001)

+

Safety performance inspection mechanism

(The standard includes 27 clauses, 570 items, and a full-coverage safety performance inspection is conducted every two months, covering all production units and functional departments of the organization)

The Company's "2+1" occupational health and safety management system

In 2024, the Company had no major hidden dangers or law enforcement penalties and has achieved all its safety production goals.

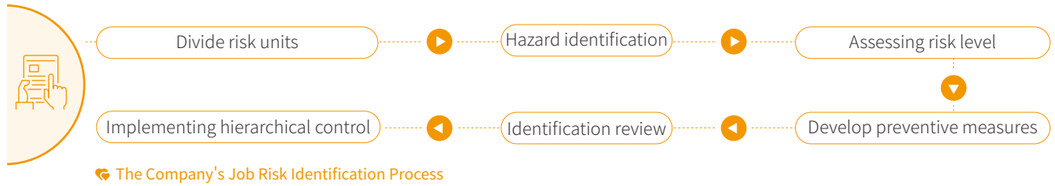
The Company's 2024 Safety Production Management Goals

- Achieve "6 Zeros": zero fatalities, zero major production accidents, zero major equipment accidents, zero major traffic accidents, zero major fire and explosion accidents, and zero major poisoning accidents.
- Attain a safety management baseline score of at least 3.3 in the EHS framework, with zero major non-conformities identified during external audits.
- Achieve the long-term elimination of major safety hazards.
- Guarantee that 100% of key personnel, safety officers and specialized operators possess valid certifications for their roles.

Safety Management Measures

Dual Prevention Mechanism of Risk Classification Control and Hidden Danger Investigation and Treatment

The Company conducts comprehensive job risk identification work at the beginning of each year, and coordinates the participation of professionals from various lines such as equipment, production, and technology in job risk identification and review. After identifying the hazardous sources, the Company conducts risk assessment and classification, and implements graded control measures according to the level.



The Company's Job Risk Identification Process

The Company's accident hazard investigation and management work forms a closed loop according to the process of "investigation (discovery) - assessment - reporting - management (control) - acceptance - cancellation".

In 2024

the Company conducted **28,470** safety inspections

and the timely rectification rate of potential accidents was **100%**

- Daily hidden danger inspection
- Comprehensive hidden danger investigation
- Special hidden danger investigation
- Seasonal hidden dangers inspection
- Expert diagnostic testing

- Performance inspection of corporate leaders at all levels
- Check for hidden dangers before major events and holidays
- Pre-shift hidden danger inspection
- Other hidden dangers

Types of safety hazard investigation of the Company

Safety Inspections and Risk Mitigation in Key Areas

Gas Safety

We revised the "Gas Safety Management System" to establish a multi-tiered accountability framework. This initiative encompasses a comprehensive assessment and mitigation of risks associated with gas production, usage, and maintenance. Additionally, we conducted expert consultations and specialized inspections focused on gas safety improvements.

Molten Metal Safety

We enhanced our safety protocols for high-temperature molten metal operations by implementing a robust responsibility framework that covers all processes and elements. We developed safety standards specifically for molten metal and conducted thorough inspections throughout the production processes to ensure effective safety management.

Environmental Protection Facility Safety

We introduced the "Safety Management Measures for Environmental Protection Equipment and Facilities", aimed at systematically identifying and addressing safety risks linked to our environmental protection infrastructure. Additionally, we have established a comprehensive asset register for critical environmental equipment and are strengthening regular assessments of wall thickness and integrity.

Hazardous Chemicals Safety

In alignment with the "Regulations on the Safety Management of Hazardous Chemicals", we regulated our safety management practices throughout the entire lifecycle of hazardous chemicals, including project development, production, transportation, storage, usage, and disposal. We are also conducting focused inspections and remediation measures to ensure compliance.

Maintenance Site Safety

We revised our maintenance safety management protocols to ensure a scientifically grounded approach that promotes effective risk management during maintenance operations. Comprehensive risk assessments are now mandatory before all maintenance activities, evaluating work procedures, tools and processes utilized.

Construction Site Safety

We implemented an integrated safety supervision model—designated as "1+1+N+J+X"—involving factory leadership, work supervisors, designated safety monitors, oversight personnel and project managers from construction firms. Regular "Safety Training Camps" for safety monitors were conducted to enhance the quality and effectiveness of onsite supervision.

Explosive Dust Safety

We issued a specialized notification to conduct thorough inspections of dust collection systems within the facility, specifically targeting areas potentially affected by explosive dust hazards.

In order to improve its ability to deal with risks and prevent accidents, the Company has formulated management documents such as the "Emergency Preparedness and Response Management Procedures" and the "Production Safety Emergency Plan Management Measures". The Company actively responds to possible safety accidents, organizes accident rescue and disaster relief work efficiently and orderly, minimizes casualties, property losses, environmental damage and social impact, maintains normal production order, and provides employees with emergency response process cards.

The Company organizes comprehensive plans and special emergency plan drills every year, and regularly organizes on-site disposal plan drills at production sites. And we timely summarize the emergency drills, the progress of emergency plan drills, analyze the shortcomings in the emergency drills, and put forward improvement measures and suggestions.

Case Carrying out Comprehensive Emergency Plan Drills

On May 31, 2024, the Company conducted the 2024 comprehensive emergency plan drill. This emergency plan drill simulates a scenario in which light benzene leaks during operation and accidentally ignites a fire. After the "dangerous situation" occurred, the relevant departments immediately launched the emergency rescue plan for benzene leakage and fire accidents, and effectively controlled the "dangerous situation", effectively improving the emergency response capabilities of employees.

Incident Management

we have "Accident Reporting, Investigation and Handling Procedures" for environmental and occupational health and safety, and established an effective accident reporting, investigation and handling mechanism. In accordance with the principle of "four no-tolerances"[11], the Company has identified responsibilities, learned lessons, and taken measures for continuous improvement.

Stakeholder Safety Management

The Company places high importance on the safety management of stakeholders, having developed comprehensive policies such as the "Contractor Safety Management Regulations" and the "Safety Performance Evaluation Measures for Collaborative and Construction Entity Management Personnel (Trial)". These initiatives aim to enhance our contractor management framework and promote advanced safety practices within labor partnerships.

We ensure equitable treatment for all stakeholders and employees by applying standardized requirements and assessment criteria across eight critical areas: accountability, personnel management, operational standards, technical training, work requirements, safety activities, pre-shift meetings, and work environment. This approach guarantees thorough and consistent safety management throughout our operations.

Furthermore, to enhance the independent safety management capabilities and production safety awareness of all stakeholders, the Company established the "Standards for Evaluating Integrated Management Benchmark Operating Areas in Contracted Labor Services". This framework organizes daily operational management into five core categories: safety organization, safety responsibilities, policy implementation, and hazard control. We conducted quarterly assessments to identify and recognize "Benchmark Operating Areas", fostering a culture of collaborative safety and continuous improvement. 2024, the rate of company-related personnel receiving corporate safety training will reach 100%.

Stakeholder Safety Management Initiatives

Comprehensive Site Inspections

Implement thorough inspections at all work sites to evaluate high-risk operations, ensure compliance with safety regulations, and assess the handling of gas cylinders and personnel conduct; enhance enforcement and accountability measures for recurring issues, serious violations and major hazards to ensure that production safety is effectively managed and maintained.

