



Baoshan Iron & Steel Co., Ltd.



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2023 Sustainability Report

# 2023 Baosteel Sustainability Report





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# About the Report

## ⌚ Scope and boundary of the Report

Unless otherwise specified, the Report describes the management and performance achievements in environmental, social, and governance aspects of Baoshan Iron & Steel Co., Ltd. (referred to as "Baosteel", the "Company" or "We"), and its four manufacturing bases (the Baoshan Base, the Qingshan Base, the Dongshan Base, and the Meishan Base), Huangshi Coated Plate Co., Ltd. (Huangshi Coated Plate) under Baoshan Iron & Steel, Yantai Lubao Steel Pipe Co., Ltd. (Lubao Steel Pipe), Baosteel Nippon Steel Automotive Plate Co., Ltd., Guangzhou JFE Steel Plate Co., Ltd., Shanghai Baosteel International Economic and Trade Co., Ltd. (Baosteel International), Shanghai Baosight Software Co., Ltd. (Baosight Software), BaoWu Carbon Technology Co., Ltd. (BaoWu Carbon) and BaoWu Group Finance Co., Ltd. (the Finance Company). The disclosure scope of the Report covers 75% to 100% of the Company's total operating revenue. Unless otherwise specified, all currencies mentioned in the Report refer to RMB.

\*Note: 1) The "China Baowu", "Group Company", and "Baowu Group" below stand for China Baowu Steel Group Corporation.

2) The Baoshan Base refers to the production and manufacturing base of Baoshan Iron & Steel Co., Ltd. located in Baoshan District, Shanghai. The Qingshan Base refers to Wuhan Iron & Steel Co., Ltd. The Dongshan Base refers to Baosteel Zhanjiang Iron & Steel Co., Ltd. The Meishan Base refers to Shanghai Meishan Iron & Steel Co., Ltd.

In view of the internal organizational structure, management requirements, and internal reporting system, the Company has identified three reporting segments, namely steel manufacturing, processing and distribution, and other segments. The financial data such as operating income in the Report is based on the Company's annual report, while the rest data is mainly based on steel manufacturing as well as processing and distribution.

The following is a summary of the detailed information of segments, including:

Subsidiaries included in each operational segment

- (1) Steel manufacturing: the four manufacturing bases, Lubao Steel Pipe, Huangshi Coated Plate, and other steel manufacturing units;
- (2) Processing and distribution: Baosteel International, Baosteel America Inc. (Baosteel America), Baosteel Europe GMBH (Baosteel Europe), Baosteel Singapore Pte Ltd. (Baosteel Singapore), Baosteel Howa Trading Co., Ltd. (Baosteel Howa), Bao-trans Enterprises Limited (Bao-trans), Baosteel Laser Welding Co., Ltd. (Laser Welding), BGM Co., Ltd., and other trading subsidiaries;
- (3) Others: Shanghai Baosight Software Co., Ltd. (Baosight Software), BaoWu Carbon Technology Co., Ltd. (BaoWu Carbon), and BaoWu Group Finance Co., Ltd. (the Finance Company).

## ⌚ Report period

The Report covers the period from January 1, 2023 to December 31, 2023 (referred to as the "reporting period"), with some content dating back to previous years and covering the first quarter of 2024.

## ☒ Preparation basis

The Report is prepared by reference to the core standards in the Global Reporting Initiative's *Sustainable Development Reporting Standards* (GRI Standards), the *Guidelines for Writing Chinese Corporate Social Responsibility Reports CASS-ESG5.0*, and in response to SDGs, ISSB Standards, SASB Standards, Morgan Stanley's ESG ratings (MSCI ESG ratings), as well as the CSA questionnaire from S&P Global and other indicators.

## ⇩ Data source and reliability assurance

The information and data disclosed in this Report are sourced from statistical reports and official documents of the Company and have been audited by relevant departments. The Company promises that the Report does not involve any false records and misleading statements and will be liable for the authenticity, accuracy and integrity of the content.

## 🕒 Report preparation process

The preparation process of the Report covers establishment of work team, data collection, interviews with and questionnaire inquiry on stakeholders, framework determination, report preparation, report design, review by departments and senior leadership, etc.

## 🕒 Confirmation and approval

After confirmation by the management, the Report was approved by the Board of Directors on April 25, 2024.

If you have any question about the Report, please call us or send a letter to us. Contact:

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# Speech by Senior Executive

Chairman



General Manager



In 2023, we still faced a lot of challenges and risks in the pursuit of global economic recovery, when global climate change became increasingly prominent, requiring an urgent response from all sectors of society. Following the strong leadership of the Central Committee of the Communist Party, Baosteel, as a leader in the steel industry, actively responded to the challenges and pressed ahead, achieving remarkable results in various aspects such as low-carbon development, environmental protection, R&D and innovation, supply chain optimization, talent development, social welfare, and corporate governance.

## Addressing climate change and co-building a green Earth

Baosteel has been exploring the interaction between climate change and business development. As the steel industry faces a diverse and complex array of climate change risks, we have an important mission to continuously carry out energy saving, emission reduction, and green transformation. We have established a governance structure for climate change risk management, formulated strategies and targets for addressing climate change, developed green products, pursued ultimate energy efficiency, developed green energy, focused on low-carbon metallurgy, and implemented a circular economy. We have actively responded to China's "dual carbon" strategy, formulating and implementing short, medium, and longterm carbon reduction plans, making our contribution to achieving global climate goals.

## Strengthening environmental protection and safeguarding beautiful landscapes

Baosteel has actively participated in the grand practice of building a beautiful China, fully leveraging its management wisdom and technical expertise to create a beautiful Baosteel. We have pushed forward the main work on ultra-low emission of waste gas, zero wastewater discharge, solid waste disposal at factories, cleaning, greening, beautification, and culture, reaching global leading levels in achieving and maintaining Grade A performances in waste gas emission indicators. Through source reduction, process optimization, and disposal upgrades, we strive to achieve zero discharge of wastewater. We are also committed to creating green and waste-free urban steel plants, consistently implementing reduction, collaboration, systematization, utilization, and recycling to help build a waste-free city with the principle of no solid waste discharged from the factory.

## Promoting high-quality development and forging a strong country in steel production

Baosteel adheres to the concept of high-quality development, composing a new chapter for a strong country in steel production with the power of major heavy industry. We continuously advance R&D and innovation, forging excellent high-efficiency, low-carbon metallurgical processes. We always insist on being market-oriented and customer-centered, constantly improving product quality and service levels. We strengthen the sustainable management of the supply chain, optimize procurement policies, and rely on intelligent platforms to improve supply chain efficiency. We also actively engage in in-depth cooperation with upstream and downstream partners, leveraging our advantages as the chain leader to promote the green and sustainable development of the supply chain.

## Focusing on talent development and pursuing shared growth

Baosteel always adheres to the people-oriented approach and drives business with talent, striving to build a culturally diverse and inclusive workplace. We continue to improve our talent

training and promotion system, providing employees with a solid platform for career development. We keep optimizing the performance evaluation and communication mechanisms to create a fair and equal work platform for employees. We pay attention to the needs of employees in their lives and work, improve the salary and benefits system, enhance employee care, and provide solid growth assurance for employees.

## Engaging in public welfare and undertaking new missions in communities

Baosteel actively fulfills its social responsibilities and plays its role as a state-owned enterprise. We always focus on the overall development of communities, participating in various donations and public welfare activities, aiming to improve the quality and efficiency of local industries. We carry out educational support projects, making our contribution to community development. We further advance the practice of rural revitalization, providing strong support for the development of local industries through targeted assistance. In addition, we focus on strengthening communication and cooperation with surrounding communities, creating a harmonious community environment.

## Improving corporate governance and making new progress through Party-building

Baosteel insists on operating in compliance with laws and regulations, continuously optimizes its internal control mechanisms, and intensifies risk management efforts to ensure steady development. We fully leverage the political core role of the Party organization, integrating Party-building work into our governance system to promote the smooth progress of all aspects of our operations. We also strengthen Party conduct and integrity, creating a honest and positive corporate atmosphere.

## Enhancing global presence and securing achievements in the new era

Baosteel has always been committed to deeply exploring overseas markets, strictly adhering to local laws and regulations, actively integrating into the local political and cultural background, and ensuring that each business operation is legal and compliant. We have not only established three major overseas R&D centers to strengthen basic research and enhance the capability of original technological innovation, but also continuously advanced the cultivation of international talents, optimized the configuration of overseas technical marketing teams, and constantly improved the mechanism for the return and utilization of dispatched personnel. In addition, we have actively expanded international cooperation and exchanges, and through multi-channel, multi-dimensional interactions, actively constructed an overseas social media matrix to disseminate our brand image and tell the Baosteel story in the new era to the entire world.

In the future, we will continue to drive all aspects of our work forward with higher standards and stricter requirements. We will continue to increase investment in environmental protection, promote green and low-carbon development; strengthen R&D innovation, enhance product competitiveness; optimize supply chain management, improve operational efficiency; enhance talent training and recruitment, build a high-quality team; actively fulfill social responsibilities, contribute to community development; strengthen corporate governance and Party-building work, providing a strong guarantee for our development.

We will always uphold the firm belief in sustainable development, forge ahead with unwavering determination, unite strength, and join hands with all parties to create an even more brilliant future!

# Urban Steel Plant Green and Waste-Free

Comprehensive realization  
of ultra-low emission

Solid waste generation intensity below  
**0.68 tons per ton of steel**

Return-for-production  
utilization of solid waste

**above 28 %**

Comprehensive utilization  
rate of solid waste

**above 99.9 %**

Disposal of hazardous waste outside  
plant

**below 10,000 tons/year**

As steel is integrated into cities and society, and develops intensively and extensively, the philosophy of "solid waste shall be disposed of in the plant" is gradually evolving towards "waste-free city". As an urban development model guided by the new development concept of innovation, coordination, green, openness, and sharing, "waste-free city" advances green development methods and lifestyles, continuously promotes solid waste reduction, recycling, and harmless disposal. We promote major technology breakthroughs in solid waste reduction and high-value utilization, develop, introduce, and promote the application of various new technologies, processes, and products, thus providing technological and talent support for the construction of a "green and waste-free urban steel plant".

Relying on the construction of a waste-free China Baowu, Baosteel continues to deepen the sharing of resources, technologies, process equipment, etc. within the group, follows the general guideline of "ultra-low waste gas emission, zero wastewater discharge, and solid waste shall be disposed of in the plant", fully leverages the energy conversion and social solid waste disposal functions of urban steel plants, and maximizes the potential of metallurgical high-temperature furnaces

in collaborative utilization and disposal of social source solid waste, ultimately realizing the seamless integration between steel production and urban ecology.

Baosteel continues to strengthen guarantee in terms of project R&D spending, technology, and other factors, and increases investment in construction projects and R&D related to solid waste reduction, recycling, and harmless disposal. We promote major technology breakthroughs in solid waste reduction and high-value utilization, develop, introduce, and promote the application of various new technologies, processes, and products, thus providing technological and talent support for the construction of a "green and waste-free urban steel plant".

Currently, Baosteel has established the goal of building a "green and waste-free urban steel plant" and incorporated related work into the Company's annual task plan. The task list is assigned to responsible departments and incorporated into the Company's performance evaluation to ensure that the work is carried out as scheduled and required.

## Construction of Green and Waste-Free Urban Steel Plant

Baosteel plans to build a "green and waste-free urban steel plant" by 2025, continuously improve high-value utilization of solid waste, and achieve a transformation of "solid waste shall be disposed of in the plant" from quantity to quality. The goals are as follows:

As the core measure for "green and waste-free urban steel plant", Baosteel continues to advance waste reduction at the source, the coordination and systematization of waste treatment, as well as the utilization and recycling in waste disposal, driving the transformation of waste utilization towards high value. It fully leverages the role of standards in guiding and improving quality and efficiency, with the aim to drive the efficient utilization of waste in steel-related industries and the high-quality development of waste utilization industries.

### Reduction — intensify hazardous waste reduction at the source

Baosteel actively advances the "three-in-one" acid regeneration project for cold rolling by replacing traditional roasting acid regeneration units with fluidized beds to promote the reduction of acid regeneration sludge at the source. By controlling the volume of flushing water with tin-containing waste liquid, controlling the amount of scraps in acid regeneration sludge, and sintering for chromium-containing sludge, Baosteel promotes the reduction of hazardous waste at the source.

### Coordination — coordinated disposal of hazardous social solid waste

Baosteel leverages the ability of metallurgical industrial furnaces to collaboratively dispose of hazardous wastes, promote the multi-channel utilization and disposal of inorganic hazardous wastes such as heavy metal sludge, hazardous waste incineration residue, and domestic waste incineration fly ash. We have intensified the coordinated disposal of social iron packaging barrels by converters and coordinated disposal of social incineration hazardous wastes by incinerators, optimized the operation mode of hazardous wastes disposal, and improved the efficiency of coordinated disposal of hazardous wastes, with the aim to maximize the coordinated disposal of hazardous wastes on the basis of disposing of self-produced iron packaging barrels and incineration hazardous wastes.

In addition, Baosteel maintained communication with government departments, striving to expand the collection scope and scale of the "micro-platform" for hazardous waste, and smoothing the "last mile" of medical waste collection, transportation, and disposal for small medical institutions.

### Systematization — upgrade solid waste resources management system

Baosteel is accelerating the upgrading of its solid waste resource system to ensure the effective management and utilization of solid waste and improve intelligent management of solid waste. Firstly, we optimize the solid waste logistics to guide the full-process management of the generation, transfer, return-to-production, and delivery of solid and hazardous wastes throughout the factory. Secondly, we optimize the comparison among the names of solid waste, environmental statistics solid waste, and general solid waste declaration to automatically generate solid waste reports.

### Utilization — advance return-to-production utilization of solid waste

Baosteel ensures the stable production of the double rotary hearth furnace with iron-bearing dust treatment device, completely treats electric arc furnace ash, and returns all small-sized high-iron solid wastes such as OG coarse grains and hot-rolled iron sludge to production. In 2023, the return-to-production utilization of small-sized high-iron solid wastes increased by 30,000 tons, and all high-iron dusts were returned to production. On the basis of maintaining "solid waste shall be disposed of in the plant", the return-to-production utilization of solid waste reached over 28%, and the comprehensive utilization rate of solid waste reached over 99.9%.

### Recycling — intensively develop solid waste recycling

Baosteel fully utilizes the characteristics of solid waste generated from ironmaking, steelmaking, and power generation, and conducts full-scale application in the building materials industry. We have developed composite cementitious products, thereby realizing the full-scale application of bulk solid waste in the building materials industry. In addition, we utilize solid waste resources, expand the application of comprehensive utilization products such as soil curing agent and hardener flooring in factory projects, enhance the "internal recycling" of solid waste utilization, and reduce the volume of solid waste disposed of outside the plant.

Baosteel meticulously comprehends policy documents such as the *Comments on Comprehensively and Accurately Implementing the New Development Concept and Conducting Carbon Peaking and Carbon Neutrality*, the *Notice on the Action Plan for Carbon Peaking by 2030*, the *Implementation Plan for Carbon Peaking in Industry*, the *14th Five-Year Plan for Green Development in Industry*, the *14th Five-Year Plan for Raw Material Industry Development*, and the *Guideline on Promoting High-Quality Development of the Iron and Steel Industry*. The Company adheres to the development pathway of "Innovation, Coordination, Green, Openness, and Sharing", focuses on "bottleneck" technology and green low-carbon technology breakthroughs oriented by high-end, intelligence, green, and efficiency, explore carbon neutral technology paths suitable for the current

**2023**

The first mass-produced low-carbon automotive plate product in China, and Baosteel's first mass-produced low-carbon steel coil (BeyondECO®-30%), were officially launched at the 1550 electro-galvanizing unit in Baoshan Base

**2025**

In 2025, the near-zero GHG emissions demonstration line will be completed in Dongshan Base, with annual capacity of 1.8 million tons of low-carbon plates per year, to explore the zero-carbon steel production technology

**2035**

By 2035, the hydrogen-based shaft furnace production line with a capacity of 1.8 million tons per year will fully utilize green power and green hydrogen

**The 2035 Low-Carbon Steel Product Plan**

Baosteel's green and low-carbon products are extensively applied in new energy vehicles and low-carbon transportation, efficient power transmission and distribution, energy efficiency improvement, wind and solar power, hydrogen, and ammonia new energy industries, thus promoting the green and low-carbon transformation of the economy and society.

## Low-carbon products

Baosteel effectively reduces carbon emissions in production with the application of breakthrough production processes such as HyCROF, hydrogen-based shaft furnaces, and high-efficiency electric arc furnaces, and further reduces carbon emissions in steel manufacturing by using green energy and recycling scrap steel, to provide the society with more low carbon and zero-carbon emissions high-grade steel products.



**Mutual promotion between BeyondECO® low-carbon steel brand and product brand**

BeyondECO® is a low-carbon steel brand officially launched by Baosteel in 2022, aiming to achieve carbon footprint reduction of 30%-80% through a series of metallurgical technologies, including high scrap steel ratio, electric arc furnace steelmaking, hydrogen-based reduction, and the use of green power in manufacturing.

In 2023, Baosteel officially launched the first mass-produced coil of galvanized automotive plate BeyondECO®-RC-BF, its low-carbon steel brand. This was Baosteel's first mass-produced coil of low-carbon automotive plate, and the first coil of low-carbon steel under mass production in China's automotive industry, with epoch-making significance. BeyondECO®-RC-BF is subject to strict carbon reduction measures and production process paths. This low-carbon steel has lower carbon emission intensity (by 30%) compared with steel coils manufactured by traditional process paths. Through evaluation, key indicators of the material meet the

development status of China's steel industry, and boost the upstream and downstream supply chains to jointly realize green and low-carbon development.

Knowing that steel is a highly recyclable green material, Baosteel actively caters to the demand for green and low-carbon development, vigorously develops and supplies high-strength, high-energy efficiency, corrosion-resistant, long-service life, highly functional green and low-carbon steel products, and builds Baosteel low-carbon brand based on low-carbon smelting technology. The Company conducts low-carbon smart management and carbon footprint assessment to improve the green attributes of its products. Furthermore, we have formulated the 2035 low-carbon steel product supply plan, to provide customers with more competitive steel materials.

## Green products

Baosteel actively develops green products with high strength, high energy efficiency, corrosion resistance, long service life, and high functionality, focuses on energy conservation and emission reduction during service of steel products, and provides more competitive steel products for the low-carbon transformation of the industrial chain.

### Silicon steel BeCOREs

China's energy and power production and consumption are undergoing profound changes, the technological progress of electrical and electronic products and non-oriented silicon steel are subject to higher requirements. Green and low-carbon products have become a common consensus in the whole society. As the world's largest supplier of non-oriented silicon steel, "BeCOREs® Baosteel Silicon Steel" has continuously developed and launched high-grade oriented and non-oriented silicon steel, providing customers with a series of products and material upgrading solutions, and constantly injecting green energy into the downstream industries. In 2023, Baosteel became the world's largest manufacturer of silicon steel products, covering the full range of silicon steel products. Baosteel Silicon Steel BeCOREs will shoulder the national "Carbon Peaking and Carbon Neutrality" strategic industrial mission and provide green raw materials for the industrial chain.



At the 3rd Non-oriented Silicon Steel Application Technology Conference, Baosteel's three non-oriented silicon steel products with thicknesses of 0.25mm, 0.27mm, and 0.30mm made their global debut, which are the products with the best comprehensive performance among non-oriented silicon steel materials, thus providing the best core material for high-speed motors.

### Automotive plate solutions

Baosteel actively explores low-carbon process for automotive steel. In 2021, the Company launched the SMARTeX solution for new energy vehicles, which helped vehicle manufacturers break through the bottleneck of lightweighting while ensuring vehicle safety. Furthermore, we promote carbon emission reduction in terms of steel plate manufacturing and vehicle driving.

SMARTeX solution for new energy vehicle integrates materials and processes, technology and services, digitalization, low-carbon as well as other comprehensive advantages to cover all body materials. Baosteel is committed to providing full-process near-zero GHG emissions body materials for automotive industry in the near future, and boosting full-life cycle carbon neutrality in automobile manufacturing. As a high-strength steel with tensile strength over 1,000 MPa, X-GPa® products are subject to easier design and use due to their high strength, high ductility, excellent bending characteristics, high yield ratio, and high reaming properties. They can meet the lightweight and safety requirements of automotive industry. They are regarded as a green model of Baosteel's "Carbon Peaking and Carbon Neutrality" practice.

#### BCB EV ultralight high-safety electric vehicle body-in-white

The solution uses 50% of X-GPa®, realizing a 16% lightweighting and a 60% steel utilization rate. 200 kilograms of carbon dioxide emissions can be reduced due to the steel used in each body-in-white manufacturing.

#### BCB EV X-GPa® flexible battery pack

The solution uses 100% X-GPa®, realizing a 12.5% lightweighting and a 80% steel utilization rate. 31.5 kilograms of carbon dioxide emissions can be reduced due to the steel used in each battery pack.

#### Lightweight vehicle seat steel

This solution not only provides advanced high-strength steel and precision punching steel for key structural components and core parts of the skeleton, but also with complete static and dynamic structural analysis capabilities and typical parts punching synchronous engineering capabilities.

## About Baosteel

Baosteel upholds the corporate culture concept, adheres to the cognition of "coexistence with crises", and fully implements the deployment requirements of "high-end, intelligent, green, and efficient" and "make-to-order production, profitable revenue, marginal production, profits in cash" with responsibility and diligence. The Company follows high-quality objectives and high standards to build an innovative development pattern, strive for excellence in benchmarking and defect finding as well as in transformation and innovation. We fulfill the responsibility of "backbone" in steel industry, and write a new chapter for Baosteel in building a world-class enterprise.

### Vision

- To be "the most competitive steel enterprise of the world" and "the listed enterprise with the biggest investment value"

### Mission

- Being the model of the high-quality development of the steel industry
- Being the leader of the future steel industry

### Values

- |              |           |
|--------------|-----------|
| • Integrity  | • Green   |
| • Innovation | • Sharing |

### Culture cognition

- The knowledge and action of Baosteel's personnel

Corporate Culture System of Baosteel

## Company profile

### Overview

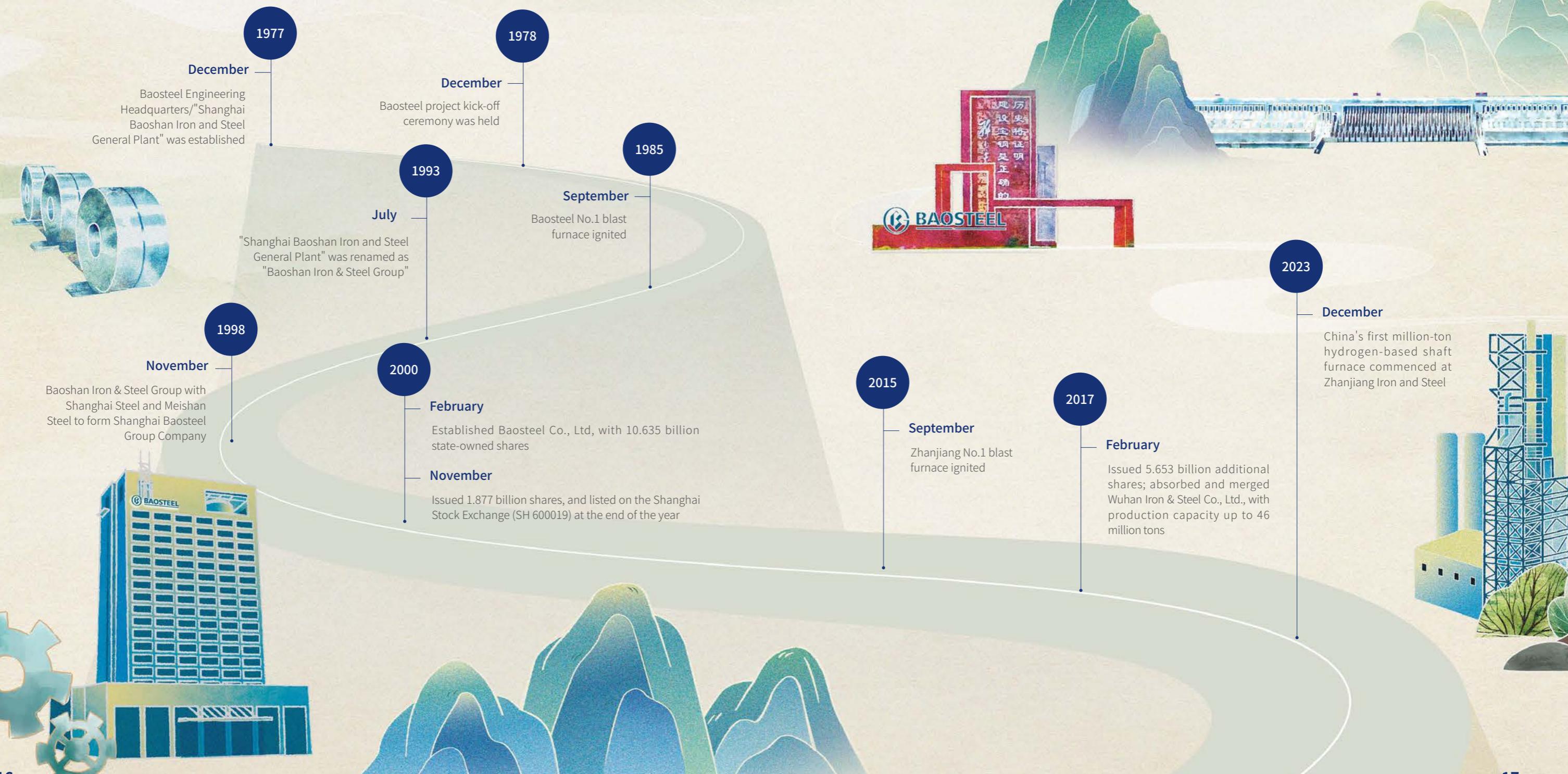
Baoshan Iron & Steel Co., Ltd. is the most modernized super-large steel conglomerate in China and a world-class steel joint venture. Its parent company, China Baowu, was among top 50 of Fortune Global 500 for the second time in 2022-2023. Baosteel was included in the list of "China's Most Admired Companies" and ranked No.1 in the metal industry. The Company focuses on the steel industry. With Shanghai Baoshan (Baoshan Base), Wuhan Qingshan (Qingshan Base), Zhanjiang Dongshan (Dongshan Base), and Nanjing Meishan (Meishan Base), we are one of the steel enterprises with the most complete variety of carbon steel in the world. Facing the long-term structural adjustment of the steel industry, Baosteel persists in high-end, intelligence, green, and efficiency, and adheres to the development path of technological innovation, green and low-carbon, intelligent manufacturing, and efficient and intensive development, making positive contributions to technological progress, environmental protection, and sustainable development in the steel industry.