"Four Ones" Initiative

Monitor contractor leadership to ensure accountability in their safety responsibilities through our "Four Ones" Initiative, which includes conducting one safety inspection weekly, convening one safety meeting monthly, participating in one team safety training session each month, and organizing one safety experiential activity every month.

Integrated Oversight for Construction and Maintenance Processes

Implement a three-tier safety oversight model that integrates "Client + Contractor + Supervisor" alongside a joint governance framework involving the "Regulatory Department + Business Unit + Production Facility" to strengthen specialized monitoring and elevate the control standards throughout the construction and maintenance processes.

Contractor Performance Assessment

Conduct comprehensive safety management evaluations of construction, subcontracting and labor contractor leaders biannually. For those who fall below satisfactory performance levels, company leadership will engage in discussions to address and remedy identified concerns.

[11] The Company has no tolerance to such incidents unless the cause is identified, the responsible personnel are addressed, corrective measures are implemented, and relevant personnel receive proper education.

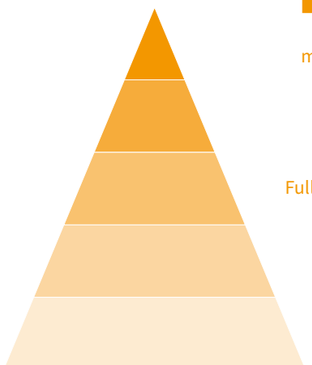
Fostering a Safety Culture

The Company creates a safety culture atmosphere of line management, local responsibility and full participation of all employees, guides the safety attitude and safety behavior of all employees, achieves safety self-discipline beyond the requirements of laws and government supervision, and realizes continuous improvement in the level of safe production.

Case "119 Fire Safety Month" – Comprehensive Measures for Safety Management

In alignment with our dedication to emergency preparedness and response, we responded vigorously to the "119 Fire Safety Month" initiative, promoting the theme of "Putting Safety First in Fire Fighting for All". Throughout 2024, we planned 523 diverse activities, including fire safety training sessions, skills drills, hazard identification exercises, awareness campaigns, and experiential learning opportunities. These initiatives aimed to enhance employees' fire safety awareness and their capacity for self-protection and emergency response.

We place a strong emphasis on training our workforce in safety production practices. We developed the "Safety Training Management System" and ensured that relevant training programs are accessible through our Smart Safety Platform, achieving comprehensive coverage of safety training. In addition, we implemented various initiatives such as safety support programs, safety knowledge competitions and weekly safety briefings to further enhance our employees' understanding of safety protocols and practical skills.



Trainees	Training content
Middle and senior management personnel	Safety philosophy and leadership
First-line managers	Safety management system
Full-time security personnel	Safety management measures
Team leader	Job hazard factors
Employees	Safety operating procedures

Safety training system of the Company

In 2024

Total Number of Safety Training	Number of Participants	Total Training Duration	Coverage Rate
1,365 Sessions	72,381 Person-times	32,265 Hours	100%

Safety Culture Campaigns in 2024

Safety Experience for Management Personnel and Frontline Staff

The Company launched "Safety Experience" activities, encouraging participation across all levels of management and frontline staff. These sessions occurred at least once a month, with each lasting no less than four hours. The primary objective is to uncover deep-rooted risks and habitual non-compliance, allowing for precise identification of safety hazards tied to specific roles and tasks. This proactive approach aims to enhance management effectiveness and mitigate risks before they impact operations.

Production Safety Month

In June 2024, we initiated a campaign titled "Every individual discusses safety, everyone can handle emergencies — ensuring clear lifelines" to commemorate Production Safety Month. Each unit undertook a variety of activities, including emergency response drills and safety training sessions, totaling 485 events with a remarkable participation of 25,426 individuals.

Monthly Safety Themes and Educational Initiatives

Aligned with industry trends and seasonal factors, we establish a new safety theme each month, accompanied by targeted educational campaigns, inspections and emergency drills. Outstanding management units are recognized monthly, and their leaders are encouraged to visit production sites to learn best practices aimed at identifying and eliminating safety hazards.

Safety Support Program

Our Safety Support Program has been successfully implemented for 12 consecutive years, fostering a robust support network. This program is led by corporate executives and comprising experts in electrical safety, fire protection, equipment maintenance and general safety. 2024, a total of 54 safety assistance activities were carried out, and the cumulative number of safety assistance activities of the Company since its launch has reached 2, 255 times.

Weekly Safety Report: "Safe Company"

We consistently publish the "Weekly Safety Report: Safe Company," which includes key insights such as prominent safety issues, highlights of successful safety management practices, essential safety tips, accident case analyses, and focus areas for the week. This report is disseminated company-wide to promote a culture of shared learning.

"Safety Star" Recognition Program

Every quarter, we honor "Job Safety Stars" and "Safety Management Stars" at the corporate level, recognizing employees who have made significant contributions to safety initiatives. This recognition serves to establish strong role models for safety awareness.

Pre-job safety oath of the Company (including regular employees and employees of related parties)

Intelligent Safety Management

In 2024, the Company continued to enhance its Smart Safety Management Platform by launching the second phase of functional modules, thereby strengthening its capacity for information and digital management within the safety sector. The platform comprehensively addresses and amplifies the management of eight key hazardous operations, enabling seamless online governance of safety responsibilities and compliance across all organizational levels. Key new features include safety investment management, goal tracking, hazardous chemicals oversight, change control and a warning center, which together create a closed-loop monitoring system throughout product lifecycles. This approach enhances management efficiency, mitigates risks, and ensures the safe operation of our business.

The Company's Smart Security Platform

Leveraging advanced technologies, the platform utilizes AI-driven video analysis for early warning systems and visual risk assessments through a color-coded risk map. This not only ensures precise identification of safety risks but also enhances managerial efficiency and accuracy through intuitive visual aids, significantly reducing the potential for human error. On the hardware front, the platform employs cutting-edge technologies such as access control systems, electronic fencing, and smart safety helmets, providing meticulous management of personnel and vehicles in high-risk areas. This further bolsters our safety oversight and solidifies our commitment to maintaining a robust safety culture.

In 2024, the Company became the first steel Company in Jiangsu Province to connect to the risk prediction and early warning platform of the Jiangsu Provincial Emergency Management Department, established an algorithm model for the production status of equipment, and strived to achieve "no alarms in the system and no accidents on site."

The Company also actively uses intelligent means to widely promote and apply independently developed robotic intelligent equipment in various production processes, which greatly reduces the operating risks in harsh environments, effectively reduces the labor intensity of employees, significantly improves operating efficiency, and comprehensively ensures the safety of employees.

Reduce labor intensity and improve precision

- Sample library robot
- Impact and stretching robot
- Inspection Robot
- .....

Reduce damage caused by harsh environment

- Blast furnace slag grabbing robot
- Scrap steel unmanned vehicle
- Pellet scooping robot
- Raw material batching crane

Reduce the harm of high temperature working environment

- Adding protective slag robot
- Temperature measurement and sampling robot
- Covering agent robot
- Logo robot

Avoid mechanical injuries such as rotation and movement

- Trolley refueling robot
- Pellet scooping robot
- Grinding robot
- Sampling robot

Occupational Health Management

Occupational Health Management System Guarantee

The Company is committed to full compliance with applicable laws and regulations, including the "Law of the People's Republic of China on Prevention and Control of Occupational Diseases and the Regulations on Occupational Health Supervision and Management in Workplaces". We have developed a comprehensive framework consisting of twelve systems, including the "Accountability System for Preventing Occupational Hazards" and management protocols such as the "Standards for Distribution of Personal Protective Equipment". 2024, the Company had achieved all its occupational health and safety goals.

The Company's 2024 Occupational Health and Safety Goals

- No new occupational diseases were reported.
- The pass rate of occupational hazard job inspections is 100 %.

Occupational Health Management Initiatives

The Company implements multiple management measures to ensure the occupational health and safety of its employees.

Occupational Health and Safety Management Measures

- Ensuring Employee Rights to Know about Occupational Hazards
- Installing Required Occupational Disease Prevention Facilities
- Conducting Occupational Health Examinations for Employees Exposed to Occupational Hazards as per Standards
- Providing Personal Protective Equipment as per Standards
- Regular Monitoring and Assessment of Occupational Hazards

The Company advocates healthy living and healthy work by carrying out various forms of health knowledge popularization. The Company has set up an online cloud classroom platform to encourage employees to learn relevant health knowledge online. The Company also invites hospital experts to introduce the prevention and treatment of common chronic diseases on site at the Company, and popularize scientific diet and exercise knowledge. The Company has also set up a mental health counseling room to formulate and implement employee psychological assistance plans.

Case Implementation of CPR and AED Training and Assessment

In 2024, the Company partnered with the Red Cross to provide comprehensive training and assessment in Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) use for employees across various roles. We have installed AEDs in locations staffed by certified first responders and have scheduled regular training sessions to ensure proficiency in their use. Additionally, in line with the requirements set forth in the "Industrial Enterprises Hygiene Standards", we have established the First Aid Kit Management System. This includes routine inspections and timely replacement of expired medications to safeguard the health and well-being of our employees.

Symbiotic and Win-win Ecology

Industry-city Integration

The Company adheres to the concept of "promoting the city with industry, promoting industry with the city, and integrating industry and city", pays attention to the organic linkage and coordinated development with surrounding enterprises and communities, deeply promotes the construction of industrial-city integration, and shares ecological resources with society and surrounding enterprises.

We have effectively utilized surplus compressed air and oxygen from nearby power plants, significantly reducing resource wastage. Additionally, we have repurposed production waste heat to supply hot water, providing 89,200 tons of hot water to local schools, bathing facilities, and hotels in 2024, effectively lowering coal consumption and carbon emissions in the region. Furthermore, we have extended our services to construct a 3-kilometer nitrogen pipeline for China Petrochemical Corporation's Nanjing Chemical Industry Co., Ltd. Through our involvement in the "microgrid" initiative, we have participated in 31 short-term ancillary services within the Jiangsu Province power grid in 2024, strongly contributing to the effective integration of urban and industrial sectors.

The Company has built the Nanjing Iron and Steel Museum, which integrates the popularization of metallurgical knowledge, the introduction of the development history of China's steel industry, and the display of steel process flow; the Bawangshan Memorial Hall, which displays regional culture and masculine culture; the Future Steel Intelligent Manufacturing Hall with the theme of "AI Intelligence Leadership, Towards 'New' Power"; the Intelligent Steelmaking Exhibition Hall, which displays the gorgeous transformation from red-hot molten steel to fine steel; and a number of attractions such as the dark factory with balls that turns the concept of "intelligent ironmaking and intelligent pelletizing" into reality. The Company integrates green, intelligent, humanistic, and high - tech concepts, use "industry + tourism" as the carrier and feature of industrial culture display, and promotes the transformation of enterprises to high-end, intelligent, and green. After being named a national industrial tourism demonstration base and a national 3A- level tourist attraction, Nanjing Steel Industrial Culture and Tourism Zone was awarded one of the top ten cases of digital innovation demonstration in culture and tourism in 2024. It receives more than 35,000 tourists annually and has become a "new model of industrial-city integration development."

2024, the Company actively promoted the construction of the Nanjing Steel Cultural and Sports Park project. The project includes a variety of sports venues such as a constant temperature swimming pool, badminton court, football field, gymnasium, etc., as well as commercial service facilities such as parking lots and restaurants. During the construction process, a number of energy-saving and emission-reduction technologies were adopted, and indoor air quality monitoring and online water quality monitoring systems were set up. Through simulation tests, the overall energy consumption in the venue was reduced by as much as 26.29%. In addition, we are actively exploring the construction of a clean, low-carbon, safe and efficient building energy system, and have established a "solar-storage-direct-flexible" microgrid demonstration zone. Nanjing Steel Cultural and Sports Park has become the first sports venue in China to achieve "three-star green building" and realize "zero-carbon building" from construction to operation. The establishment of Nanjing Steel Cultural and Sports Park will not only enrich the recreational and cultural lives of our employees but also serve as a community fitness hub for local residents, addressing their need for high-quality sports facilities. This project exemplifies our commitment to the integrated development of industry, sport, and cultural tourism.

While supporting the coordinated development of surrounding communities, the Company actively leverages its technological advantages in areas such as high-end manufacturing to promote local economic transformation and industrial upgrading. By applying cutting-edge and key technologies to the construction of "heavy weapons of a great power" and a number of national key projects, the Company has not only enhanced the regional industrial competitiveness, but also assisted in the implementation of national strategies and promoted high-quality social and economic development. The high-strength hydropower steel produced by the Company has been used in major national projects such as the Baihetan Hydropower Station. High-end nuclear power steel is widely used in key components of nuclear power project units such as the "Hualong No.1". Pipeline steel supports key domestic and foreign projects such as the national "Sichuan Gas Eastward Transmission" pipeline network and the "China-Russia East Line" natural gas pipeline construction. Weather-resistant bridge steel is supplied to the country's first paint-free weather-resistant railway steel bridge - the Zangmu Yarlung Zangbo River Bridge. 2024, the Company was successfully shortlisted in the public announcement list of winning clusters of the advanced manufacturing cluster competition released by the Ministry of Industry and Information Technology, as one of the leading enterprises of the Southern Jiangsu Special Steel Materials Cluster led by Nanjing City, further demonstrating the Company's core role in promoting regional economic development and national industrial upgrading.

Nanjing Iron and Steel Museum

Bawangshan Memorial Hall

Nanjing Steel Cultural and Sports Park

Case Construction of Xinghu Industrial Park

June 21, 2024, the Xinghu Industrial Park located in Jiangbei New District, Nanjing was officially opened. The overall plan of the industrial park aims to achieve dual carbon goals, focusing on advanced structural materials, advanced functional materials, and centering on the new metal materials and high-end equipment components manufacturing industries. It takes carbon reduction technology material manufacturing as the lead, cultivates special functional materials, and plans to introduce hydrogen energy and energy storage materials. The park is driven by innovation and R&D, leveraging intelligent, green, and service-oriented initiatives to become a key engine for the transformation, upgrade and green, high-quality development of the steel industry. The projects that have planned to sign contracts to move into Xinghu Industrial Park involve high-end profiles, high-end intelligent manufacturing, new energy, and ecological and environmental protection.