In face of the current situation in steel industry, Baosteel is committed to working together with all parties to leverage respective advantages and system capabilities, deepen pragmatic cooperation in areas such as collaborative innovation, overseas project construction, intelligent manufacturing, green and low-carbon, and jointly facilitate high-quality development. In 2023, Baosteel's four bases worked side by side, and all divisions, subsidiaries, and overseas companies made full efforts to achieve excellent results in production and operation, further consolidating the industry-first position. The Company focuses on high-end, green, intelligence, efficiency, and internationalization, persists in high-quality development, and aims to take solid steps towards the world-class enterprise.

The Company shoulders the significant mission of pursuing green and low-carbon transition in the steel industry and addressing climate change. On the one hand, we are committed to setting up a green manufacturing paradigm centered on promoting ultimate energy efficiency, popularizing green energy and low-carbon metallurgy, and circular economy, and integrating intelligent technology into the entire process of green and low-carbon technological transformation to accelerate upgrading of steel manufacturing and realize green manufacturing. On the other hand, we actively develop low-carbon steel products, engage in mass production of the first low-carbon automotive plate product in China, focus on the development of new products in clean energy industry, assist downstream enterprises in realizing low-carbon transformation, and build a greener society.

## Company history

Baosteel was listed on the Shanghai Stock Exchange in December 2000 (stock code: 600019). It is now a competitive steel conglomerate both at home and abroad. Looking into the future, Baosteel will spare no efforts to become a demonstrator of world-class enterprise and a pioneer of reform and development for China Baowu. We are committed to becoming a backbone for enhancing core functions and improving core competitiveness.



## Strategic development

The Company focuses on building core competencies to cope with future challenges, upgrading and implementing a new "1+5" development strategy<sup>1</sup> with "scale + capability", aiming to become a world-class steel enterprise. In 2024, we will follow the general operation policy of "innovation leading, digital intelligence empowerment, green and low-carbon, collaborative value creation", focus on promoting high-quality development, adhere to "high-end, intelligence, green, and efficiency"<sup>2</sup> development direction and the "make to order, marginal product, profitable revenue, and cash profit"<sup>3</sup> business principles, continuously enhance core functions and core competitiveness, unswervingly strive to be a stronger and better player, stabilize the industry-first business performance in China, and open up a new dimension of innovation-driven high-quality development.



Baosteel's "1+5" Development Strategy

<sup>1</sup> The Company's development strategy consists of one model and five capabilities, referred to as the "1+5" development strategy, specifically: adhering to the management model of high-quality development and innovating multiple manufacturing bases, continuously improving the five capabilities of product management, technological leadership, green and low-carbon development, smart manufacturing, and efficiency improvement, actively exploring and practicing future steel, and becoming a global leader

<sup>2</sup> Refers to high-end, intelligence, green, and efficiency

<sup>3</sup> Refers to make to order, marginal product, profitable revenue, and cash profit

## Awards and honors

Baosteel actively performs its corporate mission and social responsibility. The Company is committed to becoming the ultimate energy efficiency forerunner, green energy practitioner, low-carbon metallurgy demonstrator, low-carbon product leader, blue sky and clear water guardian, and waste-free city builder. We proactively present a new image of ESG pioneer and boost the sustainable development of the steel industry.

During the reporting period, Baosteel's performance in ESG received a lot of recognition from all sectors of society thanks to its continuous efforts, including:

Winning the Five-Star Rating of "China ESG Listed Company Pioneer 100" List

Included into the "Central SOE ESG · 100 Index" for the second time

Rated "Excellent" in the "Carbon Peaking and Carbon Neutrality Leadership Ranking of Chinese Listed Companies (2023)" jointly released by *Caijing* and SinoCarbon Innovation & Investment

Selected into Standard & Poor's first edition of *Global Yearbook of Sustainable Development (China Edition) 2023*, winning the "Best Progressive Enterprise in the Industry"

Carbon Neutral Top 50 of the 1st Guoxin Cup ESG Golden Bull Award, and the 25th Golden Information Disclosure Award for Listed Company sponsored by China Securities Journal

Winning the *Fortune* "Most Admired Chinese Companies List 2023", included into "All-Star list" "Industry Star List", and ranked first in the metal category of "Industry Star List"

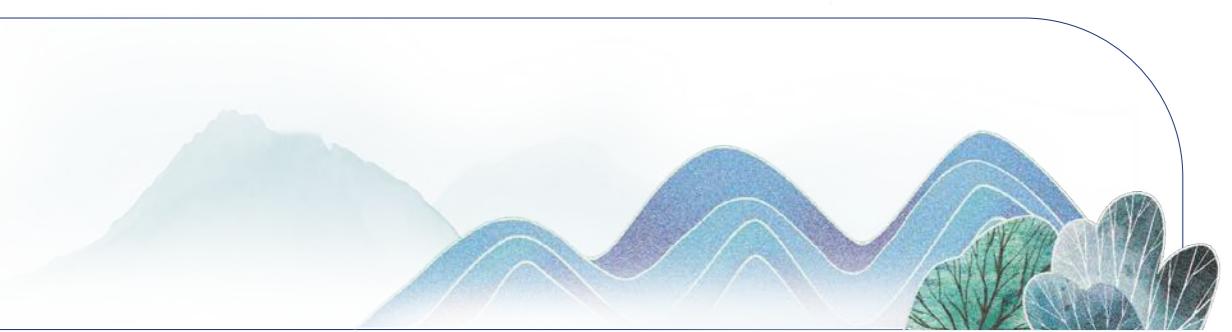
Awarded "China Business Top 100" and "China Top 100 Enterprises with Special Contribution" at China Top 100 Listed Companies Summit Forum for the second time





## ESG management

Baosteel incorporates ESG philosophy into corporate management and operation, captures green development opportunities, constantly improves sustainable development, and contributes to the transformation, upgrading, and high-quality development of China's steel industry.



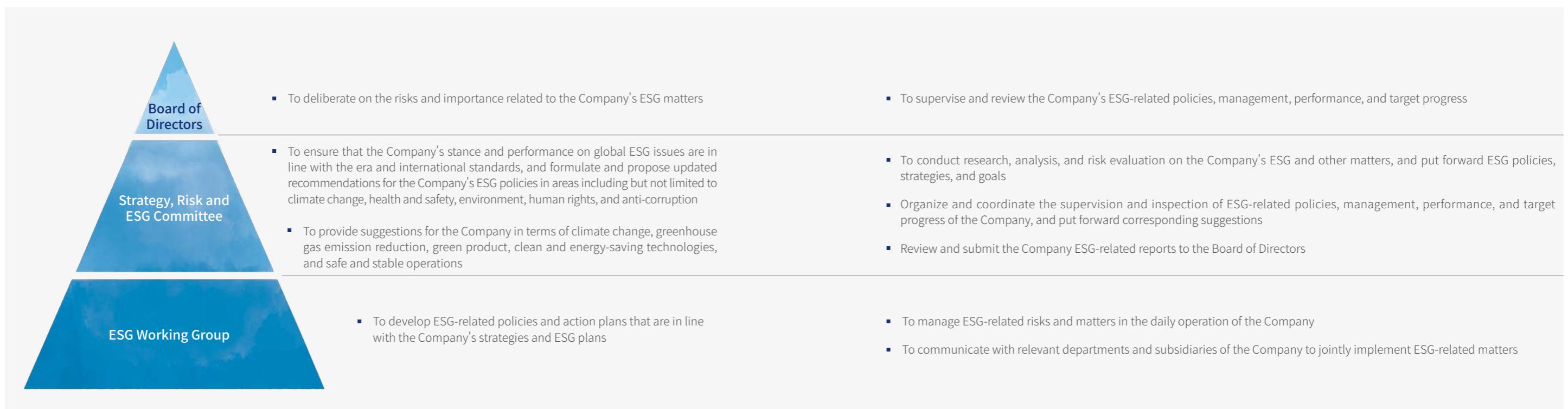
### ESG Guideline

Compliance management, risk prevention and control, employee care, respect for human rights, green and low-carbon, sustainable procurement, to become the world's most competitive steel enterprise and the most valuable listed company for investment.

### ESG management structure

To formulate and implement the Company's long-term sustainable development strategies, Baosteel has drafted up management systems such as the *ESG Management Policy*, and established a multi-tier top-down management structure consisting of the Board of Directors as leadership, the Strategy, Risk and ESG Committee as the core, and the ESG Working Group as executive level. For a detailed scope of duties, please refer to the *Announcement of Baosteel on the Proposal for ESG Governance Structure (Announcement No.: L2021-040)*.

We link the compensation of directors and senior management to sustainability performance indicators, incorporate indicators such as safety, environmental, social, governance, compliance management into the incentive and compensation plans for senior executives, and take reward or punishment measures in view of the annual ESG evaluation results, to ensure the effective implementation of key ESG goals and initiatives and deepen the governance capacity of sustainable development. In 2023, in addition to such indicators as promoting green development, advancing "the ideas about ultra-low emission of waste gas, zero wastewater discharge, "solid waste shall be disposed of within the plant", cleaning, greening, beautification, and culture", and low-carbon metallurgy technology R&D, Baosteel incorporated the ESG system improvement into the annual performance goals of relevant management as a special indicator. As for the assessment of Baosteel's General Manager, Mr. Wu Xiaodi, "promoting intelligent and green development" weights for 20%, and "improving ESG system capacity" weights for 5%; as for the assessment of the Deputy General Manager, Mr. Fu Jianguo, "advancing the ideas about ultra-low emission of waste gas, zero wastewater discharge, "solid waste shall be disposed of within the plant", cleaning, greening, beautification, and culture" weights for 15%. Baosteel will evaluate the relevant performance goals of the management in the future and apply them to salary payment. During the reporting period, the Strategy, Risk and ESG Committee held two meeting to review ESG-related proposals, organized sustainable development and ESG work, analyzed ESG risks, and review ESG-related polices, regulations, standards, trends, and stakeholder's appeals.



Baosteel's ESG Governance Structure

## Communication with stakeholders

Baosteel has identified the key stakeholders having decision-making power and influence on the Group based on its business nature and operational characteristics taking into account global industry experiences and practices, and established a regular communication mechanism with stakeholders. We ensure that our environmental and social impacts are in line with the stakeholders' expectations while taking full account of the impact of ESG risks and opportunities on the Company. The Company's key stakeholders are divided into the following eight categories:

- Staff
- Government departments, regulatory agencies and auditors
- Shareholders, investors and rating agencies
- Customers
- Community members, organizations and non-governmental organizations
- Suppliers, service providers and contractors
- Industry partners, industry associations and scientific research institutions
- Media

The primary issues of concern to various stakeholders and their communication with the Company are as follows:

Stakeholder	Material Issues			Communication Channels/Response
 Staff	Occupational health and safety Talent training and retention Employee rights and benefits	Promotion and development Diversity and equality Employee communication		Employee activities Internal publications (newspaper, magazines) Employee performance appraisal Multimedia (public and other social platforms)
 Government departments, regulatory agencies and auditors	Environmental management system Environmental technology R&D Energy efficiency Water use efficiency	Wastewater disposal Carbon reduction and carbon neutrality Greenhouse gases emission Air pollution	Waste management Scrap recycling New energy use Biodiversity	Site investigation Meeting
 Shareholders, investors and rating agencies	Economic and financial performance Risk and crisis management Corporate governance	ESG management system establishment Business ethics Climate change risks and opportunities		General meeting of shareholders Investors meeting Performance conference Press release/announcement Site investigation
 Customers	Technology and innovation Product quality and safety Customer service Information security	Responsible marketing Privacy protection Green product development	Green factory Intellectual property protection	Customer satisfaction survey Customer line Official media platform Customer conference
 Community members, organizations and non-governmental organizations	Charity work Community participation and integration			Press release/announcement Public welfare undertakings
 Suppliers, service providers and contractors	Supply chain cooperation Supplier approval and evaluation	Supply chain ESG management Conflict minerals		Supplier qualification review Supplier exchange conference
 Industry partners, industry associations, and scientific research institutions	Win-win industry development	Smart manufacturing		Industry association Exhibition
 Media	Information disclosure			Media press conference Press release/announcement Official media platform

## Investor exchange

In 2023, the Company received 33 groups of 161 investors for on-site surveys, 61 roadshows, participated in 46 investor strategy meetings of internationally renowned investment banks and domestic securities firms, held 41 telephone conferences, and answered 400 online investor questions.

In July 2023, the Company's Chairman accepted a special interview with Tonghuashun's "Dialogue with Listed Companies" to answer investors' questions about high-quality development, green and low-carbon, silicon steel, market valuation and other issues. The video was widely watched, with a cumulative viewership of 150,000.

In October 2023, the Company cooperated with the Investor Services Center and Shanghai Securities News to carry out the "Visiting Blue Chip Baosteel" event, organize dozens of investors and journalists to visit representative sites such as the blast furnace square, hot rolling, Light-off Factory, etc. at Baoshan Base, and closely experience the latest achievements of Baosteel in intelligent manufacturing and green environmental protection in recent years. The Deputy General Manager, CFO, and the Board Secretary, Ms Wang Juan, led the whole visit and conducted in-depth interactive exchanges with investors.

## Investor return

The Company's *Articles of Association* stipulate that the cash dividends distributed shall not be less than 50% of the net profit attributable to the parent company in the audited and consolidated statements for the current year, and the total dividend paid out to date has exceeded RMB 120 billion. From 2021 to 2023, the Company increased the frequency of dividends distribution and changed the dividend cycle from annual to semi-annual.

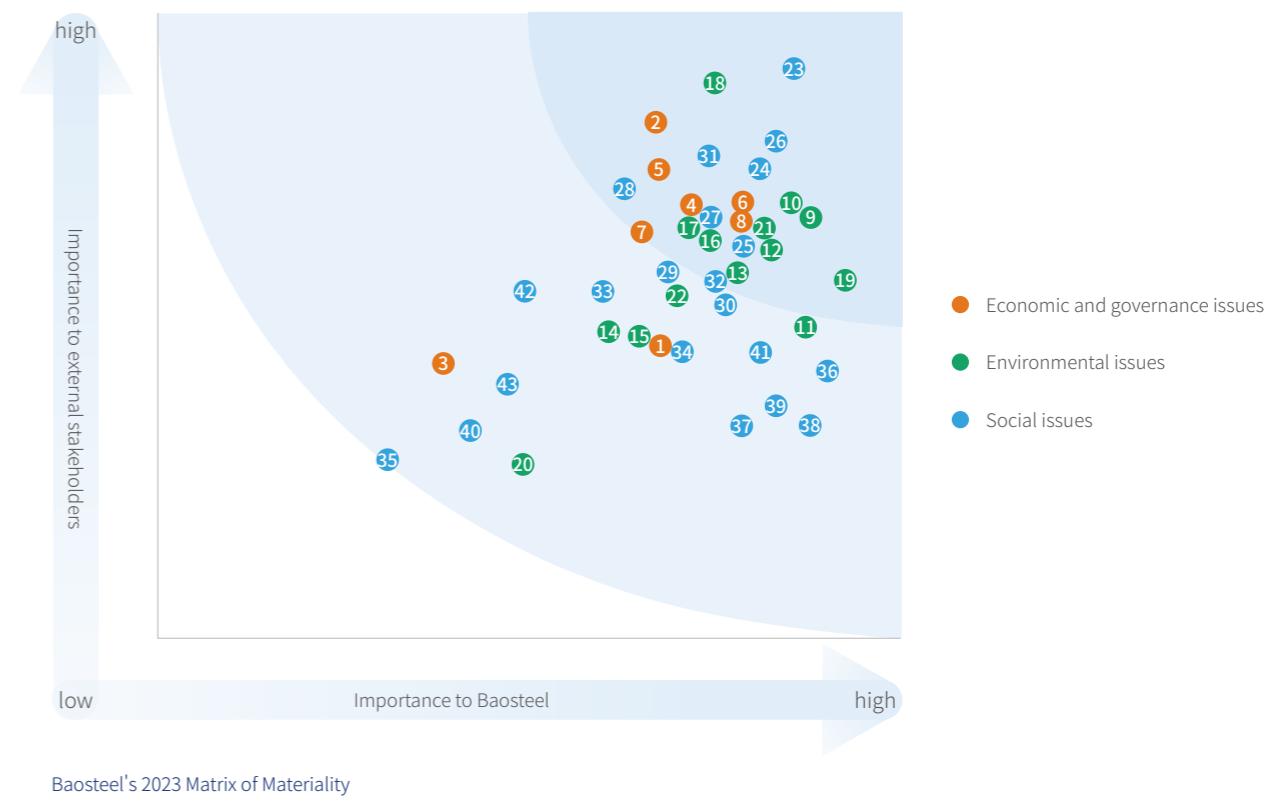
In October 2023, the Company had distributed half-year profits at a cash dividend of RMB 0.11 per share (tax inclusive), and planned to distribute cash dividends of RMB 0.20 per share (tax inclusive) in the second half. The total dividend is expected to be RMB 6.782 billion (tax inclusive) in 2023, accounting for 56.78% of the net profit attributable to shareholders of the parent company in the consolidated statements.

## Material ESG issues

During the reporting period, we adhered to the dual-importance evaluation principle, comprehensively considered impact importance and financial importance of each ESG issue, identified 22 highly important issues and 21 moderately material issues, and drew a matrix of material issues. These issues will be disclosed in subsequent sections of the Report in response to stakeholder demands.

Issue identification	Communication with stakeholder	Screening and evaluation	Review and confirm
Understand regulatory guidelines, explore the ESG issues of concern to capital market rating agencies, and synchronize peer benchmarking in view of the issues of concern to external stakeholders  Identify the significant issues that reflect the impact of Baoshan Iron & Steel's business on the economy, environment, and society	Conduct surveys on key stakeholders such as investors, consumers, suppliers and communities  Understand the material issues of concern to all stakeholders	Sequence issues in view of their maturity, the attention of stakeholders, and their importance to Baoshan Iron & Steel  Comprehensively considered impact importance and financial importance  Draw materiality matrix and use it to analyze the truly material issues	The Board of Directors of Baoshan Iron & Steel confirms the substantive issues to be disclosed and made a report disclosure

Analysis Process of Important ESG Issues



Category	No. Topics
<b>Highly Material Issues</b>	
Economy and governance	2 Corporate governance 4 Risk and crisis management 5 Business ethics 6 Party conduct construction and anti-corruption 7 Information disclosure 8 Information security
Environment	9 Environmental management system 10 Energy efficiency 13 Air pollution 14 Wastewater disposal 15 Waste management 16 Greenhouse gases emission 17 Carbon reduction and carbon neutrality 19 Green factory
Society	23 Product quality and safety 24 Customer service 25 Intellectual property protection 26 Technology and innovation 27 Smart manufacturing 28 Green product development 31 Win-win industry development 39 Diversity and equality
<b>Medium Material Issues</b>	
Economy and governance	1 Economic and financial performance 3 ESG management system establishment 11 New energy use 12 Water use efficiency 18 Climate change risks and opportunities
Environment	20 Biodiversity 21 Scrap recycling 22 Environmental technology research and development
Society	29 Responsible marketing 30 Privacy protection 32 Supplier approval and evaluation 33 Supply chain cooperation 34 Supply chain ESG management 35 Conflict minerals 36 Employee rights and benefits 37 Promotion and development 38 Talent training and retention 40 Occupational health and safety 41 Employee communication 42 Community participation and integration 43 Charity work

# 01

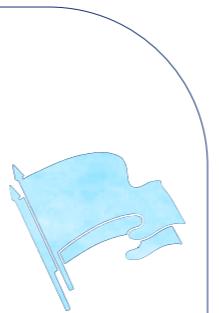
## Governance



In full compliance with laws, regulations, and listing management regulations, Baosteel has established a governance structure with its characteristics that is in line with the features of the steel industry and supportive to the Company's strategic development, aiming at fortifying the foundation of governance. In addition, we constantly deepen standardized operation, strengthen scientific governance, continuously improve tax, compliance and risk management and information security system, actively share enterprise development achievements with investors, shareholders, customers, suppliers, and other groups, and create long-term values together with upstream and downstream partners.

# Party leadership

In 2023, under the leadership of the Party Committee of China Baowu, the Party Committee of Baosteel conducted in-depth study and implemented the spirits of the 20th CPC National Congress and the Second Plenary Session of the 20th CPC Central Committee, conscientiously follow the general requirements for Party building and the Party's organizational line in the new era, accomplish key tasks in the Company's reform, development, stability, and Party building, and effectively ensure the Company's high-quality development with excellent Party building.



## Showcase clear-cut political stand

**Improve institutional mechanisms.** We regularly follow President Xi Jinping's speeches and instructions; develop and promote the standardization and long-term implementation of the "first issue" system; strictly implement the system of request for instructions.

**Enhance political competence.** We enhance the ability of Party members and cadres to view, think, and handle issues from a political perspective, and control the overall situation by organizing training on the spirit of the 20th CPC National Congress, strengthening political experiences, establishing a correct view towards political achievements, and highlighting practical work.

## Concentrate heart and soul for enhancement

**Conduct centralized education.** We conduct the education on Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as a major political task in two batches from top to bottom, implement various key measures to achieve solid results in cultivating the soul, enhancing wisdom, rectifying conduct, and promoting work through learning.

**Strengthen the mainstream ideology and public opinions.** We deepen the ideological work commitment system, and consolidate the ideological work responsibilities of Party organizations at all levels; promote the Party's innovative theories in work teams and positions by organizing "ideological and political classes" and other activities, thus conveying the ideology to the public.

## Build a strong leadership group

**Focus on building a high-quality cadre team.** We will adhere to the principle of the Party controlling cadres, comply with the "20-character" standard for SOE leaders, give full play to the role of the Party organization in selecting and appointing capable people, strengthen the leadership group, improve the reserve talent training mechanism, optimize the team structure, upgrade the performance evaluation mechanism, stimulate the vitality of cadres, and strive to build a high-quality cadre team capable of facilitating the Company's high-quality development.