Rural Revitalization

The Company actively responds to the Central Committee's call to "comprehensively promote rural revitalization" and is long committed to rural assistance, construction and development. After thorough research, we have developed a detailed targeted assistance plan, empowering the revitalization efforts in designated rural areas through educational donations, medical aid, and supporting farmers through consumption, thereby contributing the Company's strength to the modernization of rural areas.

Since 2018, the Company has continued to promote the "Rural Doctors" public welfare project, committed to improving rural medical conditions and enhancing primary medical service capabilities. 7 years, the Company has selected 33 outstanding young employees to go deep into the grassroots, take root in the countryside, and devote themselves to rural medical and health care. 2024, the Comapny further increased its support efforts and dispatched four young employees to Jinzhai County, Anhui Province and Le'an County, Guangchang County, and Yudu County, Jiangxi Province to carry out one-year medical assistance work. These young employees not only provide technical training and business guidance resources for local village doctors, but also actively participate in improving the working environment of village clinics, promote the optimal allocation of rural medical resources, and strive to provide the majority of villagers with better-quality and more sustainable medical services, thereby effectively improving the health and well-being of rural residents.

Case Yudu County: Comprehensive Support Driving Rural Revitalization

The Company is actively involved in the renovation and enhancement of intelligent health clinics, the selection of compassionate village doctors, and the provision of assistance to patients with serious illnesses in Yudu County, contributing to the improvement of local healthcare services.

In Yudu County, we have conducted donation initiatives, delivering winter essentials to 248 village doctors. This includes 124 down jackets and 125 down quilts. We also donated 270 books to Shiyan National Primary School in Zishan Town, thereby supporting the advancement of rural education.

Case Guangchang County: Comprehensive Support to Advance Rural Shared Prosperity

As part of the "Warm Winter, Warm Heart" charitable initiative in Guangchang County, Fuzhou City, the Company donated 124 down jackets and 125 to benefit 248 rural doctors. Additionally, we actively engaged with various stakeholders to facilitate the donation of 3,000 pairs of reading glasses, along with 25 electronic blood pressure monitors, to the area. We also organized training sessions for over 100 village doctors from Guangchang County and neighboring project counties, aimed at enhancing the capacity of local grassroots healthcare services.

In March 2024, the Company partnered with local agricultural producers in Guangchang County to purchase locally sourced, organic, and all-natural black fungus. This effort aims to open new market channels for agricultural products, foster economic development in the region, and contribute to rural revitalization efforts.

Case Le'an County: Fostering Care to Support Rural Healthcare Providers

In January 2024, recognizing the challenging working conditions and limited resources faced by rural doctors in Le'an County, Fuzhou City, Jiangxi Province, the Company initiated a charitable donation campaign. We contributed 124 down jackets and 125 sets of down quilts, to 249 local healthcare professionals, providing essential warmth during the winter months. This initiative garnered significant attention and acclaim from the local community, reflecting the Company's commitment to social responsibility and inspiring other businesses and organizations to support rural healthcare providers.

Social Contributions

We strive to establish mutually beneficial relationships with surrounding communities, aiding both the Company and community development and shared prosperity. We conduct a thorough assessment of community needs and actively contribute to local development through initiatives such as charitable donations, community outreach, and infrastructure investment.

Case Charitable Donations: Fostering Compassion

In September 2024, during "99 Charity Day," the Company responded enthusiastically to calls from higher-level labor unions by organizing employee participation in various charitable activities. Over 10,000 employees joined the effort, including a special donation campaign organized by the Nanjing Charity Federation titled "Charity for Those in Need: Supporting Vulnerable Groups and Orphans". During this event, employees delivered support and care to disadvantaged individuals and families, raising RMB 720,500 in the process. This initiative not only highlighted the Company's commitment to social responsibility but also reflected the unity and cooperative spirit of our workforce.

Case Caring for the Elderly and Children with Special Needs

The Company is dedicated to supporting elderly residents and children with special needs in the surrounding community. We regularly organize volunteer activities, including visits to facilities for children with special needs. In August 2024, employees engaged with residents at the Happiness Neighbor Senior Care Center by hosting a reading club, sharing the joy of literature and warmth with the elderly.

Case Carrying Out Youth Volunteer Service Activities

In March 2024, the Company organized and carried out the "Youth Contribution to the New Era" "Learn from Lei Feng's Volunteer Movement" youth volunteer service activity. Young volunteers provide convenient services to residents in streets and communities, promoting the volunteer service spirit of "dedication, friendship, mutual assistance and progress" and the new trend of civilized society.

Appendix 1: ESG Key Performance Indicator Form

Economic Performance Indicators

Indicator	Unit	2023	2024
Company Information			
Operating income	RMB in ten thousand	7,254,278.06	6,181,063.51
Annual steel output	Ten thousand tonnes	1,039.87	933.65
Steel sales volume	Ten thousand tonnes	1,032.64	932.93
Total profits	RMB in ten thousand	264,790.16	258,131.57
R&D investment	RMB in ten thousand	240,246.59	244,580.77
R&D investment as a percentage of operating income	%	3.31	3.96
Total taxes paid	RMB in ten thousand	176,627.53	120,984.27

Governance Performance Indicators

Indicator	Unit	2023	2024
Board Effectiveness			
Total number of board members	Persons	9	9
Number of independent directors	Persons	3	3
Number of board meetings this year	Times	9	8
Average attendance rate of board meetings	%	100	100
Board Diversity			
Number of female board members	Persons	1	1
Percentage of female board members	%	11	11
Anti-commercial Bribery and Anti-corruption			
Coverage rate of anti-corruption training	%	100	100
Percentage of employees receiving anti-corruption training	%	100	100
Percentage of executives receiving anti-corruption training	%	100	100
Percentage of directors receiving anti-corruption training[12]	%	/	11
Average duration of anti-corruption training per employee	Hour/person	1	1
Number of anti-corruption training sessions	Times	/	617
Number of employee attendees at anti-corruption training sessions	Times	/	586
Number of director attendees at anti-corruption training sessions	Times	/	31
Number of employee attending anti-corruption training	Persons	13,166	14,037
Number of executives attending anti-corruption training	Persons	/	1,050
Number of resolved corruption litigation cases involving the Company or its employees during the reporting period	Case	0	0
Scientific Research and Innovation			
Number of filed patents	Case	599	511
Number of filed invention patents	Case	371	391
Total number of new patents granted	Case	276	236
Number of new invention patents granted	Case	76	76
Total number of patents	Case	1,848	2,079
Number of invention patents related to primary business operations	Case	592	701
Economic benefits of research projects	RMB in ten thousand	33,060	33,686
Number of R&D staff	Persons	2,394	2,167
Percentage of R&D staff	%	18.18	15.44
Information Security and Privacy Protection			
Number of reported incidents of information security breaches	Case	0	0
Total number of customers and employees affected by information security breaches	Persons	0	0
Proportion of business locations with an ISO 27001 certification (or other equivalent and similar standards) for their Information Security Management System (ISMS) out of the total number of business locations.	%	/	100

[12] The percentage of directors participating in anti-corruption training only includes data for the chairman of the Board. The participation of other directors is recorded in their respective primary companies.

Social Performance Indicators

Indicator	Unit	2023	2024
Employee Basic Information			
Total number of employees[13]	Persons	13,903	14,819
Number of new jobs created during the reporting period	Persons	622	809
Number of fresh graduates employed	Persons	284	343
Number of internal transfers and applicants for internal positions	Persons	/	1,023
Average cost of hiring	Yuan/person	/	2,182
Number of employees by type of employment			
Full-time employees	Persons	13,166	14,037
Contract employees	Persons	737	782
Number of full-time employees by gender			
Male employees	Persons	10,979	11,884
Female employees	Persons	2,187	2,153
Number of full-time employees by age			
Under 30 years old	Persons	2,788	4,057
30-50 years old	Persons	7,760	7,095
Over 50 years old	Persons	2,618	2,885
Number of full-time employees by region			
Employees working in mainland China	Persons	12,354	11,792
Employees working in Hong Kong, Macau and Taiwan	Persons	/	9
Employees working abroad	Persons	/	2,236
Number of full-time employees by job level			
Senior management	Persons	10	10
Middle management	Persons	301	290
Junior management	Persons	/	750
Frontline employees	Persons	12,855	12,987

[13] Total number of employees includes both full-time and contract workers.

Indicator	Unit	2023	2024
Number of full-time employees by educational background			
Bachelor's degree	Persons	3,910	4,243
Master's degree	Persons	500	560
Doctoral degree	Persons	51	52
Other educational qualifications (including and below junior college level)	Persons	8,705	9,182
Number of full-time employees by nationality			
Chinese nationals	Persons	12,855	12,466
Indonesian nationals	Persons	/	1,552
Employees of other nationalities	Persons	/	19
Number of new hires by gender			
Male employees	Persons	/	634
Female employees	Persons	/	175
Number of new hires by age			
Under 30 years old	Persons	/	511
30-50 years old	Persons	/	281
Over 50 years old	Persons	/	17
Employee Turnover Statistics[14]			
Number of resignations	Persons	487	830
Employee turnover rate	%	3.57	5.58
Employee turnover rate by gender			
Male employees	Persons	3.58	5.86
Female employees	Persons	3.49	4.01
Employee turnover rate by age			
Under 30 years old	%	7.98	15.53
30-50 years old	%	2.95	6.88
Over 50 years old	%	0.85	1.16

[14] The statistics cover the turnover of full-time employees who have signed labor contracts.

Indicator	Unit	2023	2024
Employee turnover rate by region			
Turnover rate for employees in mainland China	%	/	5.29
Turnover rate for employees in Hong Kong, Macau and Taiwan	%	/	0
Turnover rate for employees in other countries and regions	%	/	7.10
Diversity, Equality and Inclusiveness			
Number of female employees in management positions[15]	Persons	19	114
Percentage of female employees in management positions	%	6.11	10.86
Percentage of female employees in senior management positions	%	/	10
Percentage of female employees in middle management positions	%	/	4.83
Percentage of female employees in junior management positions	%	/	13.2
Number of minority employees	Persons	249	270
Number of disabled people supported in employment	Persons	12	44
Number of employees who are veterans	Persons	/	13
Number of employees receiving support due to financial hardship	Persons	/	46
Total number of employee discrimination incidents	Case	0	0
Number of diversity, discrimination and harassment related incidents	Case	0	0
Number of incidents of child labor, forced labor, and human trafficking	Case	0	0
Employee Training and Development			
Employee training coverage rate	%	100	100
Total employee training hours	Hours	680,000	695,000
Average training hours per employee	Hour/person	51.65	49.51
Total investment in employee training	RMB in ten thousand	/	1,312.24
Average training expenditure per employee	Yuan/person	/	934.85
Number of employees receiving regular performance and career development evaluations	Persons	12,764	14,037
Percentage of employees receiving regular performance and career development evaluations	%	97	100
Employee training coverage by type			
Percentage of employees receiving professional and skill training	%	100	100

[15]Compared with the year 2023, the Company's scope of statistics on the number of management personnel in 2024 covered junior, middle and senior management personnel. Therefore, there was a significant increase in the number of people.

Indicator	Unit	2023	2024
Percentage of employees receiving anti-discrimination and anti-human rights abuse training	%	100	100
Average training hours per employee by gender			
Male employees	Hour/person	51.46	49.51
Female employees	Hour/person	52.58	49.51
Average training hours per employee by job level			
Senior management	Hour/person	50.00	49.51
Middle management	Hour/person	50.28	49.51
Junior management	Hour/person	/	49.51
Frontline employees	Hour/person	51.69	49.51
Employee Rights and Benefits			
Employment contract signing rate	%	100	100
Social insurance coverage rate	%	100	100
Occupational health check coverage rate	%	100	100
Collective agreement employee coverage rate	%	100	100
Return-to-work rate for female employees on maternity leave	%	100	100
Retention rate for female employees on maternity leave	%	100	100
Average paid annual leave days per employee	Days	5.70	5.70
Union membership rate among employees	%	100	100
Number of labor dispute cases	Case	0	0
Occupational Health and Safety			
Total investment in production safety	RMB in ten thousand	/	15,671.61
Total number of safety incidents reported	Case	/	2
Investment in employment injury insurance	RMB in ten thousand	/	1,948.90
Employment injury insurance coverage rate	%	/	100
Occupational injury incidence rate	%	/	0.01
Injury rate per million work hours	n/million working hours	/	0.07
Number of employees in occupational disease risk positions	Persons	2,774	2,602
Cases of occupational diseases	Persons	0	0
Occupational health check coverage rate	%	100	100

Indicator	Unit	2023	2024
Proportion of employees who died due to work-related injuries	%	0	0
Number of workdays lost due to work-related injuries	Days	102	126
Total number of work-related injuries	Persons	/	2
Number of fatal accidents	Case	/	0
Work-related fatalities	Persons	0	0
Lost Time Injury Frequency Rate (LTIFR) – Employees and contractors	n/million working hours	/	0.07
Lost Time Injury Rate (LTIR) - Employees and contractors	n/200,000 working hours	/	0.01
Total Recordable Injury Frequency (TRIFR) - Employees and contractors	n/million working hours	/	0.07
Occupational health and safety training			
Number of production safety training sessions	Session	1,257	1,365
Number of employees participating in production safety training	Person-time	64,298	72,381
Total duration of production safety training	Hours	29,422	32,265
Safety training coverage rate	%	100	100
Supply Chain Management and Green Procurement			
Distribution of suppliers by region			
Mainland China	/	2,213	1,819
Number of suppliers in Hong Kong, Macau and Taiwan	/	/	8
Number of overseas suppliers	/	/	24
Total	/	2,260	1,851
Number of suppliers by category			
Core suppliers	/	625	567
Other suppliers	/	1,635	1,284
Environmental and social risk management of suppliers			
Number of suppliers conducting environmental impact assessments	/	487	371
Percentage of core suppliers conducting environmental impact assessments	%	100	100
Number of suppliers identified with potential negative social impacts	/	0	0