**Build high-level talent pool.** Baosteel will focus on accelerating the construction of talent highlands. We adhere to the principle of the Party's management of talents, implement the spirit of the Central Talent Work Conference, formulate the "159" Talent Project and propose the main indicators of talent development, namely, a number of academicians or equivalent level of strategic scientists, a dozen Baowu scientists or high-level composite talent, a hundred-level industry leaders, thousands of outstanding engineers, 10,000-level highly skilled personnel. We will promote the Nine Program such as the Operation Management Training Program, the Leading Program, and the Engineer Excellent Training Program to provide institutional and mechanism guarantees for the establishment of talent pool.

## Strengthen system and mechanism

**Comprehensively strengthen grassroots Party organizations.** Baosteel focuses on strengthening grassroots organizations and further promotes the "creating products with a production capacity of one million tons, a gross profit of RMB 1,000 per ton, a total gross profit of RMB 1 billion, pioneering project; continues to promote the work of "one Party committee for one brand, and each Party branch with respective characteristic"; and constantly strengthens the construction of "grassroots organization, team, and systems". We strictly implement the "Four Synchronizations" and "Four Connections" policies to ensure the full coverage of the Party's organization and work.

**Enhance the quality and efficiency of Party member education and management.** Baosteel adheres to the principle of full coverage, all-round and full-cycle strengthening of Party member education and management. We highlight political standards, admit 125 Party members, conscientiously implement the *2019-2023 National Party Member Education and Training Work Plan* to achieve the expected goals, strengthen intra-Party incentives, care, and assistance, and prioritize the establishment of Party organization secretaries, Party affairs workers, and Party members at different levels and categories.

**Advance seamless integration of Party building and businesses.** Baosteel focuses on Party building and promoting businesses through Party building. By organizing situation and task education, Party organization co-construction, "Party branch mutual assistance", "striving to create first-class" themed activities, establishing Party member commando, Party member demonstration post, Party member responsibility area, etc., Baosteel continuously advances the seamless integration of Party building with production and operation.

## Strictly enforce discipline and supervision

**Advance the concrete, precise, and standardized political supervision.** Baosteel adheres to concrete, precise, and standardized political supervision, and integrates political supervision throughout enterprise production and operation, reform, and development. We carry out political supervision centering on green and low-carbon development, major core technological breakthrough, rural revitalization, and the implementation of major tasks in "marketing, procurement, and manufacturing", to ensure the effective implementation of the CPC Central Committee decisions and deployments.

**Follow the CPC Central Committee's eight-point decision on improving Party and government conduct and their implementation rules.** Baosteel has been relentlessly implementing the CPC Central Committee's eight-point decision on improving Party and government conduct and their implementation rules. We have organized 715 inspections on the "four bad styles; i.e. formalism; bureaucratism; hedonism; extravagance" during major holidays; carried out propaganda on the deeds of outstanding Party members in integrity and public service to create a clean and upright atmosphere; organized new cadres to receive centralized integrity education, and put forward requirements for work style, thereby efficiently promoting the Company's strategic deployment with excellent work style.

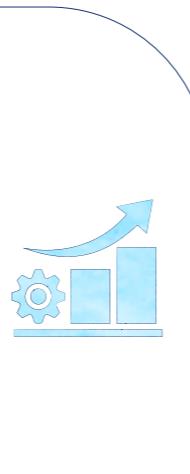
**Promote systems and mechanisms that create enough deterrence so that officials neither dare, can nor even think of being corrupt in an integrated manner.** We focus on major areas and key links with concentrated power, intensive funds, and abundant resources, and strengthen supervision and inspection. We adhere to deepening the promotion of education, reform, and governance through cases. We promote a clean culture and cultivate a political ecology of integrity and honesty.

## Well-defined responsibilities to ensure implementation

**Consolidate the Party building responsibilities.** Baosteel firmly grasps the "key point" of the Party building responsibility system, establishes responsibilities list, tasks list, negative list, and evaluation lists, and implements the responsibilities for Party building at all levels through "four major responsibilities". We adhere to the principle of "organization evaluating and secretary reviewing", ensure full coverage of all required statements, continuously enhance the awareness of Party governance, and implement the responsibility of Party governance.

# Corporate governance

Baosteel adheres to the principles of compliance, initiative, integrity, and trustworthiness, safeguards the rights and interests of shareholders, strengthens communication with investors and potential investors, and continuously improves corporate value. We strictly comply with laws and regulations as well as normative documents such as the *Company Law*, the *Securities Law*, and the China Securities Regulatory Commission's *Code of Corporate Governance for Listed Companies in China*, the *Rules Governing the Listing of Stocks on Shanghai Stock Exchange*, and the *Guidelines for Self-Regulatory of Listed Companies No. 1—Standardized Operation*, and make management decisions and operational supervision in accordance with the Company's *Articles of Association* and the rules of procedure of the committees under the Board of Directors. We consistently standardize the Company's operation and effectively improve the quality of corporate governance operations.



The Company has established a corporate governance structure under the leadership of the Board of Directors. The Board of Directors consists of the Strategy, Risk and ESG Committee, the Audit and Internal Control Compliance Management Committee, the Remuneration Committee, and the Nomination Committee. The corporate governance principles are implemented from top to bottom to ensure compliant operations and efficient business activities. In addition to the Strategy, Risk and ESG Committee, all committees under the Board of Directors have independent directors account for the majority and serve as conveners, and they diligently perform respective duties, thus effectively ensuring the independence and fairness of audit, internal control, assessment and appointment of directors and senior executives.



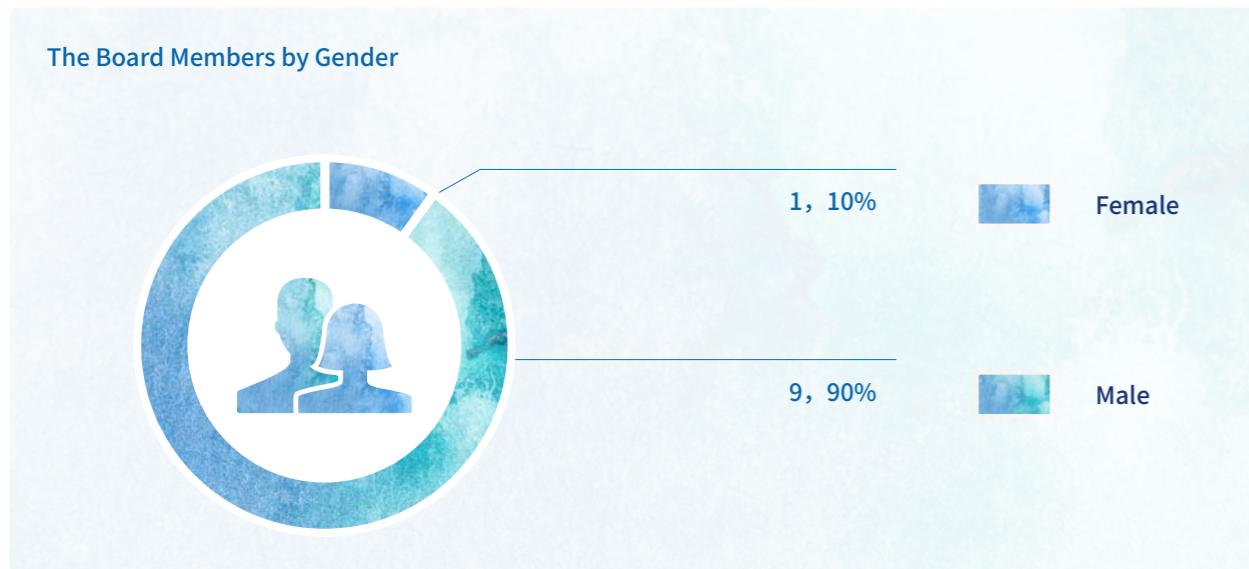
## Board diversity

Baosteel has been constantly optimizing the composition of the Board of Directors and promoting the diversification of the board structure. A reasonable composition of the Board members can ensure the scientific and rigorous decision-making. Over the years, the Company has practiced diversification of Board members in multiple aspects such as "background, gender, home and abroad, domestic and overseas", to ensure that more than half of the Board members are external directors, a combination of new and old members, and a mix of various professional backgrounds. The Company has developed the *Declaration on Diversity and Independence of Board Members*, incorporating diversified factor (including but not limited to gender, age, cultural and educational background, race, professional ability, professional qualification and professional experience) into the appointment considerations to bring diverse perspectives and views to the Company's senior decision-making. To further improve the transparency of the governance structure, the Company has formulated the *Rules of Procedure for the Board of Directors of Baosteel*, which clearly requires that the Board meeting shall be attended by more than half of the directors, with minimum attendance rate of 50%. During the reporting period, the average attendance rate of the Board meeting of Baosteel was 100%.

In 2023, the China Securities Regulatory Commission issued the *Administrative Measures for Independent Directors of Listed Companies* (hereinafter referred to as "the Measures") in accordance with the *Opinions on the Reform of the Independent Director System of Listed Companies* issued by the General Office of the State Council. We took into account our own situation and sorted out the special meeting mechanism of independent directors, the independence of directors, their qualifications, tenure, number of part-time jobs, performance guarantees, and the system in comparison with the Measures. We have put forward suggestions and plans for subsequent improvement and optimization to adapt to the higher requirements of the new rules for standardized operation and information disclosure. During the reporting period, the specific composition of Baosteel's Board of Directors was as follows:

Name	Age	Gender	Industry Experience		Board of Directors	Strategy, Risk and ESG Committee	Audit and Internal Control Compliance Management Committee	Remuneration and Assessment Committee	Nomination Committee
			GICS 1 classification	Description					
<b>Non-independent directors</b>									
Zou Jixin	55	M	Materials - Metals and Mining	Rich experiences in enterprise management, corporate governance, green development, steel manufacturing management					
Wu Xiaodi	54	M	Materials - Metals and Mining	Rich experiences in steel manufacturing management, enterprise management, low-carbon metallurgy, etc.					
Gao Xiangming	61	M	Materials - Metals and Mining	Rich experiences in production management, operation management, low-carbon green development management of steel enterprises					
Yao Linlong	59	M	Materials - Metals and Mining	Rich experiences in production management, operation management, low-carbon green development management of steel enterprises					
Xie Qi <sup>4</sup>	52	M	Materials - Metals and Mining	Rich experiences in production management, operation management, low-carbon green development management of steel enterprises					
<b>Independent directors</b>									
Lu Xiongwen	57	M	Consumer Discretionary - consumer services - general consumer services - education services	Engaged in research on China's immature marketing, Internet economy, regional economy, enterprise organizational reform, sustainable development and corporate governance					
Xie Rong	71	M	Industrials-Commercial and professional services - Survey and consulting services	Engaged in research in the fields of accounting, auditing, internal control, risk management, etc.					
Bai Yanchun	57	M	Industrials-Commercial and professional services - Survey and consulting services	Rich experiences in corporate governance, risk control, etc.					
Tian Yong	64	M	Industrials-Commercial and professional services - Survey and consulting services	Years of experiences in national auditing, SOE auditing, and financial auditing of listed companies					
Chen Li	57	F	Consumer Discretionary - consumer services - general consumer services-education services	Engaged in teaching and research in private international law, international economic law, etc., with research focuses on international commercial arbitration system, interregional judicial assistance, international trade relief, Antarctic international governance, and Antarctic Treaty System					
<b>External Directors</b>									
Luo Jianchuan	60	M	Raw Materials - Metals and Mining	Rich experiences in corporate operation management, corporate governance, green development					

<sup>4</sup>Mr. Xie Qi resigned from the office on February 7, 2024



## Compensation of the Board of Directors and the senior management

We adhere to the compensation management philosophy of "salary payment based on job value, work performance, and personal contribution", and continue to optimize the compensation management system. According to the relevant regulations approved by the Board of Directors of Baosteel such as the *Senior Management Performance Evaluation Method* and the *Senior Management Compensation Management Method*, the annual payable salaries for senior executives and directors are determined based on their annual performance upon review and approval by the Company's Board of Directors.

The Baosteel CEO's compensation consists of fixed and variable components, it is determined in accordance with the relevant requirements of the *Senior Management Compensation Management Method* and the *Senior Management Performance Evaluation Method*. Following the performance-oriented approach, the Company establishes an annual performance indicator and a three-year tenure target system, focusing on the integration of current performance goals and long-term development goals. The production and operation performance indicators are aligned with environmental and system construction indicators, and the CEO's variable compensation is closely linked to individual performance, ultimately being cashed out based on performance scores.



## Tax strategy

Paying taxes in accordance with the law is the most fundamental social responsibility an enterprise should perform. As a responsible global corporate taxpayer, Baosteel follows tax-related laws and regulations of the country and the principles of fairness in the transfer pricing guidelines as stipulated by the Organization for Economic Cooperation and Development (OECD) in international transactions, and faithfully fulfills its declaration and tax obligations under domestic and international laws. We publicly disclose the *Baosteel Tax Policy* approved by the Board of Directors on the Company's official website (refer to <https://www.baosteel.com> for details). The Company's daily tax management work is standardized, orderly, and efficient by improving the Company's tax management system, establishing tax management systems and standards based on tax categories, and complementing with tax declaration, invoice management and other tax process systems.



### We pledge to:

- Comply with the tax laws and regulations in the countries/regions where we operate, and only participate in real business transactions.
- Disclose the Company's tax information to the public in a transparent manner. The financial statements and audit reports shall include information about the Company's deferred income tax assets, liabilities, company taxes, and tax rates.
- Refrain from using tax structure without commercial substance, actively comply with the guidance of tax policy, grow the business encouraged by the state, and fully enjoy tax preference.
- Fulfill tax declaration obligations in accordance with tax laws and carry out work while maintaining a transparent relationship with government authorities.
- Undertake transfer pricing using the arm's length principle, not to exploit tax law differences, loopholes in the international tax system or so-called "tax havens" for tax avoidance, and not to transfer the value we have created to low-tax jurisdictions.
- Select physical sites solely based on businesses, such as places where customers, suppliers, raw materials and technologies are located.

Regarding the transactions with overseas affiliates, the Company shall follow the principles of fairness in the OECD transfer pricing guidelines and relevant national tax regulations. In this case, we will prepare a transfer pricing report to oversee the process.

## Tax policy

**Governance**

The head office of the Company sets up a tax management function consisting of senior experts and specialized personnel to be responsible for the tax management and overall tax risk control of the parent company's legal person, as well as providing tax guidance and consultation for its subsidiaries. Subsidiaries at all levels set up tax management positions to ensure their strict compliance with tax obligations and prevent tax risks.

We intervene in major business activities such as company M&A, overseas business expansion, etc. in advance, evaluate the tax efficiency of investment structure and business operation mode, and provide effective support for the Company's decision-making.

We believe that tax governance is a sustainable process. We will dynamically track business processes, closely integrate it with business management structures and ESG goals, to establish a long-term sustainable tax management approach.

**Compliance**

We diligently fulfill our tax obligations and pay taxes according to the laws and tax treaties of the country. We work closely with the tax authorities of each country, earnestly fulfill our responsibilities as taxpayers, and contribute to local development and social benefits through compliant taxation.

We support international tax-related initiatives and will not exploit tax law differences between countries, loopholes in the international tax system or so-called "tax havens" to transfer income or avoid taxes between countries.

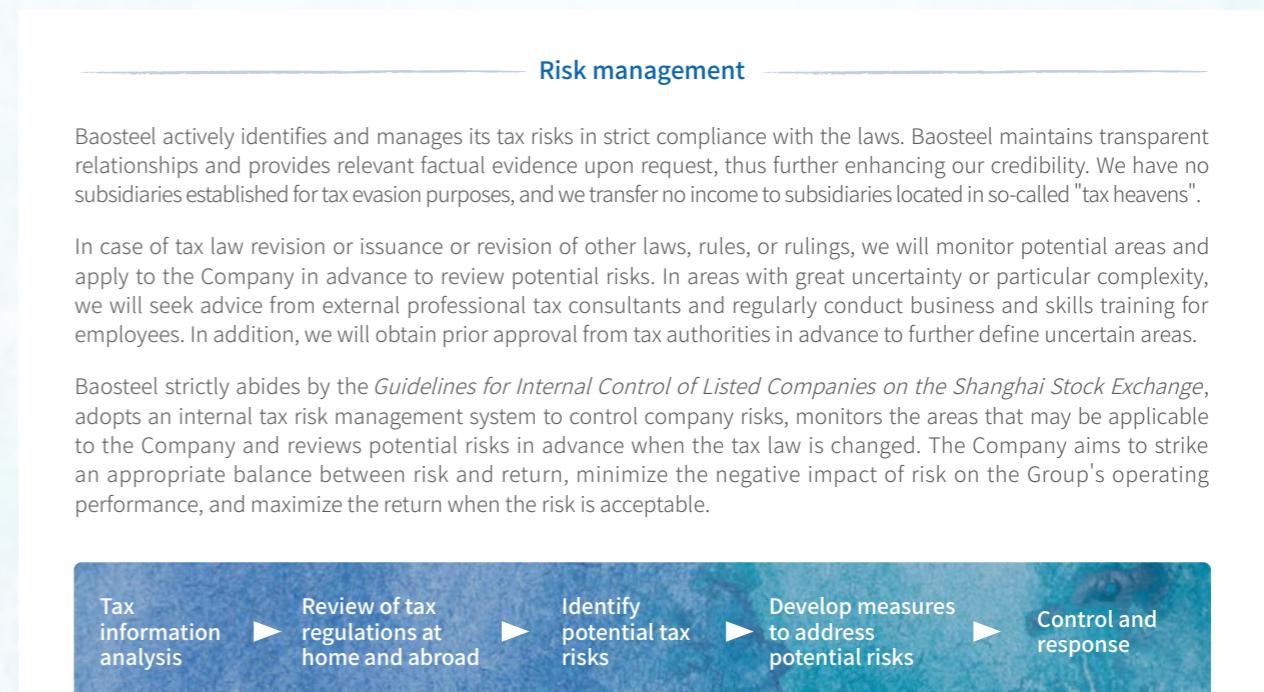
We utilize no tax structures without commercial purposes to evade taxes. All transactions with our subsidiaries are based on regular prices (applicable to parties having no special relationship with Baosteel in transactions with third parties). The appropriateness of transfer price is confirmed by external experts, and a transfer pricing report is prepared to monitor the process.

We recognize the risk of double taxation in transfer pricing involving our overseas operating locations due to the tax authorities competing for tax collection rights. To address this issue, we comply with the "normal price range."

**Transparency**

We disclose our tax information transparently through external announcements. Our financial statements and the notes thereto include information on our income tax calculation standards, deferred income tax assets and liabilities, income tax expenses, and our effective tax rate, which are verified transparently and objectively through external audits.

We engage in open and constructive dialogue with tax authorities and other relevant agencies on the basis of mutual respect, transparency, and trust, submit financial and tax information in line with the principle of cooperation and compliance, and maintain sufficient accounting records to support and explain our tax status, so that the Company complies with any necessary disclosures.



Tax Risk Management System

In addition, Baosteel evaluates the compliance of its daily business activities with relevant national tax regulations and internal tax management policies every year, and rectify the found problems.

### During the reporting period

The Company **did not see** any major tax violation.

## Tax filing

Baosteel faithfully fulfills its declaration and tax obligations under domestic and international laws every year, and has no outstanding tax payments. Currently, we operate 21 overseas subsidiaries in 15 countries.

## Effective tax rate

Baosteel's effective tax rate from fiscal year 2019 to 2023<sup>5</sup>

<b>11.69 %</b>	<b>11.51 %</b>
Average	Median

Looking back over the past five years, the Company's effective tax rate reached

<b>14.16 %</b>
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the peak in December, 2019

<sup>5</sup> (Reported tax) (Earning before tax) Effective tax rate= sum of reported taxes/sum of earning before tax in recent two fiscal years

## Business ethics

In full compliance with laws and regulations such as the *Criminal Law of the People's Republic of China*, the *Law of the People's Republic of China against Unfair Competition*, and the *Interim Provisions on the Prohibition of Commercial Bribery*, the Company improves and updates the requirements of the *Code of Conduct of Baosteel*, and develops the *Supplier Code of Business Conduct*. We respect the principle of market competition, support and maintain a fair and free market competition environment, oppose commercial bribery, extortion, fraud, money laundering, monopoly, unfair competition of any form, and tolerate none of the behaviors that violate business ethics. During the reporting period, Baosteel did not see any fines or settlement related to anti-unfair competition behavior, conflicts of interest, money laundering, and insider trading.



Business conduct	Employee protection	Social responsibility	Information disclosure and information management	Safeguarding measures
<ul style="list-style-type: none"> <li>Compliance with law</li> <li>Avoidance of conflict of interests</li> <li>Fair competition</li> <li>Honest tax payment</li> <li>Donation or sponsorship</li> </ul>	<ul style="list-style-type: none"> <li>Equality and non-discrimination</li> <li>Occupational health and safety</li> </ul>	<ul style="list-style-type: none"> <li>Environment and climate protection</li> <li>Charity</li> </ul>	<ul style="list-style-type: none"> <li>Information disclosure</li> <li>Confidential information/secret</li> <li>Data protection and information security</li> </ul>	<ul style="list-style-type: none"> <li>Training</li> <li>Compliance procedures</li> </ul>

Baosteel's Code of Conduct



We have established a robust business ethics management system, and clarified the responsibilities of each company in business ethics management, to ensure effective methods and control of internal risks. The Company is supervised and managed by the Audit and Internal Control Compliance Management Committee under the Board of Directors in terms of business ethics regulations and behaviors. An Internal Audit Department is established to report directly to the Board of Directors for continuous supervision and inspection, confirm and evaluate the integrity and effectiveness of each unit's risk management and internal control system. In 2023, Baosteel's Baoshan Base obtained the ISO 37301:2021 compliance management system certificate issued by the third-party international certification body BSI, with overall optimization and improvement in terms of compliance management system, compliance risk management mechanism, compliance review mechanism, compliance reporting mechanism, and compliance policies and objectives, covering key areas such as corporate governance, product responsibility, environmental protection, energy management, safe production and occupational health and safety, antitrust, anti-unfair competition, anti-commercial bribery, anti-fraud, etc.

To create a favorable business ethics culture atmosphere, we follow the culture cognition of "the Knowledge and Action of Baosteel's Personnel" and provide business ethics training to all employees including managers, liaison personnel and internal auditors via online and offline training sessions. Furthermore, we organize training for suppliers to standardize and guide their behaviors in anti-corruption and protection of employees' rights and interests, establish compliance talent teams and intensity compliance culture atmosphere. During reporting period, Baosteel's business ethics standards training sessions cover all permanent employees, part-time employees and contractors.



### Baosteel organizes social responsibility training

On June 30, 2023, Baosteel invited a third-party professional organization to provide social responsibility training for procurement personnel and contractors and suppliers representatives, sharing audit standards in business ethics (including child labor/underage labor, prohibition of forced labor, employment contracts, occupational health and safety, freedom of association, anti-discrimination, disciplinary punishment, working hours, wages and benefits, compliance supervision, anti-bribery, etc.), conflict minerals, and food, to help Baosteel strengthen contractor and supplier ESG audit management quality and standardize supplier business ethics-related behaviors.

## Building integrity

### Integrity risk prevention and control

94  
key integrity risk points identified

247 persons  
with business disposal rights in sensitive positions focused upon

581 person-time  
staff communications in sensitive positions promoted



Baosteel has the awareness of integrity rooted in all its business activities from internal management to external cooperation. We have developed and improved integrity management policies such as the Implementation Measures for the "Three-Importance and One-Major" Decision System of Baosteel, the Business Management and Investment Discipline of Baosteel and the Detailed Rules for Strengthening the Implementation of Inspection, Rectification and Results Applications, to make clear the detailed anti-corruption requirements for employees, supplies, and other business partners, and advance the development of a clean Baosteel. In addition, we tie the ethics compliance to employee performance assessment, strictly prohibit any form of bribery, and raise the integrity awareness among employees.

so as to promote the construction of the Company's big data smart supervision platform. During the reporting period, we focused on the identification and prevention and control of integrity risks, conducted dynamic identification and analysis of integrity risk, with 94 key integrity risk points identified, 247 persons with business disposal rights in sensitive positions focused, and 581 staff exchanges in sensitive positions promoted.

We attach equal importance to the business ethics of suppliers, distributors, etc., strictly inspect the integrity of suppliers and contractors, and advocate our partners to comply with the *Code of Conduct of Baosteel*, with the aim to establish a good cooperative relationship of mutual respect and win-win cooperation with business partners.

## Construction of an integrity culture

**5,887** employees

made commitment to job integrity

Number of ideas and slogans for the concept of "Integrity Baowu"

**283**

**125**

integrity culture works

First, second, and third prizes won from the Group

**2** respectively



Baosteel has formulated system documents such as the *Implementation Measures for Strengthening the Integrity Culture Building in the New Era* to strengthen integrity culture and create a clean and honest atmosphere. We organize anti-corruption training for the Board members, the management, all employees, distributors, and suppliers every year to promote the integration of integrity culture with corporate governance and job responsibilities, thus strengthening integrity in corporate governance. During the reporting period, the Company conducted forms of integrity education according to the regulations on anti-corruption and anti-bribery, as well as analysis of typical disciplinary cases, creating a working atmosphere of integrity.

### Integrity demonstration commitment



- The leaders of Basteel have made integrity demonstration commitments. Guide by them, 5,887 Party members and cadre, managers, and persons with business disposal rights have made a commitment to job integrity and signed a commitment letter to guide their personal self-discipline.

### Integrity interview



- Organize a collective integrity interview with our directly-managed cadres who just took their office in 2023, and take the integrity education as the first course for induction training of new employees.

### Integrity warning and education video



- Organize Party branches to watch warning and education video, study the *Warning and Education Casebook*, deepen warning and education.

### Integrity Culture Month



- Stick to the "Integrity Culture Month" "Five Integrity Activities" promotion and education, and urge the Party organizations at all levels to carry out education on Party rules and disciplines, warning case, and disseminate the culture of integrity for all employees.
- Collect 283 ideas and slogans for the concept of "Integrity Baowu", 125 integrity culture works, and won two first, second, and third prizes from the Group respectively, creating a strong atmosphere of integrity culture;
- Establish the columns of "Keeping the Original Aspiration of a Clean and Honest Steel Plant, Honest and Unselfish Heart" and "Tribute to the Examples", enhance publicity of the integrity culture. Advance the construction of integrity culture education bases, and selected into the first batch of integrity culture education bases of China Baowu.

### Integrity Promotion and Training Activity

## Whistle-blowing and investigation

Baosteel respects all employees raising concerns or whistle-blowing and those under investigation, completely and promptly investigates all violations whistle-blown, and adopts proper rectification measures, including, but not limited to, clarifying company policies, organizing additional training sessions, changing procedures, as well as disciplinary punishments. We strive to prevent all employees from improper harm due to expressing concerns or reporting non-compliance or illegal behaviors. Any individual or group who retaliates against the whistleblower will be punished by the Company, with employment contract terminated in the worst case.

### Baosteel's Non-Compliance Reporting Channel

Mailing address: Legal and Compliance Department, Headquarter, No.885, Fujin Road, Baoshan District, Shanghai, 201999

E-mail: compliance@baosteel.com

## Compliance audit

**100** %

Baosteel's internal audit coverage

**100** %

risks rectified

Baosteel has created whistle-blowing channels for compliance concerns. If the Company receives a complaint clue or evidence, we will collect and summarize the information as soon as possible and judge its authenticity, and investigation team will be established. Once the violation of disciplines, rules, and laws is verified, we will propose disciplinary suggestions to the persons involved in violation and submit the suspected illegal cases to the law enforcement agencies based in their characteristics. The whistle-blower recovered or reduced losses for the Company may be rewarded materially or mentally as appropriate based on relevant rules and regulations.

In full compliance with laws and regulations such as the Audit Law of the People's Republic of China, Baosteel has developed internal codes such as the Measures for Internal Supervision Consultation of Baosteel, the Internal Audit System, and the Implementation Rules for Handling Violations. We identify high-risk business activities and operating locations through audits, disciplinary inspections, cruising inspections and internal control procedure to ensure compliant operation. We conduct internal business ethics standard audit in all business and operating departments once every year, and increase the audit frequency based on specific business needs. In 2023, Baosteel's internal audit achieved a coverage of 100%, with 100% risks rectified. In addition, Baosteel conducted third-party business ethic standard audit, and obtained ISO 37301:2021 compliance management system certificate.

In 2023, Baosteel established the Legal and Compliance Department headed by the Company's General Counsel who serves as the Chief Compliance Officer. As the centralized department for compliance management, it is responsible for establishing the Company's compliance management system, responding to various unexpected compliance risk events, such as antitrust and anti-unfair competition management, trade remedy case handling, providing support and guarantee for the Company's legal and compliant operation. In addition to routine internal audit, we carry out special social responsibility audits as required by the Responsible Business Alliance (RBA), incorporate ESG-related requirements such as business ethics, health and safety, labor rights and interests into the Company's internal audit to ensure that relevant standards related to the Company's sustainable development are implemented in daily management.

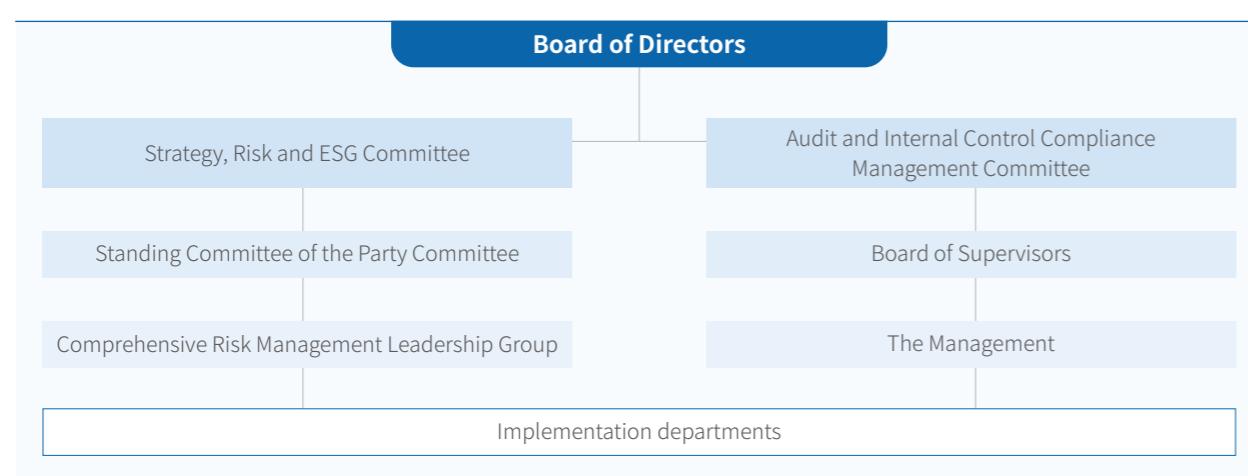
# Risk management

Baosteel has formulated internal systems such as the *Comprehensive Risk Management Policy*, the *Key Risk Management Measures*, and the *Standards for Comprehensive Risk Management Evaluation and Reporting Requirements (2nd edition)*, optimized general evaluation standards for compliance risks and business risks, comprehensively identified risk potentials and problems in business activities, and clearly applied the risk evaluation results to the Company's key risks, business risk evaluation, and process system preparation. We have strengthened risk management and control over key control activities, and improved risk governance and mitigation capabilities.



## Risk management framework

To facilitate the sustainable development of enterprise and realize strategic goals such as "Carbon Peaking and Carbon Neutrality", the Company has updated and released the *Comprehensive Risk Management Policy (6th edition)*, improved the responsibilities for corporate governance, optimized the risk governance system, continuously enriched the corporate risk definition, and enhanced the influence of social responsibility. Under the supervision and guidance of the Board of Directors, we have established a comprehensive risk prevention and control management framework, set up the Strategy, Risk and ESG Committee as the highest management body for comprehensive risk management at corporate level, to review the effectiveness of control over the Company's major risks, comprehensive manage the Company's risks, improve the Company's risk management system capabilities. The Audit and Internal Control Compliance Management Committee is responsible for supervising and auditing the risk management performance during operations. The Operation Improvement Department is responsible for reporting the Company's risk management system establishment, key risks control, professional risk controls, and work plans to the Company's Strategy, Risk and ESG Committee and the Board of Directors. In addition, our audit supervision department incorporates risk management supervision assignments into annual work plans, conducts supervision and inspection on the implementation and effectiveness of risk management measures through audit projects and internal control evaluations every year, and promptly reports to the Audit and Internal Control Compliance Management Committee major defects or major risks identified during the audit.



Risk Control and Management Structure

At executive level, Baosteel fully advances risk management and establishes three lines of defense for risk management to ensure the effective operation of risk management system.



## Risk management system

Baosteel has established a comprehensive risk management system in line with the *Comprehensive Risk and Internal Control Management System* issued by China Baowu, taking into account the COSO enterprise risk management framework, ISO 31000 risk management standards, etc., to safeguard the Company's long-term development. We have studied the risk mechanism, established risk warning models and control mechanisms for key risks having significant impact on the Company's business objectives, and appoint manufacturing bases and business divisions as the first responsible persons for comprehensive risk management, to further bolster the Company's risk prevention capabilities. The Company has incorporated ESG risks such as climate change, environmental compliance, and labor management into the existing risk management system to fulfill the social responsibility as a SOE.



Baosteel conducts risk identification and evaluation on a quarterly basis, including identification and response to existing and potential risks of bulk raw materials and fuels, the fluctuation in carbon steel prices and environmental protection. Additionally, we conduct evaluation and analysis on risk exposures through formal management process.

#### Baosteel's Risk Response Measures in 2023 (partial)

Risk	Response
 Bulk raw material and fuel risk	The procurement of bulk raw materials and fuels is affected by macroeconomic policies, changes in supply and demand balance, and supply and demand game; therefore, price fluctuates greatly, which may lead to increased procurement costs, continuous supply, and inventory depreciation. In 2023, the Company established a collaborative mechanism for raw material risk management based on market trends, taking into account production scale and demand, supply guarantee inventory, developed risk management measures based on macro and industry early warning indicators by categories, and created a raw material inventory risk warning mechanism. In addition, we considered the attributes of raw materials purchased and optimized procurement mode, to engage in coordinated operation of strategic procurement and competitive procurement. We improved the risk transfer strategy, upgraded procurement standards and systems, incorporated green procurement into the entire process of raw materials, products, and services procurement, continuously advanced pollution and carbon reduction and promptly adopt established measures against the risks early warned.
 Product differentiation risk	Product differentiation capability is an integral component of Baosteel's core competitiveness, which helps Baosteel to maintain product market share, equip Baosteel with certain market bargaining power, and avoid vicious homogenization competition. With the continuous improvement of equipment and technological capabilities of competitors in recent years, the violent competition in steel products has intensified, and the proportion of product homogeneity has gradually increased. In 2023, Baosteel developed the risk control strategy of "actively facing the major changes in automotive industry and reshaping the competitiveness of Baosteel's automotive plate products" in response to the dramatic changes in automotive industry and the development trend of new energy, strengthened risk evaluation and response, and formulated risk response plans.

Beyond that, Baosteel evaluates and responds to such major medium and long-term emerging risks as information security risk, to further bolster risk prevention and control awareness and capabilities.

#### Information security risk

China has put forward strict requirements for the construction and operation of enterprise information network security. In recent years, the *Cybersecurity Law*, the *Data Security Law*, the *Personal Information Protection Law*, the *Cybersecurity Classified Protection System*, and the *Regulations on Security Protection of Critical Information Infrastructure* have been successively implemented, and various departments of the state have strengthened supervision of enterprises from multiple aspects. In addition, the Company's digital transformation and the application of new technologies have brought greater challenges to the defense of network security, such as the surge of Internet services and the expansion of external attacks caused by smart enterprises and smart services, the construction of big data centers placing higher demands on data protection, intelligent manufacturing opening up information networks and industrial control networks, and network security risks directly threatening smooth production, the rapid development and gradual application of technologies such as 5G, IoT, robots, and AI bringing new challenges in network security. Therefore, it is necessary to build an information network security system integrating security management, security operation, and security technology centering on the Company's intelligent manufacturing development strategy, implement compliance requirements, reasonably control risks, improve security efficiency, and boost the Company to become the most competitive steel enterprise of the world.

#### Risk audit and supervision

Baosteel conducts internal audits on all operating locations every year to prevent and control risks and effectively maintain company operations. In 2023, the Company organized multiple audits related to risk management, including internal risk evaluations in quality, occupational health and safety, environment, energy, measurement, information security, compliance system standards, etc. In addition, we conducted external audits as required by users, covering labor, occupational health and safety, environment, business ethics (including conflict minerals), management systems, etc. Baosteel achieved a good performance of 183 points (out of 200 points).

#### Risk management culture

Baosteel places paramount importance to risk management culture and spares no efforts to deeply embed the philosophy of risk management into every employee's mind. The Company actively organizes directors to participate in training sessions, independent director performance training, and follow-up training for independent directors organized by regulators every year, covering such aspects as liabilities of directors' performance, internal control of listed companies, interpretation of regulatory policies, analysis of typical cases of disciplinary actions, etc., to help directors raise risk awarenesses and risk identification abilities. During the reporting period, a total of 5 non-executive directors participated in the training. In addition, the heads of risk management within Baosteel will timely analyze relevant emerging regulations and policies, and conduct annual key training on risk management principles within the Company to ensure compliance with business operation and reduce risks until they are acceptable.

We have developed internal systems such as the *Comprehensive Risk Management Measures*, the *Performance Management Measures for Senior Management Personnel of Baosteel*, and the *Management Measures for Hazard Source Identification, Occupational Health and Safety Risk and Opportunity Assessment and Response*. We have incorporated risk management indicators into the performance assessment of the senior management personnel, provided equity incentives to the senior management personnel who have made significant contributions to risk identification and management work, and continued to improve risk management.

#### The Risk Training for Saudi Arabia Thick Plate Project of Baosteel Open Course

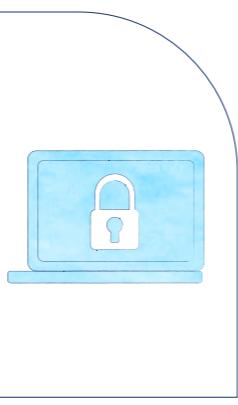
In July 2023, to further advance the Company's internationalization strategy and bolster the cultivation of international talents, Baosteel planned and implemented the *Risk Training for Saudi Arabia Thick Plate Project of Baosteel Open Course*. Through the research and training, the Company helped the trainees understand China's steel foreign trade import/export and international steel production capacity cooperation opportunities at macro level, familiarize themselves with overseas investment risk cases in China's steel industry and the key risks in Saudi Arabia project, which broaden the employees' international visions.



The Risk Training for Saudi Arabia Thick Plate Project of Baosteel Open Course

# Information security

Baosteel deepens the establishment of compliance system in information security, strengthens risk evaluation and high-risk matters disposal, and continuously consolidates the three-in-one capability of network and information security system. In full compliance with laws and regulations such as the *Data Security Law of the People's Republic of China* and the *Personal Information Protection Law of the People's Republic of China*, the Company has developed system documents such as the *Information System and Network Security Management Standards*, the *Information System Asset Identification, Risk Evaluation and Control Management Measures*, and the *Information System Asset Classification and Risk Evaluation Calculation Standards* applicable to all employees, to consolidate the foundation of information network security and safeguard digital transformation.



## Network and information security management

In full compliance with internal protocols such as the *Notice on Adjusting the Members, Duties, and Work Responsibility Mechanism of the Company's Network and Information Security Leading Group*, and the *Work on Strengthening the Information Network Security of Baosteel*, we have created a top-down information security management structure and clarified the work requirements for each unit, department, and subsidiary, in order to assure effective information security and privacy management.

At management level, we have set up a Network and Information Security Leading Group headed by the Chairman of the Board to be responsible for deliberating on major issues and decisions on the Company's network and information security policies, strategies, plans, and annual plans, as well as handling major issues. The Big Data and Intelligence Department serves as the working office of the Company's Network and Information Security Leading Group, and responsible for daily operating and managing the Company's network security, host security, and data security, as well as ensuring the sound and sustainable development of Baosteel's businesses.

In addition, the Company has established a network security liaison system involving all subsidiaries and departments of the headquarters, to promptly report information security incidents such as network attacks and system failures or security risk potentials identified by means of telephone, internal instant messaging "Baowu Chat" security liaison group and event reporting module in the network security management system to the Digital Intelligence Department, ensuring the privacy and security of customers and employees.

The Company has been gradually bolstering the management of security incident reporting, established an information security liaison system. Once the employees receive phishing emails, they will promptly report to the information security liaison officers of each department. After reporting to the Digital Intelligence Department, the operation department will handle and correct them, thereby effectively ensuring information security. During the reporting period, the Company did not have any information security leakage incidents; no customer privacy leakage incidents occurred.

## Network and information security risk management

Baosteel develops information security emergency plans such as the *Emergency Response Plan for Network Security Events* and the *Emergency Plan for Offline Message Transmission and Disaster Recovery System Activation of the Headquarters Manufacturing Management System*, establishes emergency response mechanism to conduct specialized network security inspection and emergency drills on a regular basis, and effectively reduce the risk of customer interest damage caused by a lack of business continuity, ultimately realizing standardized and systematic management of information security and creating a prevention-oriented continuously improving risk management mechanism. In 2023, Baosteel organized information security emergency drills, and determined that the plans were generally effective after a thorough evaluation of the plan content, drill process and drill effect.

We regularly organize departments of the headquarters to conduct information asset identification, prepare information asset list, classify, and categorize information assets on a regular basis every year based on confidentiality, integrity, and availability, calculate asset value, carry out risk evaluations, and calculate the risk value of information assets. Upon completion of analysis and evaluation, we communicate and coordinate with the responsible departments to develop risk disposal plans to be approved by the risk responsible leader, implement improvement measures, follow up the implementation progress and effect.

### Risk identification

- According to the operational requirements of the information security system and the *Classification, Grading, and Risk Evaluation Calculation Standards for Information System Assets*, each department has summarized the information assets it is responsible for

### Risk evaluation

- High-risk and medium-risk items have been formed
- A risk disposal plan has been developed

### Risk disposal

- High-risk and medium-risk items have been disposed of
- It is planned to carry out software and hardware improvement
- Deploy network and host situational awareness monitoring software for daily risk monitoring and timely repair of high-level vulnerabilities

Identification, Assessment, and Disposal of Information Security Risks



## Baosteel Participates in the 2023 Network Attack and Defense Drill

Baosteel has participated in the annual network attack and defense drill organized by China Baowu since 2019, the Company plays the role of defender against a simulated hacker attack by a third party. The annual attack and defense drill 2023 officially started on August 9th and lasted for 15 days.

## Network and information security training

The Company implements the "Special Large-scale Training Program for SOEs network" as required by the State-owned Assets Supervision and Administration Commission, to enhance the professional competence of information security management personnel of the four bases. Training sessions and examinations on information security and privacy protection are conducted for all employees every year, to continuously bolster the awareness and ability of information security protection for all employees. During the reporting period, all employees (including regular employees, interns, consultants, and other laborers) participated in Baosteel's information security training, creating a culture of information security and privacy protection among all employees.

## Information security system certification

Baosteel conducts information security certification to ensure the effective and stable operation of the information security system. In 2023, Baosteel's bases deepened the promotion of ISO/IEC 27001 information security management system, speeded up the promotion of information security system in all bases across the country, and completed the preliminary stage of the information security system in Dongshan Base. Baoshan Base passed the ISO/IEC 27001 certification. By the end of the reporting period, the Company's proportion of ISO/IEC 27001 information security management system certification reached 25%. In addition, we bolstered the network security classified protection of information systems, carried out Level 3 evaluation for classified protection, and reinforced the application security and data security of Baosteel's big data platform according to Level 3 classified protection. In 2023, Baosteel's big data center passed the Level 3 evaluation for classified protection for the first time.

## Cater to requirements of the customers' information security system

Baosteel actively caters to customers' specific needs for information security to improve the competitiveness of its products and further enhance the information security management for digital transformation. In 2023, BMW proposed a requirement for its supply chain enterprises and related service providers including Baosteel to obtain the TISAX label before establishing business relationships. Baosteel passed the "Trusted Information Security Assessment Exchange (TISAX)" certification in accordance with the VDA-ISA information security assessment standard proposed by the Verband der Automobilindustrie (VDA), and officially obtained the TISAX security label.



Level 3 Classified Protection Evaluation Report for Bid Data Center

## Privacy protection

Baosteel attaches great importance to the compliance requirements of data security and personal privacy protection, particularly the protection of personal privacy and customer privacy. The Company has clearly defined the requirements for personal information protection in its management documents as well as the scope of personal information. Key personal information is encrypted and masked in systems involving personal privacy information such as EHR. In addition, users are explicitly informed of the tips for personal privacy protection. Currently, the Company's business involves no handling of customer personal privacy information. In terms of document system support, the Company's management document *BGFS-04-01-B07 Standard for the Management of Labor Employment Risk Prevention* has been provided with privacy management protection clauses additionally.

## 02

# Environmental



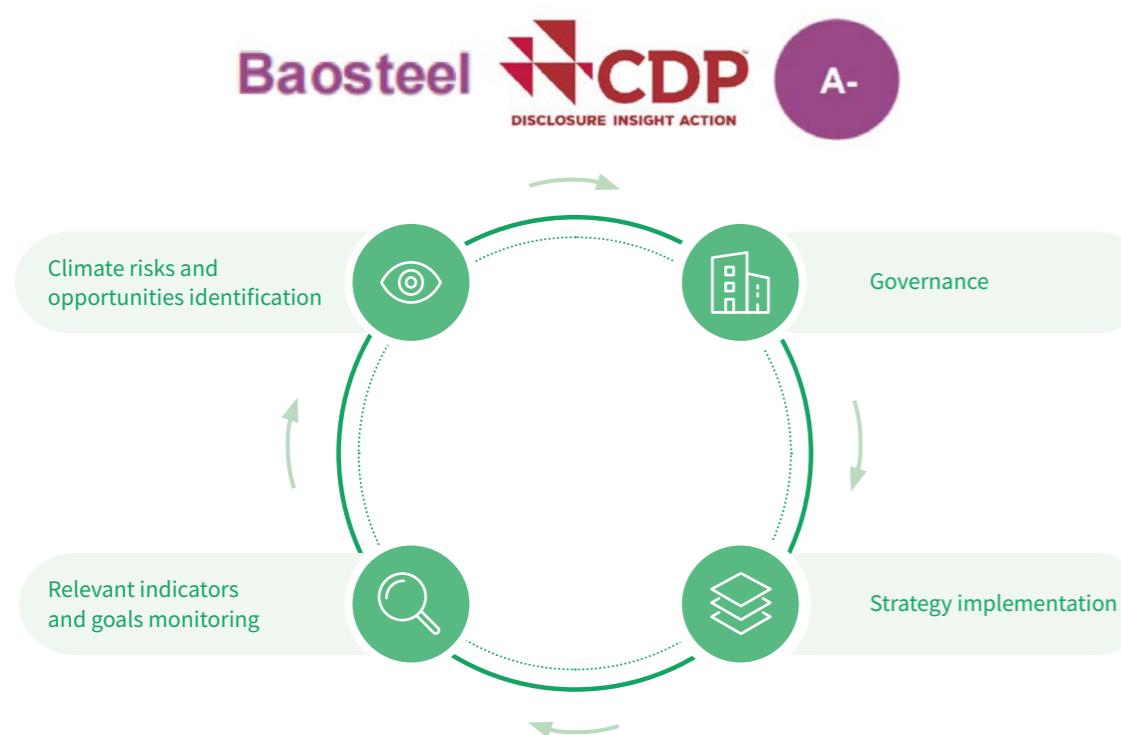
Baosteel is keenly aware that a harmonious and stable ecological environment underpins the economic and social development. We consciously shoulder the mission of protecting the environment, continue to address climate change and promote ecological environment protection, lay a solid foundation for green development, and strike a balance between ecological benefits and economic/social benefits.