Indicator	Unit	2023	2024
Number of suppliers agreeing to improvements after environmental impact assessments	/	487	371
Percentage of suppliers agreeing to improvements after environmental impact assessments	%	100	100
Number of suppliers conducting social impact assessments	/	487	458
Percentage of core suppliers conducting social impact assessments	%	100	100
Number of suppliers identified with potential negative social impacts	/	0	0
Number of suppliers agreeing to improvements after social impact assessments	/	487	458
Percentage of suppliers agreeing to improvements after social impact assessments	%	100	100
Number of suppliers certified under ISO 9001	/	1,704	1,407
Percentage of ISO 9001 certified suppliers	%	75.40	70.56
Percentage of suppliers that have signed the sustainable procurement charter/vendor code of conduct[16]	%	100	100
Supplier termination/rejection			
Number of suppliers terminated due to non-compliance	/	57	37
Number of potential suppliers rejected due to non-compliance	/	201	83
Product Responsibility and Customer Service			
Pass rate of integrated raw material steel types	%	98.56	98.58
Number of customer complaints accepted[17]	Case	255	180
Customer complaint resolution rate	%	100	100
Customer satisfaction	Point	95.10	95.77
Total number of incidents of illegal or non-compliant events related to health and safety, labeling of products and services	Case	0	0
Amount of money for products that have been sold or shipped and need to be recalled for safety and health reasons	RMB in ten thousand	0	0
Percentage of products sold or shipped that must be recalled due to safety and health reasons	%	0	0

[16]The percentage of suppliers signing the Sustainable Procurement Charter/Supplier Code of Conduct is calculated based on the number of newly qualified suppliers who signed the Supplier Code of Conduct in the current year.

[17] Explanation of Changes: The scope has been adjusted to include the total of quality objections related to steel manufacturing products and non-product-related complaints.

Indicator	Unit	2023	2024
Total number of complaints about infringement of customer privacy and loss of customer data	Case	0	0
Total number of incidents of illegal or non-compliant events in customer privacy	Case	0	0
Total number of incidents of illegal or non-compliant events in marketing	Case	0	0
Philanthropy/Community Relations			
Amount of external donations and public welfare investment	RMB in ten thousand	100.95	82.05
Total contributions supporting rural revitalization	RMB in ten thousand	45	68.57
Number of volunteer projects	/	56	63
Total duration of volunteer activities	Hours	10,664	11,540
Participation in volunteer activities	Person-time	1,610	1,687
Social contribution value per share[18]	Yuan/share	1.37	1.24

[18]Social contribution value per share= Net profit attributable to ordinary shareholders excluding non-recurring gains and losses + Payments to the government + Employee remuneration and benefits + Interest payments to creditors such as banks + Value created for other stakeholders through donations, public welfare investments, and rural revitalization investments, etc. - Other social costs caused by environmental pollution, employee dismissals, etc.) / the total number of company shares.

Environmental Performance Indicators[19]

Indicator	Unit	2023	2024
Environmental Management			
Total investment in environmental protection initiatives	RMB in ten thousand	92,650	23,410
Environmental penalties incurred throughout the fiscal year	RMB in ten thousand	0	0
Number of environmental pollution incidents	Case	0	0
Percentage of employees trained in environmental protection practices	%	100	100
Energy Use			
Installed capacity of renewable energy	MW	55	55
- PV	MW	55	55
Renewable energy consumption	MWh	627,590	643,782
- Self-generated renewable energy	MWh	27,590	43,782
- Purchased renewable energy	MWh	600,000	600,000
Non-renewable energy consumption	Tce	5,805,587	6,019,851.65
Share of renewable energy consumption	%	1.3111	1.3126
Total direct energy consumption	Tce	5,601,280	5,745,641.75
Direct energy consumption intensity	kgce/ton of crude steel	509.02	506.05
Total indirect energy consumption	MWh	2,289,976.03	2,295,540.89
Total electricity consumption	MWh	5,027,023.85	4,849,493.38

[19]In 2024, we further refined the disclosure of indicators, calculating environmental data specifically for our main steel production business; environmental intensity indicators are calculated using "tons of crude steel" as the denominator.

Indicator	Unit	2023	2024
Total energy consumption	Tce	5,882,717.78	6,027,763.73
Energy consumption intensity	kgce/ton of crude steel	534.60	530.90
Greenhouse Gas Emissions			
Greenhouse gas emissions (Scope 1)	Tons of CO_2 equivalent	19,074,153	18,983,266
Greenhouse gas emissions (Scope 2)	Tons of CO_2 equivalent	1,571,653	1,314,286
Total greenhouse gas emissions (Scope 1 + Scope 2)	Tons of CO_2 equivalent	20,645,806	20,297,552
Greenhouse gas emission intensity (Scope 1 + Scope 2)	Ton CO_2 equivalent/ton crude steel	1.88	1.79
Total greenhouse gas emissions (Scope 3)	Tons of CO_2 equivalent	/	640.42
Greenhouse gas emissions (scope 3) – Business travel	Tons of CO_2 equivalent	/	634.67
Greenhouse gas emissions (Scope 3) - Employee Commuting	Tons of CO_2 equivalent	/	5.75
Pollutant Emissions			
Exhaust gases			
Nitrogen oxide (NO_x) emissions	Ton	2,505.26	2,719.11
Sulfur dioxide (SO_2) emissions	Ton	1,502.34	1,520.09
Particle emissions	Ton	2,821.07	2,695.32
Nitrogen oxides emission per ton of steel	kg/ton of crude steel	0.23	0.24
Sulfur dioxide emission per ton of steel	kg/ton of crude steel	0.14	0.13
Particle emission per ton of steel	kg/ton of crude steel	0.26	0.24

Indicator	Unit	2023	2024
Wastewater			
Total wastewater discharge volume	Cubic meters	18,220,756.59	18,001,592.00
Chemical oxygen demand (COD) emission in wastewater	Ton	134.07	130.89
Ammonia nitrogen (NH_3-N) emission in wastewater	Ton	4.91	1.60
Oil content in wastewater	kg	4.80	5.32
Suspended solids in wastewater	Ton	273.01	206.80
Chemical oxygen demand emission per ton of steel	kg/ton of crude steel	0.01	0.01153
Ammonia nitrogen emission per ton of steel	kg/ton of crude steel	0.0004	0.00014
Waste			
Total waste	Ton	5,804,897.74	5,744,533.30
Total hazardous waste[20]	Ton	14,464.31	16,662.03
Total hazardous waste recycled	Ton	13,978	15,987.54
Total volume of hazardous waste disposed of through environmental-friendly practices	Ton	486.31	674.49
- Disposal methods: Incineration (non-energy recovery)	Ton	57.99	16.94
- Disposal methods: Incineration (energy recovery)	Ton	0	0
- Disposal methods: Landfilling	Ton	0	0
- Disposal methods: Others	Ton	428.32	657.55
Total general industrial solid waste[21]	Ton	5,790,433.44	5,727,871.26
Volume of general industrial solid waste recovered	Ton	5,790,433.44	5,727,871.26
Hazardous waste generation density	Ton/ton of crude steel	0.001	0.0015

[20] Hazardous waste includes waste oil, waste oil drums, waste paint buckets, waste ion exchange resins, waste lead-acid batteries, waste oil-water mixtures, etc.