## Address climate change

The latest report<sup>6</sup> of the United Nations Intergovernmental Panel on Climate Change (IPCC) pointed out that the impact of climate on human and ecosystems is far beyond expectations, and it is urgent for all countries to take actions to address climate change. As the world's largest steel producer and consumer, China's steel industry shoulders the significant mission of pursuing green and low-carbon development.

### Risk management process for climate change

As a leader and innovator of the steel industry, Baosteel has recognized climate change as one of its top ten key risks, established a comprehensive climate change risk management process, and incorporated climate change risks into its overall risk management framework. Leveraging the unique characteristics of climate change, we have established an effective whole-process management system for identifying risks and opportunities, corporate governance, carbon neutrality strategies, and carbon neutrality-related indicators and targets monitoring. We aim to effectively reduce the impact of climate change risks on business activities, take a forward-looking perspective in guiding low-carbon development practices, identify market opportunities, and enhance competitiveness in the development of new quality productivity. In addition, Baosteel continuously improves its transparency in addressing climate change issues and discloses its work progress through sustainability reports, climate action reports, and sustainable development rating questionnaire. Baosteel is amongst 20% of companies that reached A- leadership level in the CDP climate change 2023 questionnaire.



Risk Management Process for Climate Change

<sup>6</sup> <https://wri.org/cn/insights/2023-ipcc-ar6-synthesis-report-climate-change-findings>



Baosteel continuously improves the governance structure related to climate change, establishes the Strategy, Risk, and ESG Committee led by the Chairman of the Board; strengthens management in the Company's execution, sets up Carbon Neutrality Committee and a Carbon Neutrality Office to jointly form the carbon neutrality work promotion system, and implement the strategies and objective related to climate change formulated by the Board of Directors and the Strategy, Risk and ESG Committee, and ensure the implementation of climate change risk management measures.

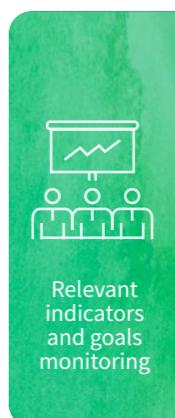


Baosteel develops the Company's carbon neutral technology roadmap, prepares the Company's medium and long-term green and low-carbon plan, implements the ultimate energy efficiency project, develops and expands green energy, researches and innovates the application of low-carbon metallurgy, and promotes a resource-recycling economy subject to low-carbon mining, high utilization, and low emissions.



Climate risks and opportunities identification

Baosteel identifies and assesses climate change risks and opportunities based on various scenarios such as the International Energy Agency's (IEA) Net Zero Emission (NZE) by 2050 as well as the transformation and development of China's steel industry (China Iron and Steel Association), taking into account national regulatory policies and changes in downstream customer markets.



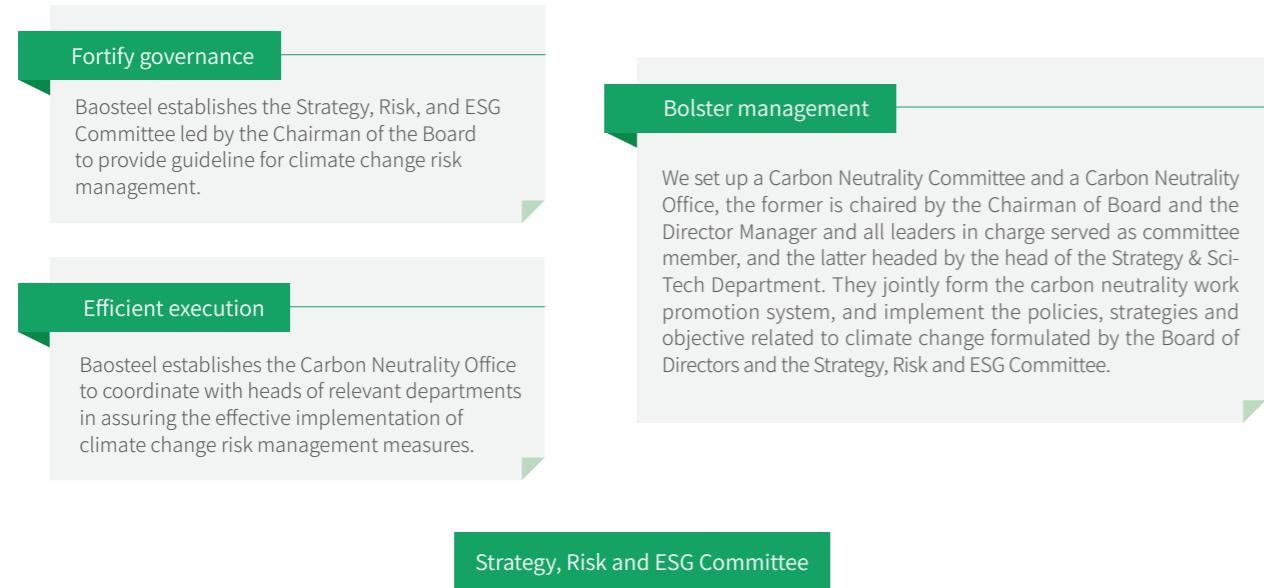
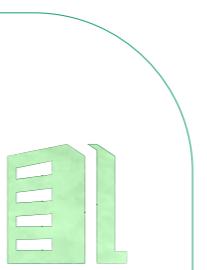
Relevant indicators and goals monitoring

Baosteel identifies climate change-related sub-indicators, monitors and manages them in a scientific manner to adapt to policy, planning, and market changes.



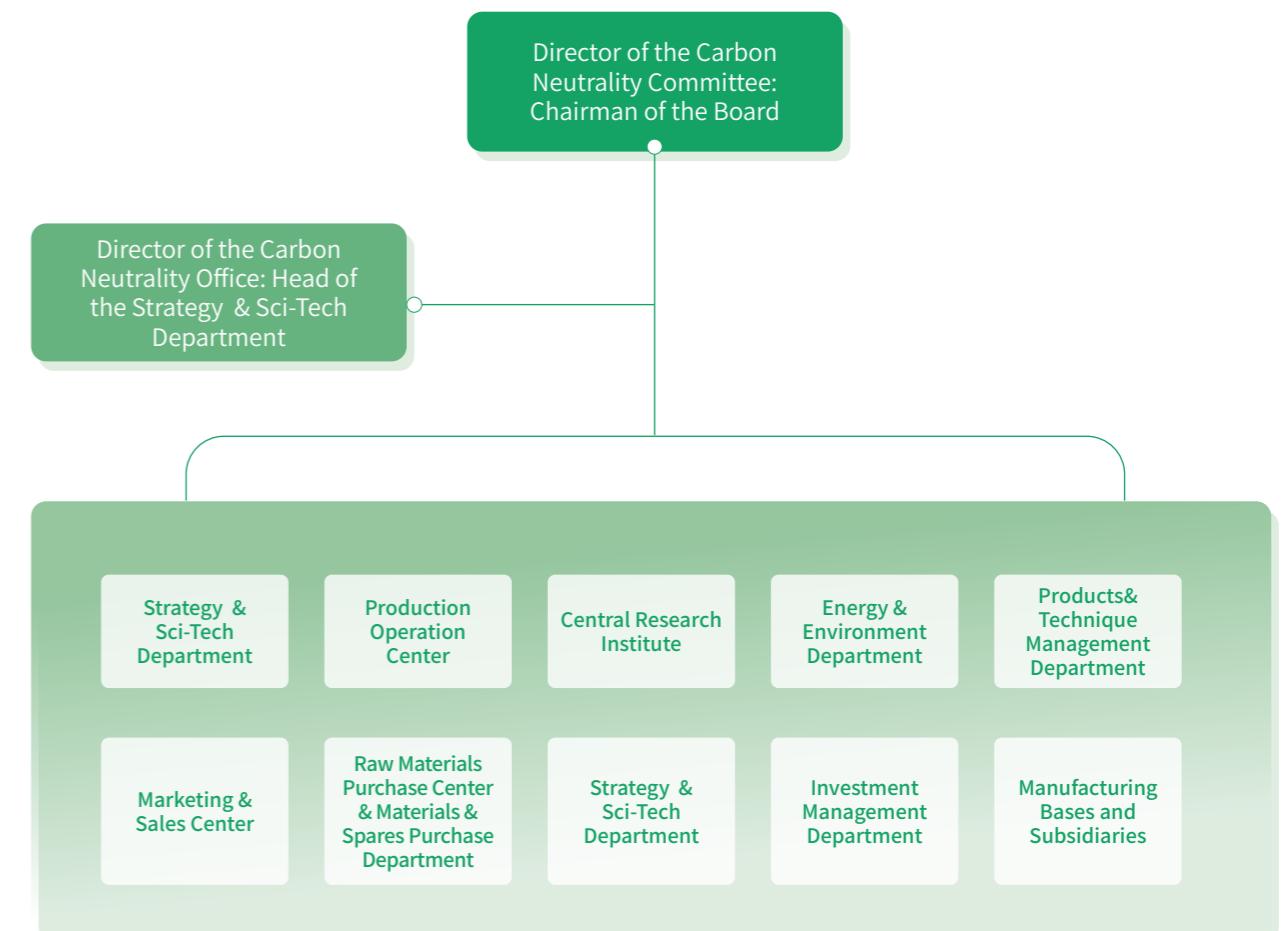
## Corporate governance

In order to effectively address the risks and opportunities of climate change, Baosteel has established a comprehensive corporate governance structure for climate change management. We consistently fortify the foundation for governance, strengthen the management, and improve the capability of the executive level.



- Conducting research and putting forth suggestions for the Company's long-term strategy, material investment decisions, as well as the establishment and improvement of comprehensive risk management system
- Assisting the Board to evaluate the Company's ESG-related performance and risks/opportunities, developing the Company's ESG-related systems, strategies and targets, organizing to deliberate the performance of ESG-related policies, monitoring and inspecting target progress
- Reviewing the climate change issues at least once a year

- |  |   |
|--|---|
| <b>Carbon Neutrality Committee</b>   | <b>Carbon Neutrality Office</b>   |
| <ul style="list-style-type: none"> <li>○ Reviewing the Company's overall targets and plan in carbon emission reduction and carbon neutrality; studying and determining all major events in advancing carbon neutrality</li> <li>○ Reviewing and confirming Baosteel's key construction and R&amp;D projects in carbon emission reduction and carbon neutrality</li> <li>○ Reviewing and approving the annual plan in carbon emission reduction and carbon neutrality</li> <li>○ Checking the progress of carbon neutrality and ensuring the delivery of tasks</li> <li>○ Coordinating internal and external resources to facilitate carbon neutrality</li> </ul> | <ul style="list-style-type: none"> <li>○ Studying, interpreting and promoting carbon emission reduction and carbon neutrality policies</li> <li>○ Developing and improving carbon neutrality strategy</li> <li>○ Organizing and initiating major innovation projects in carbon emission reduction and carbon neutrality</li> <li>○ Quantifying GHG emissions, managing carbon assets</li> <li>○ Implementing the carbon neutrality management system</li> <li>○ Managing carbon neutrality exchanges and cooperation</li> <li>○ Holding regular working meetings</li> </ul> |

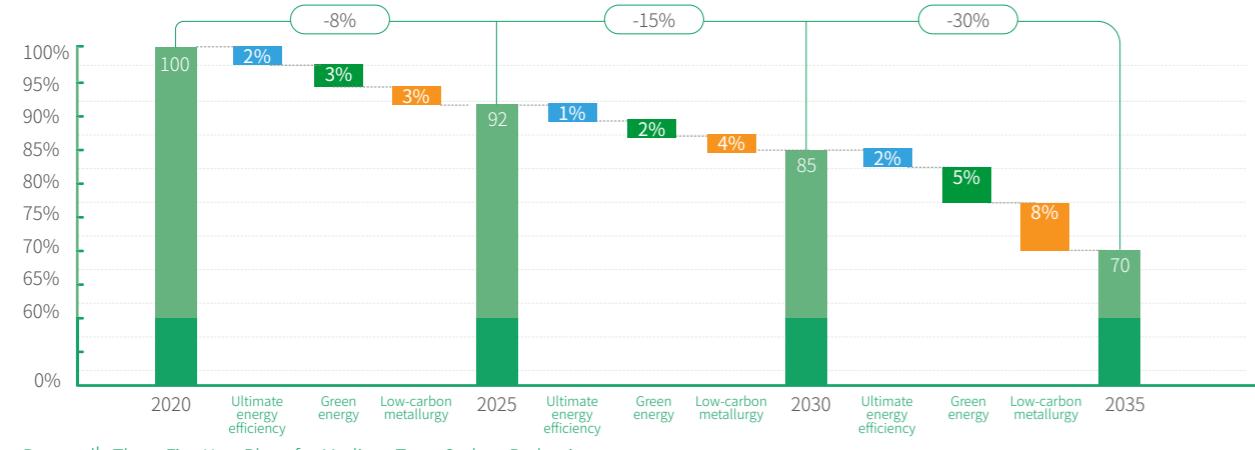


## Strategy implementation

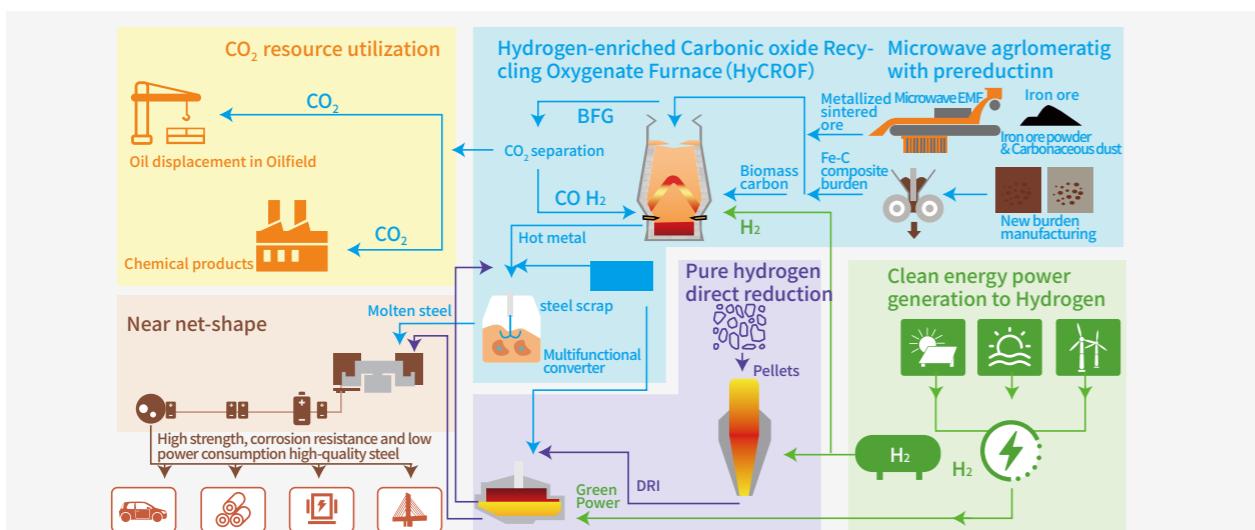


### Carbon neutrality strategic goals

Baosteel adheres to the "Dual Carbon" goals set by China Baowu: strive to achieve the goal of Carbon Peak in 2023 and Carbon Neutrality in 2050. In view of Baosteel's business layout and carbon reduction potential in carbon reduction actions, we have set up the carbon neutrality and medium-long carbon reduction targets, including three five-year carbon reduction targets, namely, carbon emissions down by 8% in 2025, 15% in 2030, and 30% in 2035 compared with 2020 respectively<sup>7</sup>. Beyond that, we decompose the contributions of ultimate energy efficiency, green energy and low-carbon metallurgy to strategic goals at each stage according to the strategic goal of response to climate change, so as to evaluate, trace and realize the carbon emission reduction goals.

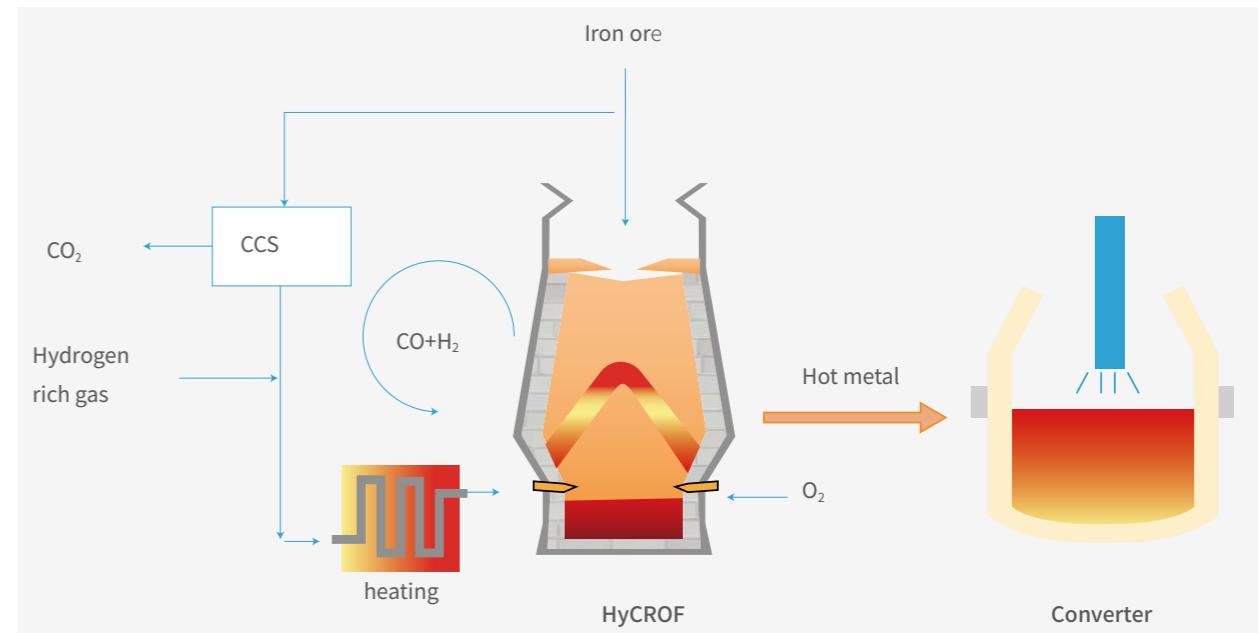


### Carbon Neutral Technology Roadmap of China Baowu and Baosteel

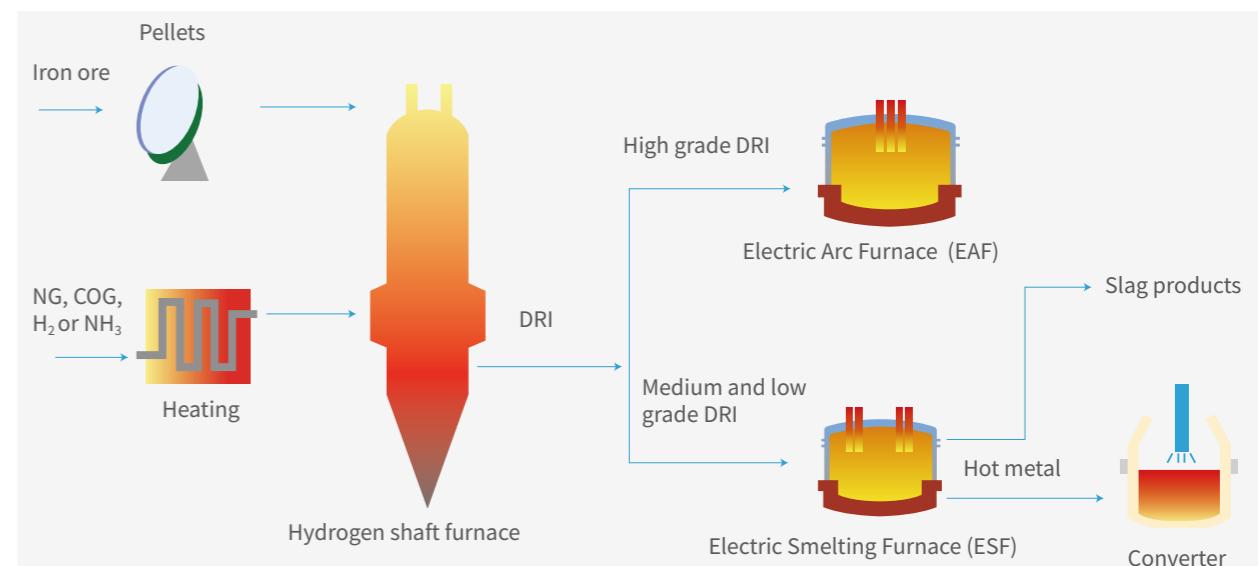


<sup>7</sup> Taking the Company's operational scope as the boundary, it includes Scope I and Scope II. We assess the carbon reduction potentials in ultimate energy efficiency, green energy, and low-carbon metallurgy. We have set three five-year carbon reduction goals; however, there is uncertainty in their contribution to carbon reduction due to constraints in the construction of external green power channels and the progress of low-carbon metallurgical R&D.

China Baowu's carbon neutral metallurgy mainly includes six aspects: ultimate energy efficiency, HyCROF, hydrogen-based shaft furnace, near net-shape manufacturing, metallurgical resources recycling, and CO<sub>2</sub> recovery and utilization. The roadmap intensively integrates the six technological directions of China Baowu's carbon neutral metallurgy, including two main process paths: the blast furnace-converter process path centering on the Hydrogen-enriched Carbonic oxide Recycling Oxygenate Furnace (HyCROF) in which the green-processed raw materials are fed into the HyCROF for ironmaking, and the generated molten iron enters multi-function converter for steelmaking together with a large proportion of scrap steel, after which high-strength, corrosion-resistant, low-power green products are produced through near net-shape casting and rolling, the CO<sub>2</sub> separated from the top gas of HyCROF is solidified for recycling, thereby forming a complete blast furnace-converter carbon neutral green production line. The other is the Hydrogen Reduction & Electric Smelting Process (HyRESP) centering on the hydrogen-based shaft furnace in which hydrogen is produced through renewable energy power generation, and the hydrogen-based shaft furnace reduces iron ore and then delivers to an electric smelting furnace, thereby forming a hydrogen metallurgical carbon neutral path together with near net-shape casting and rolling. The two process paths can be combined in steelmaking to address the challenges of low-grade iron ore.



Blast furnace-converter process path centering on the Hydrogen-enriched Carbonic oxide Recycling Oxygenate Furnace (HyCROF)



Hydrogen Reduction & Electric Smelting Process (HyRESP) Centering on the Hydrogen-based Shaft Furnace

## Short-term strategy implementation

As a leader in green steel, Baosteel fully integrates the philosophy of low-carbon development into its own development system and spares no efforts to build a greener operating model. Based on the *14th Five-Year Plan for Industrial Green Development*, Baosteel further clarifies its pursuit of climate change strategy, implements four core measures: ultimate energy efficiency, green energy, low-carbon metallurgy, and circular economy. In 2023, Baosteel invested RMB 2.38 billion in energy conservation and low-carbon development, and the budget is RMB 1.61 billion in 2024, contributing to the realization of the national carbon peaking and carbon neutrality goals.



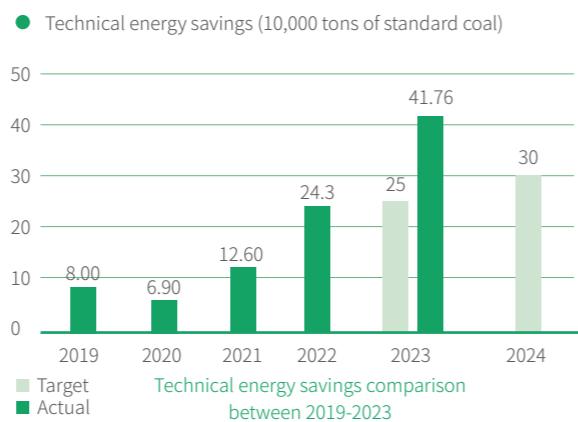
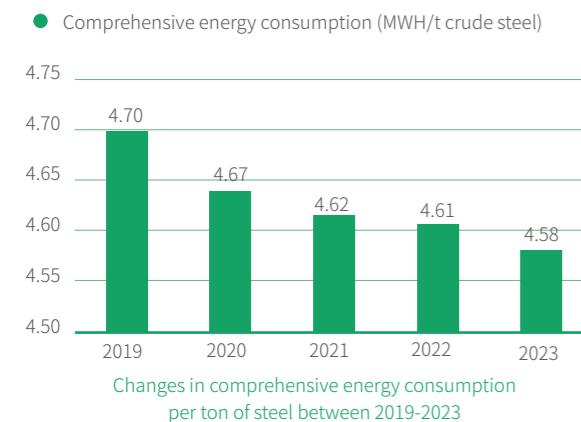
### Ultimate energy efficiency

#### Specific initiatives:

Baosteel has set the goal of ultimate energy efficiency, aiming to achieve domestic leading energy consumption in its production processes by 2025 and lead the industry development. During the reporting period, Baosteel undertook 100 energy management projects and energy-saving low-carbon technological upgrade projects, with an actual investment of RMB 2.38 billion, a total energy conservation of 418,000 tons of standard coal, and an estimated annual investment return of RMB 986 million per year. The ultimate energy efficiency project has contributed to a 2% reduction in carbon emissions per ton of steel compared to 2020. In 2023, 83.8% of Baosteel's key processes is amongst top 10% energy efficiency in China.

#### Implementation paths:

- Strengthen top-level governance: Baosteel has developed and released numerous system documents including the Ultimate Energy Efficiency Leadership Action Plan, the Action Plan of Generator Unit Power Supply Coal Consumption Standard, and the Action Plan of Key Process Energy Efficiency Standard with reference to the Guidelines for Benchmarking Energy Efficiency in Key Processes of Steel Enterprises issued by the China Iron and Steel Industry Association, focusing on internal potential, joint efforts, and external image building, to develop a comprehensive action plan that promotes Baosteel's process energy efficiency to lead the steel industry, provide guidance and support for the strategic goal of ultimate energy efficiency.
- Implement lean management: Baosteel has passed ISO 50001 energy management system certification for all its main production bases, covering all operating locations. In addition, Baosteel conducts regular energy management system audits for all certified plants to ensure the effectiveness of energy management system. During the reporting period, Baosteel conducted a number of energy audits, including third-party audits, regular internal audits, and special audits, and urged the implementation of improvements and optimization of issues identified. The Company relied on digital technology to monitor energy use, and improved energy efficiency through refined management.
- Enhance internal sharing: Baosteel has established the Best Available Commercial Technology (BACT) within the Company, regularly tracks the progress of each energy-saving project, summarizes the results, coordinates, and evaluates the feasibility of each energy-saving project, and holds regular meetings to promote energy-saving projects and share highlights, thereby strengthening the tracking and evaluation of energy conservation effects and the promotion of energy-saving technologies.



### Sinter Revamp Project: Realize Energy Consumption Reduction of No.4 Sintering Unit

During the reporting period, Baoshan Base completed the comprehensive upgrade of the No. 4 sintering unit of the ironmaking plant, with a total investment of approximately RMB 220 million, including the waste heat boiler upgrade, an additional large-flue boiler to recycle the exhaust gas from the sintering unit, and the frequency conversion of main exhaust fan. Upon completion, the energy consumption of No. 4 sintering unit significantly decreased, from 52 kg to 43.8 kg of standard coal per ton of sinter.



Before and After Upgrading of Annular Cooler of No. 4 Sintering Unit



### Electric Arc Furnace Revamp Project: Enhance Waste Heat Recovery

In November 2023, Baoshan Base completed the comprehensive upgrading of waste heat recovery boiler in EAF for long products, with a total investment of RMB 40 million. The major works include new waste heat boilers and auxiliaries, vaporizing cooling flue and maintenance platforms, new cooling tank and desalinated water tank foundation, new transformers and electrical cabinets, and the dust removal equipment. The project saved 14,000 tons of standard coal; upon completion, the steam recovery volume reached 180 kilograms per ton of steel.



Enhanced waste heat recovery boiler



### New Digitalized O-TRAP orifice steam trap in steam network

In February 2023, Baoshan Base completed the energy-saving transformation of the steam drainage system. 1,017 O-TRAP orifice steam traps were installed for draining condensed water with less steam leakage, meanwhile each steam trap was equipped with temperature and pressure sensors to achieve digitalized monitoring. In addition, they can identify abnormal pressure of steam pipeline through pressure detection. This project saved 15,000 tons of standard coal annually.



Digitalized O-TRAP orifice steam trap

### Green energy

#### Specific initiatives:

Baosteel has set the goal of green energy, accelerates new energy deployment, and participates in the green power trading market. During the reporting period, Baosteel added 112.6 MWp of photovoltaic installation, with a cumulative installed capacity of 369 MWp, continuing to maintain the world's largest rooftop photovoltaic project group. In terms of green power trading, a total of 1.028 billion kWh was completed.

#### Implementation path:

- 1. Increase investment in renewable energy in the plant: Baosteel actively advances the investment planning and deployment of renewable energy, and vigorously promotes the application of distributed photovoltaic systems in multiple scenarios under the guiding principle of "installing as much as possible". Additionally, Baosteel explores the feasibility of wind power in the plant, and plans to add 100MW renewable energy installed capacity in 2023 and 2024 respectively.

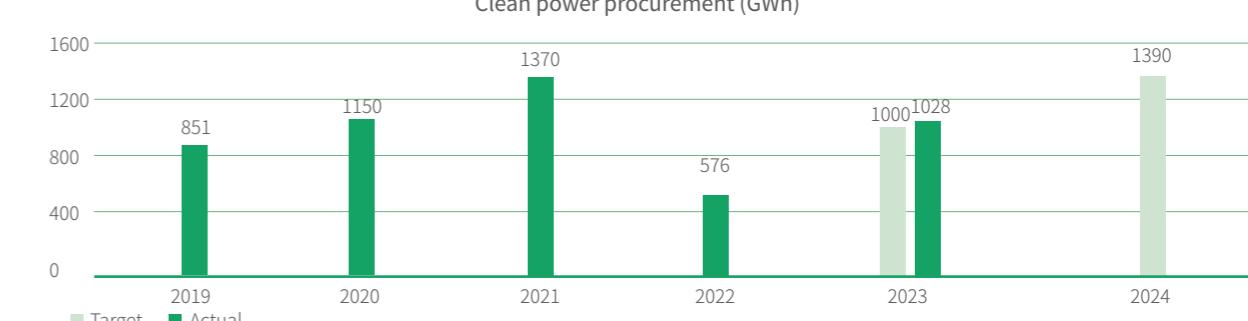
Unit	2019	2020	2021	2022	2023 Target	2023 Actual	2024 Target	
Cumulative installed capacity of in-plant renewable energy	MW	90	97	164	257	357	369	470
Generation of in-plant renewable energy	MWH	68,013	68,166	73,184	174,358		269,535	



 Implementation path:

- 2. Promote green power trading: Baosteel actively promotes green power procurement, explores new models of strategic cooperation in green energy development, and opens up various channels for inter-provincial and inter-regional transactions, as well as intra-provincial green power trading. The Company has reached strategic cooperation agreements with several large state-owned energy enterprises to locate long-term green power resources. During the reporting period, Baosteel's Qingshan Base actively promoted green power trading, successfully opened up green power procurement channels, completed 4,000 green electricity certificates, and led the green market trading in the steel industry, showcasing Baosteel's pioneering steps in the low-carbon field.

Clean power procurement (GWh)



Year	Target (GWh)	Actual (GWh)
2019	851	851
2020	1150	1150
2021	1370	1370
2022	576	576
2023	1000	1028
2024	1390	1390

 Baosteel's Green Power Procurement



 Qingshan Base Green Electricity Certificates



 Implementation path:

- 3. Equity participation in Utility-scale solar plants: Baosteel explores a new model of strategic cooperation in new energy development through "equity cooperation + green power trading" to ensure green power resources.

 Zhanjiang Base

In June 2023, Zhanjiang Base signed the *Cooperation Agreement on Competitive Allocation of Offshore Wind Power Projects in Zhanjiang City, Guangdong Province* with Guangdong Wind Power Co., Ltd. and successfully won for the Dongyi Offshore Wind Power Project in Xuwen, Zhanjiang in October, with capacity of 400 MW and the expected annual on-grid electricity of 1.339 billion kWh.

 Meishan Base

It is studying the "Jianhu" 700MW fishery-photovoltaic project, which will generate green power that can greatly improve the supply and stock of green power in the Meishan Base.

 Clean Energy Deployment in Each Base

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## Low-carbon metallurgy

### Goals:



Baosteel sets low-carbon metallurgy goals and advances breakthroughs in the key low-carbon metallurgical process. The Company centers on low-carbon metallurgy to lead the green and low-carbon transformation of the steel industry.

### Implementation path:



- 1. Explore low-carbon technologies: As a leading enterprise in the steel industry, Baosteel is committed to developing cutting-edge low-carbon technologies through innovation-driven development. The Company has deployed a series of cutting-edge solutions in the field of Carbon Capture, Utilization, and Storage (CCUS), contributing wisdom and strength to the green transformation of the steel industry. During the reporting period, Baosteel created a near-zero carbon demonstration production line by promoting low-carbon transformation projects for electric arc furnace, optimizing the ladle baking mode, and improving scrap steel quality.

During the reporting period, Baosteel signed a Joint Research Agreement (JSA) with Sinopec, Shell, and BASF in Beijing to jointly study, evaluate and advance the feasibility of the first open 10 million-ton CCUS cluster project in East China. In addition, Baosteel has carried out preliminary planning for the 10 million-ton CCUS project in Wushi Town, and completed the construction and operation of hydrogen-based shaft furnaces equipped with carbon capture devices and the operation of microalgae carbon sequestration projects.

## Operation of Hydrogen-Based Shaft Furnace—An Integral Part of HyRESP

During the reporting period, as the core facility of China Baowu's HyRESP, the one-million-ton full-hydrogen shaft furnace of Zhanjiang base was put into operation on December 23, 2023. This shaft furnace is the largest in China to adopt multiple gas sources and ultimately achieve full-hydrogen industrial production of direct reduced iron. The one-million-ton hydrogen-based shaft furnace marks a vigorous action taken by Zhanjiang base to follow Baosteel's strategic deployment guided by "high-end, intelligence, green, and efficiency".

Compared with traditional carbon metallurgy, hydrogen metallurgy uses hydrogen as a reducing agent, so that the ironmaking is independent of fossil energy and the problem of carbon emission is solved at the source. Compared with the same scale of molten iron production in traditional blast furnace ironmaking processes, this project can reduce CO<sub>2</sub> emissions by more than 500,000 tons per year.

Different from the conventional method for preparing process gas using natural gas, this project integrates hydrogen-rich gas purification, hydrogen-based shaft furnace reduction, carbon dioxide capture, direct reduction product cooling, and other green short processes to develop innovative applications of leading technologies such as "direct reduction of coke oven gas refining", "flexible allocation of process gas", and "disposal and application cold direct reduced iron products". The project accumulates experience for the subsequent independent integration and development of full-hydrogen smelting technology, and develops a low-carbon metallurgical technology with independent intellectual property rights, which marks another exemplary and symbolic step towards the green and low-carbon transformation of China's steel industry, and indicates that Baosteel will further lead the transformation of traditional steel metallurgy.



Ignition and Start-up Event of Hydrogen-Based Shaft Furnace

## Lump Ore Drying Project: Optimize Blast Furnace Carbon Reduction

On April 3, 2023, Meishan Base held kick-off ceremony for the lump ore drying and screening facility transformation project, and officially launched the "Meishan Steel lump ore microwave composite drying demonstration line" project. This project aims to increase the proportion of lump ore, replace some sintering with high pollutants and carbon emissions, reduce carbon emissions and costs during steelmaking, provide strong support for Baosteel to speed up green transformation and development, advance high-quality development, and contribute to the green transformation of the steel industry.



Lump Ore Drying and Screening Facility Transformation Project





## Circular economy

### Specific initiatives:



Baosteel is committed to advancing circular economy. Within the Company, all iron resources are recycled into raw materials for steelmaking, improving resource utilization efficiency and mitigating the impact of waste on the environment during operations. Outside the Company, Baosteel has concluded scrap steel direct recycling businesses with users, which enables more refined classification of social scrap steel, increases the proportion of scrap steel in high-grade automotive steel and significantly reduces the carbon footprint of automotive steel.

1. Maximize recycling of scrap steel within the company

#### Scrap Steel Recycling Project: Explore Scrap Steel Recycling Potential

During the reporting period, Meishan Base vigorously advanced scrap steel recycling. It recycles and utilizes short-sized billets, tundish slag, ladle slag, hot-rolling leftovers, as well as other scraps from cold-rolling, hot-rolling, and other production areas, successfully recycling and reusing a total of 302,400 tons of scrap steel.

2. Sign direct supply agreement for scrap steel with downstream enterprises. Baosteel focuses on the "Dual Carbon" goal, speeds up the green and low-carbon transformation, and signs cooperation agreement on scrap steel recycling with downstream automotive and silicon steel users, to jointly create scrap steel recycling industry chain and advance energy conservation and emission reduction throughout automobile life cycle and the entire industry chain.

	Unit	2022	2023 Target	2023 Actual
Direct recycling of scrap steel from user	10,000 tons	25.2	30	35.1

#### Dongfeng Hongtai and Wuhan base Signs Cooperation Agreement on Scrap Steel Recycling

In 2023, Dongfeng Hongtai and Wuhan base signed a cooperation agreement on scrap steel recycling, enabling Dongfeng Hongtai to establish a reproducible and easily promotable management model of extended producer responsibility, a giant step from "pilot" towards "demonstration". In the next step, both parties will continue to explore and extend the value chain. Wuhan base will recycle Dongfeng's scrap steel, which will be manufactured into recycled steel, and then assembled into Dongfeng's complete vehicles, facilitating carbon footprint reduction throughout the entire life cycle of automobiles.



Dongfeng Hongtai and Wuhan base Sign Scrap Steel Direct Supply and Procurement Agreement

3. Manufacture automotive steel with large-proportion scrap steel

Application of large-proportion scrap steel is an important technological path to reduce carbon emissions in the automotive and steel industries. In the field of high-quality low carbon emission automotive plate products, Baosteel courageously shoulder the responsibility to achieve technological breakthroughs in scrap steel management, clean smelting, product optimization, dynamic processes, etc. Baosteel is taking the lead in the world to develop ultra-low carbon emission X-GPa® DH980 through scrap-based steel electric arc furnace process, reducing carbon emissions by more than 60%.

#### China's First Ultra-Low Carbon Emission X-GPa® Part and Low-Carbon BaoTEX® Electro-galvanized Part

Baosteel works with strategic user FAW Hongqi to successfully complete the application demonstration of ultra-low carbon X-GPa® DH980 on the reinforcement of the left and right sills in MPV HQ9. This event marks a historic moment of major material advance and debut in China's automotive industry ecosystem, and upgrades the low-carbon technology in the industrial chain. It is of great significance for promoting low-carbon technology leadership in the automotive and steel industries.



Successful Trial Production of Ultra-Low Carbon X-GPa®



#### Climate Change Risks Monitoring and Control: Addressing Typhoon Sanba

During the reporting period, Baosteel's Zhanjiang Base was affected by the Typhoon Sanba, a once-in-a-century typhoon that brought a lot of rainstorm, caused flooding of some electrical rooms in the plant and the shutdown of lime and hot-rolling lines. After the event, Zhanjiang Base took a variety of countermeasures and improved the typhoon emergency mechanism against slow rainstorm warning, water seepage on some underground facilities walls and water leakage on cable conduits.

Zhanjiang Base cooperates with Zhanjiang Meteorological Bureau to customize the rainstorm warning level for Zhanjiang Iron and Steel, and prepare the list of areas where rainstorm has greater impact on production safety. The Energy & Environment Department, the Safety & Guardian Department, the Equipment Department, etc. jointly identify the listed items at site, develop transformation measures and subsequent flood control emergency response levels, and take hierarchical control measures. In addition, Zhanjiang Base upgrades the flood control pump station to boost the anti-risk ability against rainstorm.

# Risks and opportunities management



## Climate-related risks and opportunities

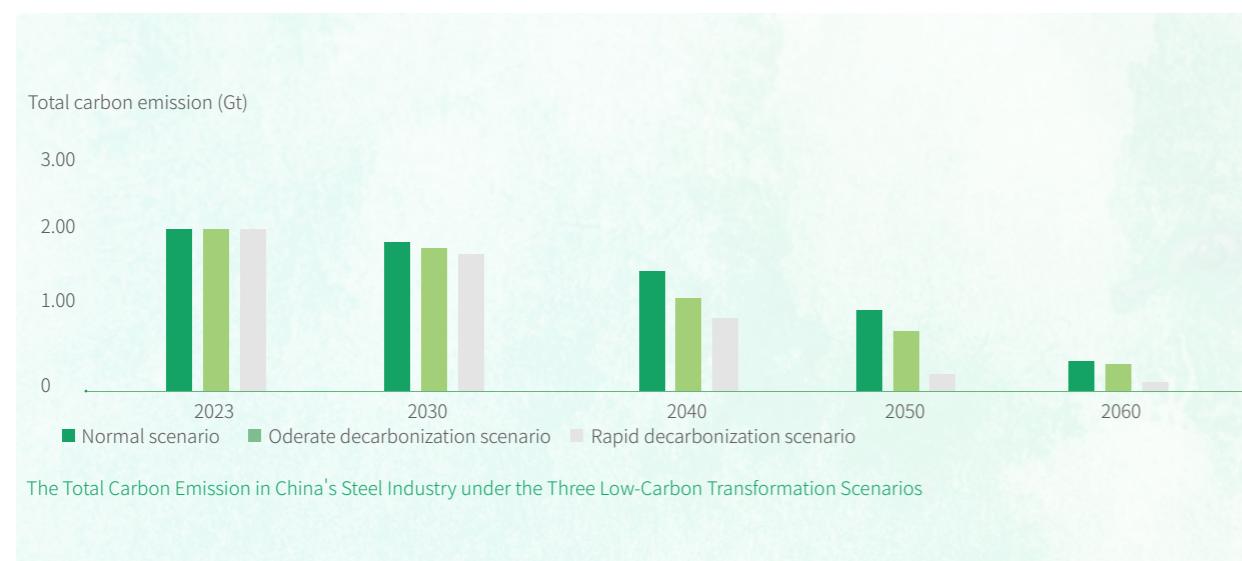
Viewing science as the first guiding principle, Baosteel predicts and analyzes possible climate changes under different scenarios in the future, assesses their impact on Baosteel, and formulates targeted strategies. We regularly review and update our strategic objectives and paths to address climate change and ensure their effectiveness.

### Scenario analysis

Following the disclosure methods and recommendations by the Task Force on Climate-Related Financial Disclosure (TCFD), we use scenario analysis model and other analytical techniques to assess measurable climate change trend and relations. With reference to the scenarios simulated by CISA and IEA, Baosteel decided to use the following two long-term climate scenarios:

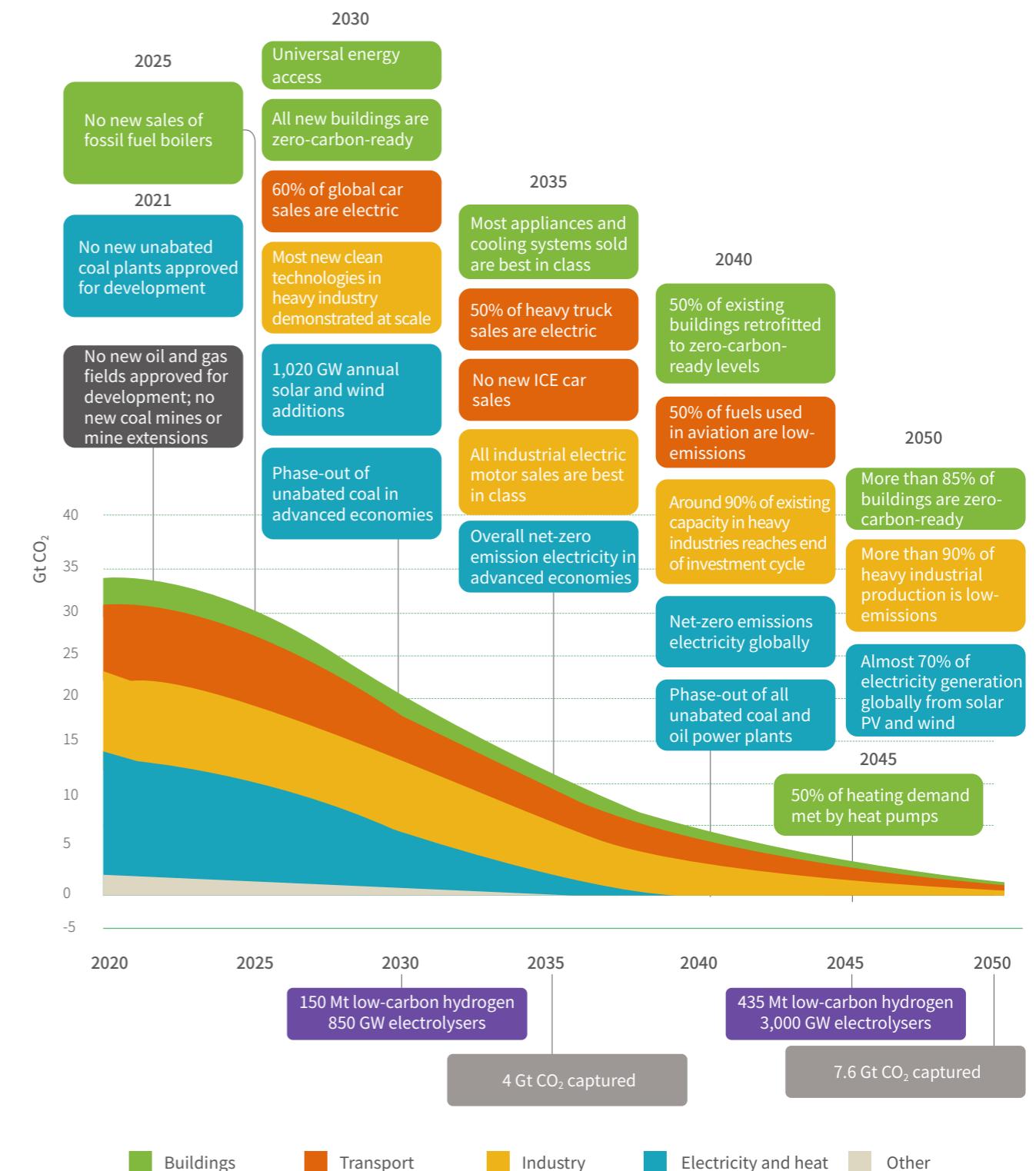
**Low-carbon transformation scenarios for China's steel industry:** The China Iron and Steel Association (CISA) has proposed low-carbon transformation scenarios for China's steel industry based on China's scrap resources, clean energy development, and the R&D progress in low-carbon metallurgy.

**The Net-Zero Emissions by 2050 Scenario (NZE)**<sup>8</sup>: IEA to achieve CO<sub>2</sub> equivalent weight net zero emission by 2050. This target dose not rely on cutting emission in non-energy sectors.



<sup>8</sup> Net Zero by 2050, <https://www.iea.org/reports/net-zero-by-2050>

## Key Milestones on Net-zero Emission (NZE) Pathway<sup>9</sup>



## Major transformation risks and opportunities under NZE scenario

### Transformation risk and opportunity 1

60% of global car sales are electric by 2030.

Under the NZE scenario, one of the global milestones for policy, infrastructure, and technology deployment is that 60% of global car sales are electric by 2030. Currently, the United States, the European Union, China, Japan, and South Korea are all racing to make the transition to electrification and intelligence. Although the timelines of different countries are different, the trend is obviously converging. According to the China Passenger Car Association (CPCA), China's passenger car retail sales totaled 21.699 million in 2023, of which domestic retail sales of new energy passenger cars were 7.736 million, with an annual penetration of 35.7%, an increase of 8.1 percentage over 2022. China is working towards the scenario that 60% of global car sales are electric by 2030. As the principle raw material for automobiles, steel is experiencing great changes in performance and quality in the era of electric vehicles, such as lower carbon emission automotive plates and high-performance non-oriented silicon steel for high-performance electric vehicle motors.