[21] General industrial waste includes steel slag, water slag, gas ash, dry ash, dust ash, desulfurization ash, iron scale, etc.

Indicator	Unit	2023	2024
General industrial solid waste generation density	Ton/ton of crude steel	0.53	0.50
General industrial solid waste recovery rate	%	100	100
Mineral waste generation - Waste rock	Ton	995,207.60	797,735.39
Mineral waste generation - Tailings	Ton	1,629,540.58	1,873,902.13
Volume of reused mineral waste	Ton	1,302,160.33	1,400,504.17
Total volume of mineral waste disposed	Ton	1,322,587.85	1,271,133.35
Total volume of recycled waste	Ton	5,804,411.44	5,743,858.80
Waste recycling rate	%	99.99	99.99
Total waste disposal amount	Ton	486.31	674.49
- Total volume of waste incinerated	Ton	57.99	16.94
- Total volume of waste landfilled	Ton	0	0
- Total volume of waste otherwise disposed of	Ton	428.32	657.55
Water Resources Utilization			
Total water withdrawal	Cubic meters	28,235,748	26,144,680
- Surface water	Cubic meters	18,167,529	14,940,868
- Process water/re-injected process water	Cubic meters	10,068,219	11,203,812
Alternative water source ratio[22]	%	35.66	42.85
Total freshwater consumption in production	Cubic meters	28,235,748	26,144,680
Freshwater consumption per ton of steel	Ton/ton of crude steel	2.57	2.30
Total recycled water usage	Cubic meters	1,112,896,932	1,419,232,371

[22] The proportion of discharge water of Huaneng Nanjing Power Plant used by the Company to the total water withdrawal.

Indicator	Unit	2023	2024
Water recycling ratio	%	97.50	98.20
Resource Consumption			
Steelmaking material consumption	kg/ton of crude steel	1,062.73	1,062.00
Total usage of recycled steel	Ton	2,037,531	1,919,604
Volume of purchased recycled steel	Ton	1,812,274.46	1,517,002.08
Iron ore consumption	kg/ton iron	1,678.80	1,679.60
Blast furnace fuel ratio	kg/ton iron	520.37	520.57
Packaging Material Consumption[23]			
Metals	Ton	5,618.48	4,958.19
Paper	Ton	72.16	94.00
Plastic	Ton	297.88	315.64
Wood	Ton	20.20	37.23
Green Logistics			
Percentage of products transported by rail	%	14.89	13.82
Percentage of products transported by water	%	58.72	61.35
Percentage of products transported by road	%	21.82	20.12
Percentage of products transported by conveyor belts	%	4.57	4.71

[23] Explanation of Changes: The data for 2023 has been revised due to changes in the statistical unit conversion and scope of measurement.

Appendix 2: Content Index Form

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Employees	Safe Operation Assurance	Social -S9 Employees	403-4 Worker participation, consultation, and communication Worker participation, consultation and communication	
Employees	Safe Operation Assurance	Social -S9 Employees	403-5 Worker training on occupational health and safety	
Employees	Safe Operation Assurance	Social -S9 Employees	403-6 Promotion of worker health	
Employees	Safe Operation Assurance	Social -S9 Employees	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	
Employees	Safe Operation Assurance	Social -S9 Employees	403-8 Workers covered by an occupational health and safety management system	
Employees, Appendix 1: ESG Key Performance Indicator Form	Safe Operation Assurance	Social -S9 Employees	403-9 Work-related injuries	S1.3.3 Response to safety accidents and work-related injuries
Appendix 1: ESG Key Performance Indicator Form		Social -S9 Employees	403-10 Work-related ill health	
Appendix 1: ESG Key Performance Indicator Form		Social -S9 Employees	404-1 Average hours of training per year per employee	
Employees	Cultivating Career Growth	Social -S9 Employees	404-2 Programs for upgrading employee skills and transition assistance programs	S1.4.2 Employee education and training, S1.4.3 Employee career planning and job change support
Employees	Compliant Employee Hiring		404-3 Percentage of employees receiving regular performance and career development reviews	S1.4.1 Employee incentive and promotion policy
Corporate Governance, Employees	Governance Mechanisms Improvement, Compliant Employee Hiring		405-1 Diversity of governance bodies and employees	
Employees	Compliant Employee Hiring		406-1 Incidents of discrimination and corrective actions taken	S1.1.1 Enterprise recruitment policy and implementation
Supply Chain Security and Management, Employees	Supply Chain ESG Management, Compliant Employee Hiring		407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	

Level 1 Title	Level 2 Title	SSE Guide to Corporate Sustainability Reporting	GRI Standards (2021)	State-owned Assets Supervision and Administration Commission of the State Council Indicators
Supply Chain Security and Management, Employees	Supply Chain ESG Management, Compliant Employee Hiring		408-1 Operations and suppliers at significant risk for incidents of child labor	
Supply Chain Security and Management, Employees	Supply Chain ESG Management, Compliant Employee Hiring		409-1 Operations and suppliers with significant risk of incidents of forced or compulsory labor	S1.1.3 Avoid child labor or forced labor
Symbiotic and Win-win Ecology	Industry-city Integration, Social Contributions		413-1 Operations with local community engagement, impact assessments, and development programs	
The Company has not identified any operations with significant actual and potential negative impacts on local communities			413-1 Operations with local community engagement, impact assessments, and development programs	
Symbiotic and Win-win Ecology	Industry-city Integration, Social Contributions	Social -S2 Social contributions		S4.2.1 Policy measures for participating in local community construction
Symbiotic and Win-win Ecology	Industry-city Integration, Social Contributions	Social -S2 Social contributions		S4.2.2 Contribution and impact on local communities, S4.4.4 Industry characteristics and other social responsibility performance
Symbiotic and Win-win Ecology	Industry-city Integration, Social Contributions	Social -S2 Social contributions		S4.3.1 Policy measures for participating in social welfare activities
Appendix 1: ESG Key Performance Indicator Form		Social -S2 Social contributions		S4.3.2 Investment and effectiveness in participating in social welfare activities
Symbiotic and Win-win Ecology	Rural Revitalization	Social -S1 Rural revitalization		S4.4.2 Rural revitalization and regional coordinated development
Supply Chain Security and Management, Appendix 1: ESG Key Performance Indicator Form	Supply Chain ESG Management		414-1 New suppliers that were screened using social criteria	
Supply Chain Security and Management, Appendix 1: ESG Key Performance Indicator Form	Supply Chain ESG Management		414-2 Negative social impacts in the supply chain and actions taken	
Employees	Ensure Safe Operation			S2.1.1 Production standard management policies and measures
Safety and Quality of Product and Services	Strategy and Implementation Path		416-1 Assessment of the health and safety impacts of product and service categories	S2.1.2 Quality management
Appendix 1: ESG Key Performance Indicator Form			416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	S2.1.3 Product recall and withdrawal
The Company had no negative product or service incidents during the reporting period				S2.1.4 Negative product or service events
Customer Responsibility	Customer Feedback and Satisfaction			S2.2.1 Customer Satisfaction
Innovation-driven Development.	Innovative Management Mechanism	Social -S3 Innovation-driven development		S2.3.1 R&D and innovation management system
Appendix 1: ESG Key Performance Indicator Form		Social -S3 Innovation-driven development		S2.3.2 R&D investment
Appendix 1: ESG Key Performance Indicator Form		Social -S3 Innovation-driven development		S2.3.3 Innovative achievements
Innovation-driven Development.	Protecting Intellectual Property	Social -S3 Innovation-driven development		S2.3.4 Intellectual property protection
Safety and Quality of Products and Services			417-1 Requirements for product and service information and labeling	
Appendix 1: ESG Key Performance Indicator Form		Social -S8 Data security and customer privacy protection	417-2 Incidents of non-compliance concerning product and service information and labeling	S2.2.3 Customer information and privacy protection
Appendix 1: ESG Key Performance Indicator Form			417-3 Incidents of non-compliance concerning marketing communications	
Appendix 1: ESG Key Performance Indicator Form		Social -S8 Data security and customer privacy protection	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	S2.2.2 Customer complaints and handling
The Company has not violated laws and regulations in the social and economic fields			419-1 Non-compliance with laws and regulations in the social and economic area	
Technology Ethics		Social - S4 Technology Ethics		