With the world's top-ranked QCDDS core competitiveness, Baosteel's overall solution for new energy vehicles, SMARTeX, fully supports Baosteel's automotive plate to lead the new energy vehicle industry and establish a brand benchmark. In 2023, Baosteel's non-oriented silicon steel product line was fully put into production upon optimization, which was a 500,000 tons/year high-grade non-oriented silicon steel production line completely designed for the new energy vehicle industry. Through independent R&D, Baosteel has solved the worldwide problem of mutual constraints among high-frequency iron loss, magnetic induction, and mechanical strength in products, and built a complete manufacturing process system for non-oriented silicon steel in new energy vehicles. Baosteel has become the world's largest supplier of silicon steel for new energy vehicle drive motors, with the most complete grades and multi-base supply.

### Transformation risk and opportunity 3

1,020 GW annual solar and wind additions by 2030.

Prior to large-scale commercial application of low-carbon metallurgy, the major measures for carbon emissions reduction in steel industry by 2030 mainly include electrification, energy efficiency, and the use of more renewable electricity. Additionally, the construction of wind and solar power generation facilities requires a large amount of steel. According to China Photovoltaic Industry Association's *2023-2024 China Photovoltaic Industry Development Roadmap*, the newly installed photovoltaic capacity grid-connected in China was 216.88GW in 2023, and will continue to exceed 200GW in 2024. According to data released by Bloomberg NEF, China's newly installed wind power capacity was 77.1GW in 2023, of which 69.4GW was onshore wind power and 7.6GW was offshore wind power. According to China's plan to add 200GW of photovoltaic power, 60GW of onshore wind power, and 7GW of offshore wind power by 2030, the market requires 11 million tons of steel, with annual demand of about 250,000 tons for wind power silicon steel.

Baosteel will continue to focus on the development of photovoltaic support Danxia steel (a high-strength, weather-resistant and rust-proof steel), photovoltaic frame prepainted steel plates, BWind wind power steel, energy storage steel, and silicon steel for power transmission and distribution system, and expand the market. In addition, Baosteel will cooperate with major power generation companies based on the model of equity cooperation + long-term green power trading to locate long-term green power demand.

### Transformation risk and opportunity 4

150 Mt low-carbon hydrogen 850 GW electrolyzers by 2030.

The low-carbon transformation in steel industry requires a large amount of low-carbon hydrogen, thus the hydrogen production capacity is of vital importance for the low-carbon transformation of steel industry. Under the NZE scenario, 150 million tons of low-carbon hydrogen need to be produced by 2030. However, the layout of low-carbon hydrogen production facilities lags behind the NZE goal across the globe. Therefore, low-carbon hydrogen resources have become a key resource for steel enterprise transformation. Baosteel will seek cooperation in resources.

### Transformation risk and opportunity 2

Most new clean technologies in heavy industry demonstrated at scale.

Key milestones in the transformation of steel industry under NZE scenario

	2020	2030	2050
Recycling and reuse: proportion of scrap steel input	32%	38%	46%
Hydrogen-based DRI-EAF	0%	2%	29%
Proportion in primary steel production:			
Iron ore electrolysis -EAF	0%	0%	13%
CCUS - equipped processes	0%	6%	53%

4 %

Expected proportion of Hydrogen-based shaft furnace DRI-EAF process by 2030

Iron ore electrolysis-EAF, hydrogen-based shaft furnace, and new blast furnace equipped with CCUS are the three major paths for low-carbon transformation in the steel industry. China's accumulated amount of scrap steel is difficult to reach the goal of 38% by 2030 for the time being. However, Baosteel is duty-bound to develop new low-carbon metallurgies. In 2023, the Zhanjiang hydrogen-based shaft furnace was put into production, and it is expected that the electric arc furnace will be completed and put into production in 2025. The joint venture project between Baosteel and Saudi Arabia Aramco will also adopt the hydrogen-based shaft furnace. It is expected that the process proportion of hydrogen-based shaft furnace DRI-EAF will exceed 4% by 2030. China Baowu is also developing HyCROF technology (equipped with CCUS), which has been tested on 400 m<sup>3</sup> and 2,500 m<sup>3</sup> blast furnaces for industrial applications. It will be promoted and applied upon successful implementation.



Combining our own business and industry situation, on the basis of public data, including assessments and reports from the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA) on climate emission pathways, we analyze the risks and opportunities Baosteel may face under NZE assumption, compare the possible financial losses/increases caused by various risks/opportunities through quantitative analysis and determine the degree of impact of risks/opportunities.

Risk	Description	NZE Scenario	Implication	Countermeasure	Level of Impact	Chapter
Policy and Legal	Intensify emission reporting obligations	Carbon Pricing Mechanism and CBAM	<p>Currently, Baosteel has four main production bases, three out of which are in pilot carbon markets. Since the steel industry is expected to be incorporated into national carbon market by 2025, Baosteel faces risk of increased cost due to full compliance of carbon performance.</p> <p>The EU has launched CBAM and plans to impose tariffs on carbon commodity imports, including steel, cement, chemical fertilizers, and aluminum from 2026. This will affect the cost of future export of our products to EU, and affect the revenue accordingly.</p> <p>The Company's smart carbon management information system will be equipped with CBAM accounting function and conduct calculation based on CBAM rules. We secured excellent performance in products' carbon footprints by carrying out a series of energy-saving and emission reduction measures.</p>	<p>Baosteel has established a carbon neutrality roadmap, conducts investment in four dimensions: ultimate energy efficiency, green energy, low-carbon metallurgy, and circular economy, and reduces carbon emissions through green power procurement.</p> <p>The Company has established a smart carbon data platform integrating three important functions of carbon asset management, company carbon inventory and accounting, and product carbon footprint. We also organize carbon talent training programs to manage the Company's carbon assets in a professional manner and reduce the Company's compliance costs.</p>	Low	Risk response capacity building P70
Market	Market signal uncertainty	60% of global car sales are electric by 2030	<p>The main product of Baosteel is automotive steel. Since more automotive steel plate manufacturers will join in the transformation, the market competition for automotive steel will be more intense.</p> <p>Baosteel's non-oriented silicon steel product structure was fully put into production upon optimization, which was a 500,000 tons/year high-grade non-oriented silicon steel production line completely designed for the new energy vehicle industry. Baosteel has become the world's largest supplier of silicon steel for new energy vehicle drive motors, with the most complete grades and multi-base supply.</p>	<p>Baosteel's overall solution for new energy vehicles, SMARTEx, fully supports Baosteel's automotive plate to lead the new energy vehicle industry and establish a brand benchmark.</p>	Low	Green and Low-carbon Products P12
Customer behavior change	The downstream customers' market demand for low carbon steel products has increased		<p>The willingness of customers to pay for low-carbon steel products is difficult to cover the increase in production costs of low-carbon steel, thus reducing the Company's revenue.</p> <p>The competition for raw materials required for low carbon steel has intensified.</p> <p>The parent company, China Baowu, is developing the Simandou iron ore mine and expected to produce iron ore in 2025.</p>	<p>Baosteel plans to build two low-carbon production lines: hydrogen-based shaft furnace and EAF to ensure the supply of low-carbon steel products in the future.</p> <p>In 2022, Baosteel established BeyondECO® low-carbon steel brand for mass production, and signed low-carbon supply chain agreements with multiple downstream strategic customers.</p>	Medium	Low-carbon metallurgy P58

Risk	Description	NZE Scenario	Implication	Countermeasure	Level of Impact	Chapter
Market	Increase in raw material cost	1,020 GW annual solar and wind additions by 2030 150 Mt low-carbon hydrogen 850 GW electrolyzers	<p>Two of the three technological paths for low-carbon transformation in steel industry require a large amount of low-carbon hydrogen and green power. Sufficient low-cost green energy is of vital importance for the low-carbon transformation of steel industry. Under NZE scenario, 150 million tons of low-carbon hydrogen need to be produced by 2030. The competition for clean energy will be intense during low-carbon transformation, and the cost of clean energy R&amp;D is rising.</p>	<p>In the Middle East where clean energy is cheap, we will deploy low-carbon production lines of hydrogen-based shaft furnaces and EAF to reduce production costs.</p> <p>We will cooperate with major domestic energy companies to sign long-term green power trading contracts.</p> <p>Baosteel is actively seeking low-cost green hydrogen and blue ammonia projects.</p>	Medium	Green energy P56
Technology	Cost of low-emission technology transformation	Milestone of zero carbon emission scenario: most new clean technologies in heavy industry demonstrated at scale	<p>The R&amp;D of two major technologies, namely, the HyCROF and HyRESP, will be prioritized.</p> <p>We adhere to Baosteel's carbon peaking and carbon neutrality strategy, continuously optimize the low-carbon technology roadmap based on R&amp;D results, and update the short/medium-term green low-carbon implementation plan every three years, to reduce the risks of low-carbon technology transformation and investment.</p>	<p>The R&amp;D of low-carbon metallurgy for steel lags behind competitors, resulting in insufficient supply of low-carbon products, with large R&amp;D spending and large-scale commercial application investment of low-carbon metallurgy.</p>	Medium	Strategy implementation P52
Reputation	Concerns of stakeholders escalated	Concerns of stakeholders on climate measures	<p>Baosteel actively responds to the requirements and feedbacks related to climate change from stakeholders, and has disclosed measures and achievements in tackling climate change in the <i>Sustainability Report</i>. In addition, we promptly optimize departmental management responsibilities to respond to climate change. The CDP rated Baosteel as a Leader A- in the climate change questionnaire.</p>	<p>Stakeholders, such as investors, regulators and customers are taking the Company's performance in climate response as a key performance indicator, which requires us to strengthen carbon management in response to their expectations, thus increasing corporate cost.</p>	Low	Smart carbon data platform P71

The extreme temperature and natural disasters caused by climate change pose threats to production and operation, upstream/downstream transportation, and raw material supply chain, thereby decreasing enterprise efficiency and causing financial loss. According to historical data of our operating areas and the location of suppliers, we estimated that climate change will have limited impact on commodities over the next decade.

Risk	Description	NZE Scenario	Implication	Mitigation Measures	Level of Impact	Chapter
Physical Risk	Acute Risks	Increased intensity of extreme weathers (such as floods and typhoon)	Increased intensity and frequency of extreme weather events (such as typhoon and floods)	<p>The Baoshan Base and Dongshan Base of Baosteel are located in coastal areas and are hit by intense typhoon once or twice each year, the typhoon may cause rainstorm, thus part of production lines is shut down to ensure the safety of production equipment. Additionally, the upstream suppliers and downstream transportation may be interrupted, resulting in production efficiency reduction and labor cost increase.</p> <p>Baosteel cooperates with local climate authority to prevent and control extreme weather in advance.</p>	Low	Climate change risks monitoring and control P61
	Chronic risk	Extreme temperature rising, sea level rising	Changes in temperature and rainfall	<p>In addition, we will continue to conduct social responsibility assessment on our suppliers, learn about their climate performance, and consult with them to establish a supply risk management mechanism, so as to minimize the impacts of physical risks on our production and operation.</p>	Low	Win-in industry chain P106

## Climate Change Opportunities

In the process of low-carbon transition, the manufacturing mode of the steel industry and its downstream markets are undergoing profound changes. In the downstream, the energy industry, automotive industry and industrial motor industry are the most prominent. Baosteel proactively caters to the low-carbon transition in the steel industry, seizes the new opportunities brought by climate change, improves resource and energy utilization efficiency in production and operation, and ushers a greener future for the steel industry.

Opportunity	Description	NZE Scenario	Implication	Countermeasure	Level of Impact
Energy source	Use low-emission energy	1,020 GW annual solar and wind additions by 2030	<p>The rapid development of renewable energy such as wind, solar, and water, as well as the construction of Extreme-high voltage transmission and distribution systems, has led to a rapid growth in the market for high-performance thick plate, hot rolling, silicon steel, and other products required for wind, solar, water, nuclear power, and Extreme-high voltage transmission and distribution systems. Clean energies such as wind power and solar can help Baosteel better meet the regulators' requirements and generate long-term benefits.</p>	<p>Baosteel will continue to focus on the development of photovoltaic support Danxia steel (a high-strength, weather-resistant and rust-proof steel), photovoltaic frame prepainted steel plates, BWind wind power steel, and expand the market.</p> <p>Baosteel will develop steel for compressed air energy storage to solve the problem of gap large fluctuations in renewable energy.</p> <p>Baosteel will improve non-oriented silicon steel performance in the wind power industry.</p>	Low
Market	New market Entry	60% of global car sales are electric by 2030	<p>The automotive industry is rapidly converting from internal combustion engine time to new energy and hybrid vehicle time, with strong demand in the market for ultra-high intensity vehicle steel plates and high-performance non-oriented silicon steel for drive motors. New business helps Baosteel increase corporate revenue.</p>	<p>Baosteel's new energy vehicle overall solution SMARTeX has established the world's first comprehensive ranking of QCDDS core competitiveness.</p> <p>Baosteel's non-oriented silicon steel product structure was fully put into production upon optimization, which was a 500,000 tons/year high-grade non-oriented silicon steel production line completely designed for the new energy vehicle industry. Baosteel has become the world's largest supplier of silicon steel for new energy vehicle drive motors, with the most complete grades and multi-base supply.</p>	Low-medium
Resource efficiency	Adopt more efficient production and distribution process	All industrial electric motor sales are best in class by 2035	<p>Industrial motors account for approximately 80% of industrial electricity consumption, the production and application of high-efficiency electric equipment is a key area to speed up green development and energy conservation. In June 2022, the Ministry of Industry and Information Technology, the National Development and Reform Commission, and other organizations jointly issued the <i>Industrial Energy Efficiency Action Plan</i>, which proposed that by 2025, the proportion of new high-efficiency energy-saving motors shall reach more than 70%. Therefore, there is a strong demand for high-performance silicon steel products for motors. More efficient production process facilitates enterprises in saving product cost.</p>	<p>In 2022, Baosteel put into operation a new 20-high roll mill, which has the comprehensive production capacity for wide-width high-end grain-oriented silicon steel and non-oriented high-grade silicon steels, covering all thickness requirements of silicon steel products in the current market. The maximum rolling speed of the new 20-high roll mill will be 25% faster, and the minimum rolling thickness will be 20% thinner.</p>	Low

## Risk response capacity building

Baosteel has been continuously improving its capacity to respond to climate change-related risks, and has taken practical actions to fulfill its mission as the leader of the modern industrial chain of new low-carbon metallurgy by deepening low-carbon talents cultivation, conducting cutting-edge low-carbon research, building smart platforms, and bolstering external cooperation.

### Deepen low-carbon talents cultivation

Baosteel holds fast to the belief that talent is the core resource and key factor for enterprise development. In the face of climate change-related risks, Baosteel proactively identifies relevant talent needs, attaches great importance to talent reserve and cultivation in the "Carbon Peaking and Carbon Neutrality" field, advances relevant talents' certification and qualification training in low-carbon field, and promotes the construction of a low-carbon talent pool.



#### Talent Cultivation in Carbon Emission Reduction: Advance "Carbon Peaking and Carbon Neutrality" Talent Pool

During the reporting period, Meishan Base actively cultivated professionals in carbon emission reduction by organizing two training courses for the *Certificate of "Carbon Peaking and Carbon Neutrality" Professional Talent (Senior)* in collaboration with the Hubei Society for Metals and the Hubei Metallurgical Industry Association. Employees who passed the examination can obtain the *Certificate of "Carbon Peaking and Carbon Neutrality" Professional Talent (Senior)* issued by the Education and Examination Center of the Ministry of Industry and Information Technology. The project completed a total of 60 training and accreditation sessions, providing sufficient talent reserves for Baosteel's low-carbon development.

### Conduct cutting-edge low-carbon research

As a leading enterprise in the green transformation of steel industry, Baosteel has been continuously conducting cutting-edge research and innovation in low-carbon technologies. Through continuous research in low-carbon steel development and low-carbon metallurgy, the Company has taken the lead in low-carbon technology in the steel industry. During the reporting period, Baosteel signed a green steel supply technology agreement with Mercedes-Benz and completed the third-party certification of the carbon footprint assessment report for BeyondECO-30% electro-galvanized products. Furthermore, the first low-carbon emission steel (BeyondECO-30%) based on the blast furnace-converter process was rolled off at Baoshan Base.



#### Low-Carbon Products Trial Production: Explore Near-Zero Path for Automotive Plate

During the reporting period, Baosteel advanced the production of cold-rolled automotive plate through electric arc furnace smelting, carried out the trial production of DP980 through electric arc furnace smelting at Taiyuan Iron and Steel, and produced 0.8/1.5mm specification product. The Company organized and implemented blast furnace—converter trial production of products with high-scrap steel ratio, with maximum scrap steel ratio reaching about 50%. The products were used for high-scrap steel ratio verification by NIO, FAW Hongqi and other users. In addition, Baosteel actively demonstrated the near zero carbon path sand table and low carbon parts for automotive plate steel at the Shanghai Auto Show and Volvo Asia Pacific Headquarters, and set up a professional technology exhibition area for low carbon parts at the annual user conference to showcase our cutting-edge low-carbon technologies.

### Internal carbon pricing

In order to advance the Company's fixed assets investment projects such as ultimate energy efficiency, green energy, low-carbon metallurgy, etc., the internal carbon pricing will be determined by the end of 2023 based on the changes in the domestic and international "Carbon Peaking and Carbon Neutrality" policies and the changes in the national carbon market price, which will be RMB 90 per ton CO<sub>2</sub> in 2024, 20% higher than the national average price in 2023. The pricing is applicable to the calculation of emission reduction benefits of energy-saving and low-carbon technical upgrade, maintenance, and improvement projects.

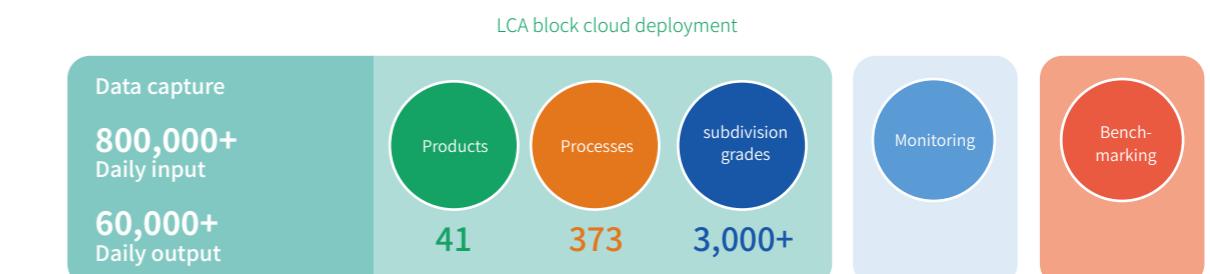
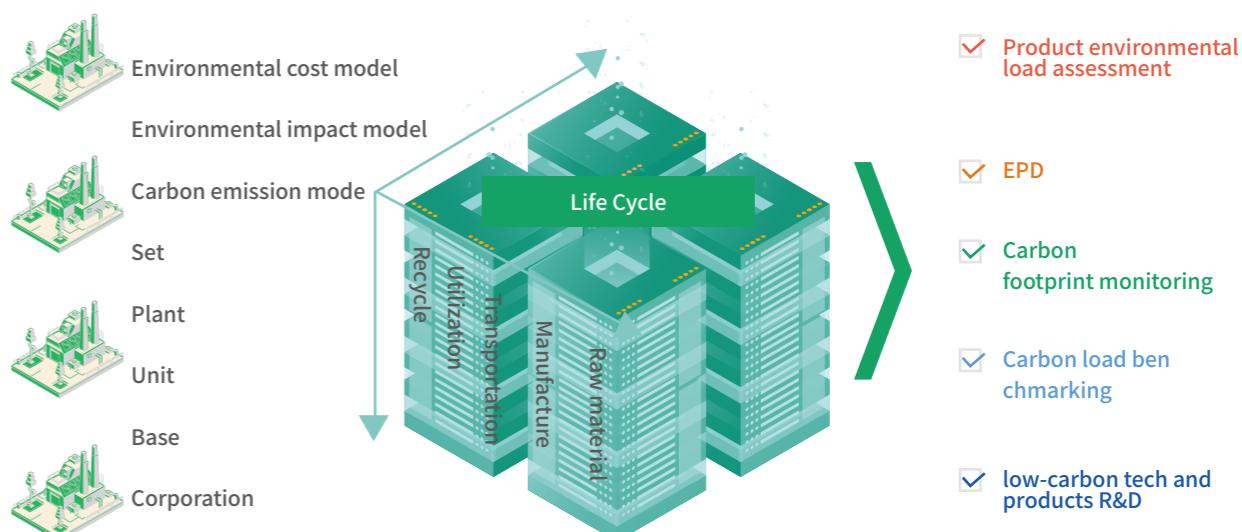
## Smart carbon data platform

To achieve digital tracking of product carbon footprint, Baosteel relies on the big data center to launch a smart carbon data platform, which adopts technologies such as cloud computing and artificial intelligence to collect the Company's carbon data covering all processes, sequences, and varieties. The platform provides important quantitative tools and big data support for Baosteel to make strategic decisions on energy conservation and carbon reduction, and realize carbon peaking and carbon neutrality. The smart carbon data platform implements organizational carbon inventory and accounting in accordance with standards such as ISO14064.



#### Product Carbon Footprint: Digitized and Intelligent Low-Carbon Products Certification

During the reporting period, Baosteel Smart Carbon Data Platform developed the real-time calculation function of information such as organizational carbon and product carbon footprint. The platform includes three core modules: carbon accounting, carbon assets, and carbon footprint, with five major innovations including comprehensive standards, wide scope, fine granularity, accurate data, and new architecture. In 2023, Baosteel successfully obtained third-party EPD certification for multiple products based on the product carbon footprint data of the smart carbon data platform, and newly released environmental product declarations for two products, hot-rolled pickled plates and steel strips, and prepainted steel plates and steel strips, on the China Steel Industry EPD Platform (<https://www.cisa-epd.com>).



Smart Carbon Data Platform



Environmental Product Declarations on the China Steel Industry EPD Platform

## Strengthen external cooperation

Baosteel remains an open and inclusive attitude, fully explores external resources related to low-carbon fields, and conducts external cooperation related to climate change risk. During the reporting period, Baosteel communicated with various industry associations, enterprises, and universities, and cooperated to build a model framework for predicting low-carbon transformation and carbon emission prediction in steel industry. The framework evaluates the carbon emissions of crude steel produced by individual steel plants or regions, thereby leading the way for the steel industry to explore the low-carbon development direction.



### Baosteel and ExxonMobil Signs MOU on Low-Carbon Solutions

In January 2024, Baosteel and ExxonMobil signed a Memorandum of Understanding (MOU) on low-carbon solutions cooperation in Shanghai. Both parties will explore business opportunities in low-carbon solutions, including potential low-carbon energy solutions, carbon capture and storage (CCS) value chain, and certification of Baosteel's low-carbon footprint products. Under the MOU framework, both parties will actively cooperate, jointly discuss potential joint researches, and study the development of policies and regulations, to facilitate cooperation in low-carbon solutions.



### Wuhan Marathon: Carbon Neutral throughout the Event

In April 2023, Wugang donated China Certified Emission Reductions (CCER) under the guidance of the Wuhan Municipal Ecology and Environment Bureau to realize carbon neutrality throughout Wuhan Marathon, so as to present a zero-carbon Wuhan Marathon. Wugang won Carbon Neutral Honor Certificate. This event became the first "Carbon Neutral Wuhan Marathon" in history, showcasing that Baosteel contributes to carbon neutrality in social activities while it is engaged in emission reduction.