The Explanations of the Omitted Disclosure Items of the Company are as Follows:

GRI Topics Omitted	Reason for Omission
304-4; 411-1; 415-1	The Company's core businesses are less relevant or of less importance to this topic.
2-21; 202-1; 202-2; 204-1; 405-2	Due to the Company's confidentiality requirements, this information will not be disclosed to the public for the time being.
2-10; 2-11; 2-12; 2-13; 201-4; 207-1; 207-2; 207-3; 207-4	Detailed information can be found in the Company's Annual Report 2024.
302-2; 410-1	No relevant information is available at the moment. The Company will further incorporate relevant issues into ESG management in the future.

Index of State-owned Assets Supervision and Administration Commission of the State Council	Reason for Omission
E.1.2.2 Consumption of toxic and hazardous materials E.1.4.2 Lightweighting and reduction of packaging materials S4.3.3 Barrier-free environment construction	The Company's core businesses are less relevant or of less importance to this topic.
E.3.3.1 Participation in the carbon emission trading market	The Company has not yet engaged in carbon emission trading.

Appendix 3: Greenhouse Gas Verification Statement

CNAS 中国认可 环境信息 ENVIRONMENTYL INFORMATION CNAS VV001.E1

中国船级社质量认证有限公司
CHINA CLASSIFICATION SOCIETY CERTIFICATION CO., LTD.

GHG VERIFICATION OPINION

No: CCSC202501040102001O

This is to certify that,

Nanjing Iron & Steel Co., Ltd.

Address: Xiejiadian, Luhe District, Nanjing City, Jiangsu Province, P.R. China

China Classification Society Certification Co., Ltd. (CCSC) as a third-party validation and verification body verifies the GHG statement and issues this verification opinion according to verification criteria and related procedures.

By verification, CCSC confirms that,

1. The GHG statement of this organization is prepared in accordance with the related requirement of ISO14064-1: 2018 on quantification and reporting of GHG emissions and removals.

2. The GHG statement of the organization covers the period of 01/01/2024-31/12/2024, during which the GHG emissions and removals are as follows:

Category 1: Direct GHG emissions and removals (tCO_2e)	Category 2: Indirect GHG emissions from imported energy (tCO_2e)	Category 3: Indirect GHG emissions from transportation (tCO_2e)	Category 4: Indirect GHG emissions from products used by an organization (tCO_2e)	Category 5: Indirect GHG emissions associated with the use of products from the organization (tCO_2e)	Category 6: Indirect GHG emissions from other sources (tCO_2e)	Total emissions (tCO_2e)
18983265.82	1314285.93	640.42	/	/	/	20298192.17

3. The reasonable level of assurance provided by the verification is consistent with the agreed verification objectives, criteria and scope.

4. The GHG statement of this organization is free from material misstatements.

5. The conclusion is unconditional.

More details in Appendix.

Issued by: CCSC

Issued at: Beijing

证书专用章 Seal for Certificate (00-04) 中国船级社质量认证有限公司 CHINA CLASSIFICATION SOCIETY CERTIFICATION CO., LTD.

Signed by:

Issued on: 14/03/2025

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Format: TR03004R02(2307)

APPENDIX TO GHG VERIFICATION OPINION

No: CCSC2025010401020010

The objective(s), criteria, scope and level of assurance of this verification are based on the agreement between client and CCSC.

1. Verification objective:
Evaluate whether the GHG statement is conform to the applicable verification criteria, including the relevant standards or the principles and requirements of the GHG programme.

2. Verification criteria:
ISO 14064-1: 2018 Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
ISO 14064-3: 2019 Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements

3. Verification scope:

Organizational boundary	This organization accounts for GHG emissions and removals from facilities over which it has operational control. This organization accounts for its portion of GHG emissions and removals from respective facilities
Reporting boundary	GHG emissions and removals associated with the scope of steel production operational activity by Nanjing Iron & Steel Co., Ltd., including Category 1: Direct GHG emissions and removals; Category 2: Indirect GHG emissions from imported energy; Category 3: Indirect GHG emissions from transportation; Category 4: Indirect GHG emissions from products used by an organization; Category 5: Indirect GHG emissions associated with the use of products from the organization; Category 6: Indirect GHG emissions from other sources. Category 4 and Category 6 are not reported by the organization during this reporting period.
GHG types	Include 7 types of GHG i.e. CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3
Time period(s)	01/01/2024- 31/12/2024
Base year	The base year is 2023 The first verification is in 2023, i.e. base year verification.

4. Level of assurance: Reasonable level

5. Others: The evidences and information claimed by the organization are reasonable assumptions, predictions and / or historical facts.

Note: The APPENDIX is valid only when used together with the opinion.

证书专用章 Seal for Certificate

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Appendix 4: Reader Feedback Form

Dear reader,

Hello! Thank you for taking the time to review this report. Your feedback is invaluable to us as we strive to enhance the Company's ESG management and initiatives. We greatly appreciate and welcome your insights and suggestions.

Please indicate your responses by marking " ✓ "in the appropriate box.

1.Which category of stakeholder do you represent?

○ Government ○ Shareholders and Investors ○ Customers ○ Community Members
○ Business Partners ○ Media ○ Employees

2.How would you rate the overall quality of this report?

○ Excellent ○ Good ○ Average ○ Slightly Poor ○ Poor

3.How would you assess the credibility, accuracy, and effectiveness of the information and data disclosed in this report?

○ Excellent ○ Good ○ Average ○ Slightly Poor ○ Poor

4.How well does this report capture the comprehensiveness of the Company sustainable development efforts?

○ Excellent ○ Good ○ Average ○ Slightly Poor ○ Poor

5.What is your opinion on the report's structure and organization?

○ Excellent ○ Good ○ Average ○ Slightly Poor ○ Poor

6.Is the language used, along with the content layout and design, conducive to easy reading?

○ Yes ○ No

7.What comments or recommendations do you have regarding the Company's sustainability efforts and this report?

Please feel free to contact us via e-mail or other means:

Tel: 025-57072073

E-mail: ESG@600282.net

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NANJING STEEL

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