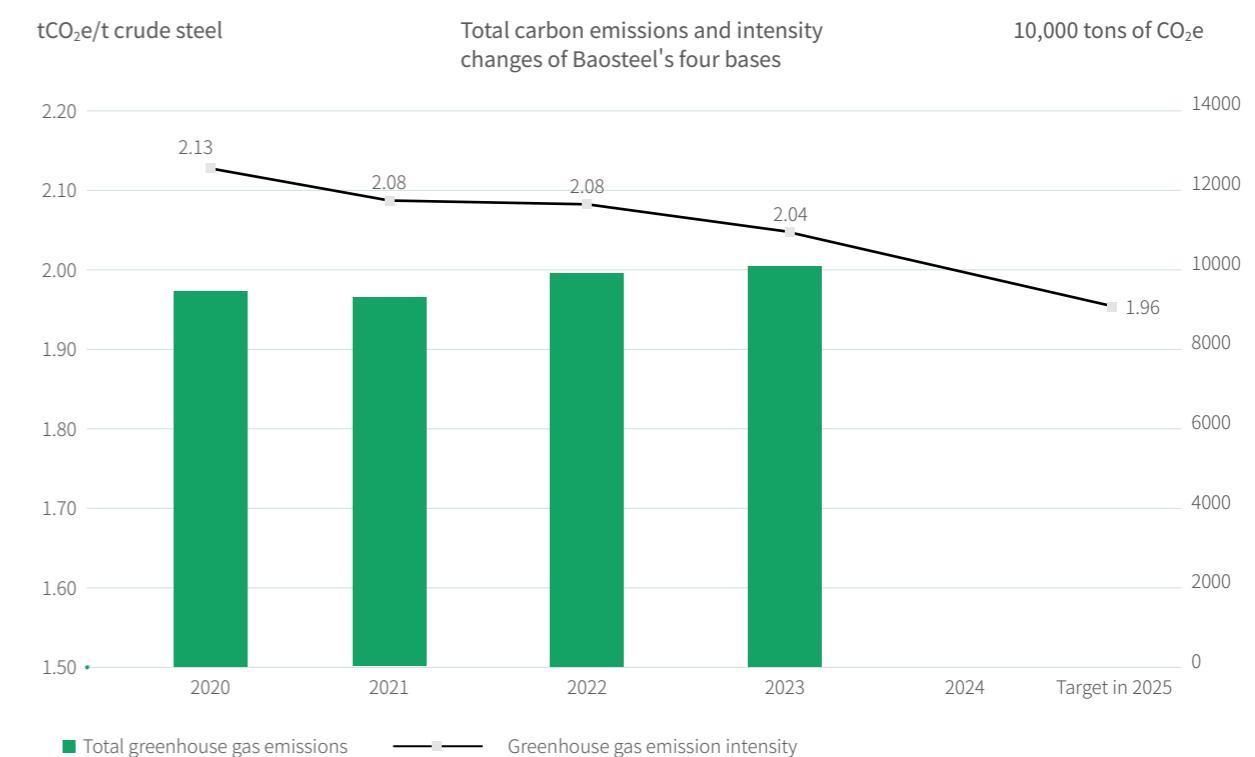
Wugang's Carbon Neutral Honor Certificate

## Indicators and goals monitoring



### Setting goals

To achieve the goals of carbon peaking in 2023 and carbon neutrality in 2050, Baosteel has set up the carbon neutrality and medium-long carbon reduction targets, including three five-year carbon reduction targets, namely, carbon emissions down by 8% in 2025, 15% in 2030, and 30% in 2035 compared with 2020 respectively. By 2025, the carbon emission intensity of Baosteel's main production bases (Scope I and Scope II) will be reduced by 8%, and the carbon emission intensity<sup>10</sup> was 2.04 tCO<sub>2</sub>e/t crude steel in 2023, with a decrease of 4% compared with the 2.13 tCO<sub>2</sub>e/t crude steel in the benchmark period.



In 2023, the Ministry of Ecology and Environment issued the *Notice on Reporting and Verifying Greenhouse Gas Emissions from Some Key Industries and Enterprises in 2023-2025*, and adjusted the parameters related to commonly used fossil fuels, with major adjustments as follows:

Fuel	Unit	Emission Factor (tCO <sub>2</sub> /t)	
		2022	2023
Anthracite	ton	1.9238	2.6288
Bituminous coal	ton	1.7471	2.2261
Washed coal	ton	2.2082	2.4054
Coke	ton	2.8616	3.0142

<sup>10</sup> Due to the adjustment of the emission factors by the Ministry of Ecology and Environment in 2023, the carbon emission data from 2020 to 2022 has been retroactively adjusted.

## Indicator management

To consolidate the basic management capabilities for achieving the goal and track the performance of Baosteel's carbon reduction, Baosteel has strictly tracked and monitored its direct and indirect greenhouse gas emissions and emission intensity on a regular basis. In addition, we have hired third-party agencies to verify direct and indirect greenhouse gases within its operational control scope every year in accordance with ISO 14064:2018 standards, and issued a third-party verification statement<sup>11</sup>. To cater to full-caliber disclosure of greenhouse gas emissions in the sustainability report, other companies (Baowu Carbon and Baosight Software) have been added from 2023 onwards.

Greenhouse gases: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub> (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, nitrogen trifluoride)

Greenhouse gas emissions of Baosteel's four bases: Unit: 10,000 tons of CO<sub>2</sub>e, tCO<sub>2</sub>e/t crude steel

Indicator	2021	2022	2023
Total greenhouse gas emissions (category 1 + category 2)	9,971	10,593	10,781
Direct greenhouse gas emissions (category 1)	9,680	10,293	10,569
Indirect greenhouse gas emissions (category 2)	291	300	213
Greenhouse gas emission intensity (category 1 + category 2)	2.08	2.08	2.04

Baosteel's greenhouse gas emissions: Unit: 10,000 tons of CO<sub>2</sub>e

Indicator	2021	2022	2023		
	Steel Segment	Steel Segment	Steel Segment	Others <sup>13</sup>	Total
Total greenhouse gas emissions (category 1 + category 2)	10,115	10,756	10,902	272.4	11,174
Direct greenhouse gas emissions (category 1)	9,732	10,418	10,617	112.2	10,729
Indirect greenhouse gas emissions (category 2)	382	338	285	160.2	445

<sup>11</sup> The greenhouse gas emission data and the emission data of domestic carbon market are slightly different due to the inconsistency in scope and greenhouse gas categories

<sup>12</sup> Steel segment: companies in steel manufacturing, processing and distribution

<sup>13</sup> Others: Shanghai Baosight Software Co., Ltd (Baosight Software), Baowu Carbon Technology Co., Ltd (Baowu Carbon), and Baowu Group Finance Co., Ltd (the Finance Company)

As a supplier of steel products, Baosteel refers to our global peers to calculate the Scope 3 GHG Emission from "cradle to gate" + steel products transportation of steel segment. By the end of the reporting period, the GHG emissions (according to GHG Protocol) of our steel segment since 2020 were as follows:

Greenhouse gas emissions of steel segment: Unit: 10,000 tons of CO<sub>2</sub>e

Category	Greenhouse Gas Emission	2020	2021	2022	2023
Category 1-Direct GHG emissions(Scope 1)	9,768	9,732	10,418	10,617	
Category 2-Indirect GHG emissions from imported energy(Scope 2)	402	382	338	285	
Category 3-carbon emissions from transportation	513	575	501	448	
3.1 Transportation of purchased goods and services	413	452	379	312	
3.2 Transportation and distribution of fuel	12	13	18	15	
3.3 Product Transportation	84	107	100	117	
3.4 Employee's commuting	2.70	2.70	4.10	3.98	
3.5 Business trip	0.70	0.90	0.30	1.33	
Category 4—indirect GHG emissions form products used by organization	2,851	3,021	2,908	2,192	
4.1 Emission from procurement of goods and services	2,810	2,979	2,881	1,876	
4.2 Capital goods	24	22	10	313	
4.3 Waste disposal	18	20	17	3	
Category 5—indirect GHG emissions associated with the use of products from the organization	72	110	/	112	
5.1 Companies invested	72	110	/	112	
Sub-total for GHG emissions for categories 3, 4 and 5 (Scope 3)	3,436	3,706	3,409	2,753	



## Ecological environment protection

The ecological environment is the most fundamental condition for human survival and the most important foundation for sustainable social development. Baosteel is keenly aware of the importance of ecological environment protection, actively fulfills its corporate social responsibility, consistently reduces the impact of its own operations on the environment while ensuring compliance, explores new models for the coordinated development of business operations and the ecological environment, aiming at setting a benchmark for the green development of China's steel industry.



## Environmental management

Baosteel places paramount importance on environmental management and has established a robust environmental governance structure and clear environmental management framework. The Company persists in optimizing its environmental management systems, improving environmental management and performance capability by adhering to the ideas about ultra-low emission of waste gas, zero wastewater discharge, solid waste disposal at factories, cleaning, greening, beautification, and culture, intensively advances environmental protection and ecological civilization construction. During the reporting period, Baosteel invested RMB 10.867 billion in environmental protection, and RMB 5.638 billion in capitalized projects<sup>14</sup>.



### Environmental Governance Structure

Baosteel has established a three-level environmental governance structure consisting of the Energy and Environmental Protection Management Committee, the Energy and Environmental Protection Department, and the Energy and Environmental Protection Department of each base under the overall leadership of the Strategy, Risk and ESG Committee, to implement the Company's environmental management-related work. To ensure effective governance, Baosteel clearly links the completion of environmental performance targets to management performance assessment. When a significant environmental issue or major environmental incident is found in the review, the Company will determine the disposal method in view of the severity of the environmental issue, and the responsible managers and departments may receive punishment like performance accountability, economic penalty, or administrative penalty.

The management in Baosteel's environmental governance structure is responsible for leading the Company to carry out comprehensive and forward-looking environmental management planning, and deploying the Company's future environmental protection development pathway while ensuring compliance. Currently, we have formed the *Green and Low-Carbon Development Plan for Baosteel (2022-2027)* based on the *Outline Baosteel Urban Steel Plant Overall Planning (2019-2024)*, to integrate environmental protection planning into the entire value chain of the Company's production and operation. While promoting the construction of green factories, we have prioritized issues such as "closely monitoring the green product demands from customers", to establish a clear and well-defined environmental management path.

#### Strategy, Risk and ESG Committee

Overall leadership, supervision, and review

Major energy and environmental protection decisions

Evaluation and determination of major energy and environmental risks and measures

#### Energy and Environmental Protection committee

Review, supervision ad guidance of the 6-year green and low-carbon plan

Strategic communication on sustainable development of steel plants in other cities

The energy management system with "three flows and one status"<sup>15</sup>

Unified planning and hierarchical management of environmental protection

Overall management, planning, and coordination

#### The Energy & Environment Department of each base (four bases)

Local construction of energy system, energy production and supply, energy-saving technologies, and Emission Trading Scheme

Implement environmental management system, environmental incident, environmental monitoring, environmental cost, etc.

#### Environmental Governance Structure

<sup>14</sup> The environmental protection investment and investment in capitalized projects cover Baosight Software, Baowu Carbon, and the Finance Company.

<sup>15</sup> Three flows and one status refer to Baosteel's internal energy management from such dimensions as manufacturing flow, energy flow, value flow and equipment status based on characteristics of steel enterprise.

## Environmental management system

In full compliance with laws and regulations such as the Environmental Protection Law of the People's Republic of China, Baosteel has established rules and regulations such as the Environmental Protection Compliance Management Measures, the Environmental and Environmental Protection Process Management Measures, and the Environmental Protection Performance Evaluation and Environmental Protection Accountability Management Measures. Based on external regulatory requirements, internal compliance systems, and the Company's actual situation, Baosteel has established a robust environmental management system, to scientifically manage environmental protection-related matters in its operations, warn relevant environmental risks, and effectively fulfill its environmental management responsibilities. According to the Company's Environmental Management System Review Report, we regularly audit and review the environmental management system to ensure its effectiveness.

Beyond that, we carry out external certification of environmental management system, and constantly consolidate Baosteel's environmental management capabilities from an international and professional perspective. By the end of the reporting period, all plants of Baosteel had passed ISO 14001 environmental management system certification, covering all operating locations.

To ensure the comprehensive implementation and efficient execution of the environmental management system, we regularly conduct various environmental management reviews and urge relevant responsible parties to rectify and optimize the identified issues. Based on the review results and rectification, we will clarify the environmental accident responsibility tracking and management personnel performance evaluation, forming a closed loop of environmental responsibility. During the reporting period, Baosteel's four major bases received a total of 472 environmental supervision inspections and monitors, and rectified the identified problems. Baosteel's operation scope did not experience major environmental pollution incidents. In addition, Baosteel's green development index<sup>16</sup> reached a new high, rising from 77 points in 2020 to 94.3 points. Meishan Base was awarded the honorary titles of "Jiangsu Province Green Factory" and "China Steel Industry Clean Production Environment-Friendly Enterprise", further demonstrating the implementation intensity of the Company's environmental management system.

### Specialized Supervision and Inspection on Green and Low-Carbon Development: Rectification and Improvement of Environmental Protection Risks

During the reporting period, Production Operation Center Baosteel actively cooperated with the "Environmental Protection Inspection" initiated by China Baowu Group. The Production Operation Center, together with the Supervision Department and the Energy & Environment Department, conducted a specialized supervision and inspection on the implementation of green and low-carbon development within the Company. They verified the rectification of environmental protection issues in various subsidiaries and operation bases, and sorted out newly identified risks at site. By the end of the reporting period, all 422 environmental protection issues identified during the inspection were rectified and accepted by China Baowu's environmental protection inspection team.

## Environmental management capacity building

Baosteel continues to consolidate its environmental management capabilities, continuously improves environmental management efficiency through management technology innovation, personnel capacity building and external communications, and ensures effective environmental management to fully fulfill its environmental protection responsibilities to stakeholders.

► **Management technology innovation:** We developed a LCA impact assessment model for the hot-rolled, cold-rolled, and silicon steel products at the four bases, and conducted lifecycle assessments for Baosteel's major products with eight quantitative indicators of environmental impact, namely, carbon footprint, eutrophication, photooxidant formation, energy consumption, human toxicity, ecological toxicity, acidification, and resource consumption. Based on the evaluation results, we have further grasped the environmental indicators of product lifecycle and their distribution patterns at various stages, thereby providing a strong support for environmental management through technological means.

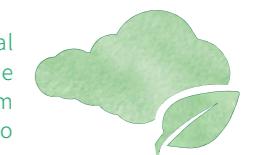
► **Personnel capacity building:** Baosteel actively conducts personnel capacity building for environmental management. We organize training on environmental supervision requirements and environmental management guidelines for management personnel on a regular basis, to continuously improve their performance and risk identification capabilities, and incorporate environmental management into their daily work. We organize environmental protection-themed activities and publicity for all employees on a regular basis, to raise their environmental awareness and sense of responsibility. During the reporting period, all employees participated in Baosteel's environmental protection training.

► **External communications:** Baosteel regularly communicates with regulators, industry associations, customers, and other stakeholders to understand their expectations on Baosteel's environmental management and incorporate them into our management activities. In addition, we are closely concerned about the feedback from residents in the surrounding communities to avoid inconveniences to their lives due to inadequate environmental management. To this end, we have established internal management procedures. Once we receive complaints from stakeholders such as communities or residents, we will promptly receive, investigate, rectify, and review the issues to continuously improve environmental management.

<sup>16</sup> Green development index refers to China Baowu's steel enterprise green index evaluation system

## Compliant discharge and emissions

Baosteel regards compliant discharge/emission as a fundamental principle for environmental management. We are committed to continuously reducing the impact of pollutant emissions on the surrounding environment, and improving our management through various measures such as system establishment, process optimization, technological innovation, and personnel training, in order to create a "green steel plant" harmonious with the nature.



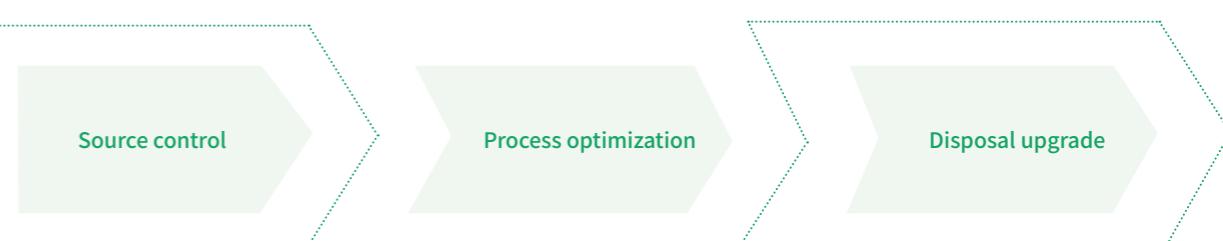
### Wastewater discharge

Baosteel strictly complies with relevant laws and regulations of the place where it operates, and attaches great importance to wastewater discharge management. It is our bottom line to maintain compliant wastewater discharge, and we regularly review our wastewater discharge management. During the reporting period, Baosteel carried out numerous wastewater discharge compliance audits to lay a solid foundation for subsequent discharge reduction.

### Baosteel's Wastewater Discharge Compliance Audit Results

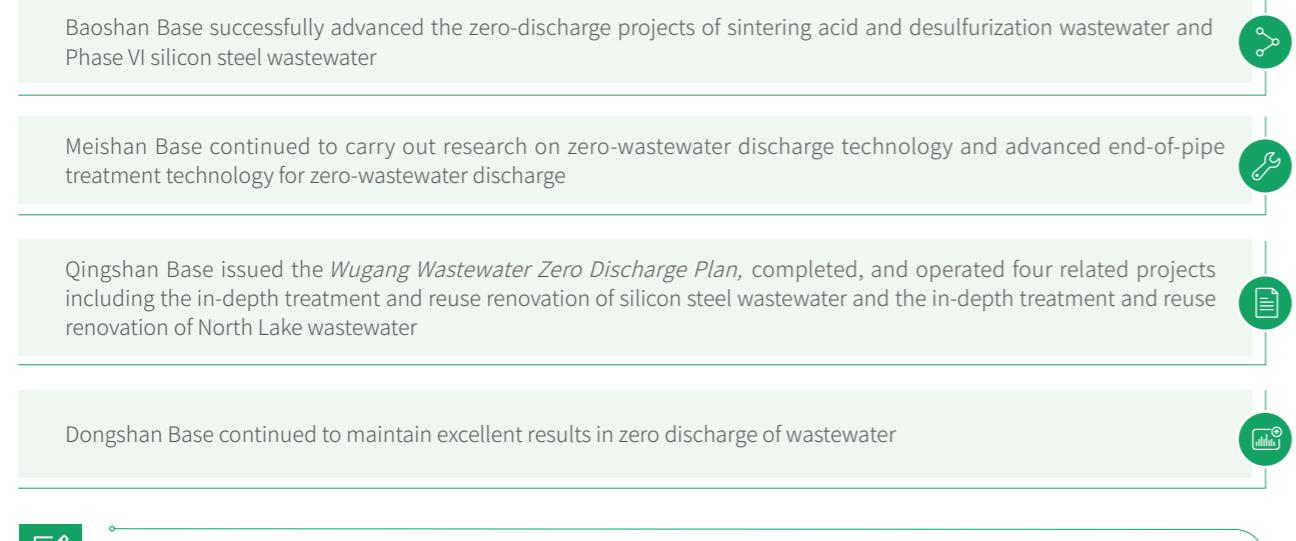
- Each manufacturing base along the river has carried out standardized rectification in terms of non-point source pollution control, process drainage specialized inspections, and social wastewater discharge inspection at sewage outfalls<sup>17</sup> along the river, roads, and production areas to ensure compliant discharge.
- Dongshan Base carries out compliance operation and maintenance according to the national key pollution source automatic monitoring requirements to ensure that online monitoring data remains normal and emissions remain zero.

Baosteel keeps advancing the "zero discharge of wastewater" special action while ensuring compliant discharge, to implement the wastewater discharge management system covering the entire production and operation process from such aspects as source control, process optimization and disposal upgrades. During the reporting period, Baosteel assigned the constraint targets for total discharge and key tasks of wastewater treatment to each unit, incorporated corresponding performance indicators and major project progresses into quarterly indicators for regular tracking and management to ensure effective control of wastewater management.



<sup>17</sup> Sewage outfall refers to those incorporated into the *Information Platform of the 2km Sewage Outfall of the Yangtze River by the Ministry of Ecology and Environment*

During the reporting period, Baosteel's four bases comprehensively and orderly carried out the "zero discharge of wastewater" special action to jointly reach the Company's environmental protection goals.



## Source control

Source control is of vital importance for wastewater discharge management, since it reduces the cost and resource consumption for wastewater disposal and discharge reduction from the front-end design. Baosteel has continued to advance reduction of wastewater at source, and identified potential discharge reduction points through management tools such as process water balance testing. Each base has achieved significant results in reduction of wastewater at source.

- Baoshan Base achieved a year-on-year decrease of 1.59% and 12% in the monthly average wastewater discharge of silicon steel and cold rolling through source control;
- Qingshan Base further advanced the reduction of process discharge at source, and realized a reduction in wastewater discharge per ton of steel to 0.81 m<sup>3</sup> per second;
- Meishan Base systemically sorted out the sewage conditions of key processes and completed the renovation of some domestic drainage facilities in the plant area during the reporting period;
- Dongshan Base developed the principle of source control from the early stage, and all production wastewater was reused upon treatment.

## Process optimization

Optimization of wastewater treatment and reuse processes significantly reduce wastewater discharge, thereby reducing the total volume of pollutants discharged from wastewater. During the reporting period, Meishan Base improved the process flow of demineralized water station through dual-membrane process (ultrafiltration + RO) installed on four sets of demineralized water preparation systems, completed the water-saving transformation of three demineralized water stations in the whole plant. Meishan Base adopted the "submerged ultrafiltration + nanofiltration + RO + EDI" process to re-concentrate the system's concentrated water, increasing the water preparation rate from 67.5% to over 90%, and the daily discharge volume was reduced by about 3,600 tons.



Demineralized Water Preparation System

## Disposal upgrade

As the final stage of wastewater discharge management, a scientific and efficient wastewater disposal process will mitigate the impact of discharge on the environment. During the reporting period, Baosteel carried out special rectification work on "rainwater and sewage diversion" to ensure compliance and effectiveness in wastewater disposal.

- Baoshan Base continued to carry out leakage detection and rectification for rainwater and sewage diversion, and completed one rainwater and sewage diversion project;
- Qingshan Base traced the source of abnormal discharge to identify the locations of mixed rainwater and sewage discharge, and formulated targeted rectification plans. A total of 9 abnormal discharge points were identified and rectified during the year;
- Meishan Base strengthened risk management and control, implemented standardized management of all rainwater and sewage outlets, completed the *Partial Wastewater Collection Project in the Plant*, maximized the recycling of initial rainwater and site flushing water, and ensured compliant wastewater discharge;
- Dongshan Base conducted a survey of rainwater drains across the plant, identified and rectified 37 abnormal drainage points.

## Waste gas management

Baosteel strictly complies with regulations and internal norms such as the *Law of the People's Republic of China on the Prevention and Control of Air Pollution* and the *Implementation Plan for Ultra-Low Emission Transformation of the Steel Industry*, and continues to intensify its waste gas management. In recent years, Baosteel intensively implements President Xi Jinping's ecological civilization ideology, prioritizes creating and maintaining A<sup>18</sup> with ultra-low emissions in advancing the Company's green and low-carbon development and fulfills "high-end, intelligence, green, and efficiency" and "make to order, marginal product, profitable revenue, and cash profit"<sup>19</sup>. We have taken the lead in applying multiple new and advanced technologies. During the reporting period, Baosteel successfully realized the full-process ultra-low emission public disclosure of the four bases, marking a new level of waste gas management in Baosteel.

By the end of the reporting period, Baosteel's four bases had implemented a total of 234 ultra-low emission technical upgrades. Baoshan Base completed the full-process ultra-low emission assessment public disclosure on the website of the China Iron and Steel Association on February 4, 2023, and passed A-level environmental performance public disclosure of the Shanghai Municipal Bureau of Ecology and Environment on February 27; Qingshan Base completed the full-process ultra-low emission public disclosure on November 25, 2023; Dongshan Base's No.1 and No.2 blast furnaces completed ultra-low emission public disclosure on December 1, 2021, and No.3 blast furnace completed ultra-low emission public disclosure on January 14, 2023; Meishan Base completed the full-process ultra-low emission public disclosure on November 16, 2023.

### Baoshan Base

Completed the full-process ultra-low emission assessment public disclosure on the website of the China Iron and Steel Association on February 4, 2023

### Meishan Base

Completed the organized ultra-low emission assessment public disclosure on the website of the China Iron and Steel Association on June 23, 2023

### Qingshan Base

Completed the ultra-low emission transformation assessment public disclosure on the website of the China Iron and Steel Association on November 25, 2023

### Dongshan Base

No.3 blast furnace completed ultra-low emission public disclosure on the website of the China Iron and Steel Association on January 14, 2023

#### Ultra-Low Emissions of the Four Bases

<sup>18</sup> The term "A-grade creation and A-grade maintenance" refers to the process of Baosteel's bases achieving environmental performance level A (A-grade creation) and maintaining this level (A-grade maintenance) through implementing ultra-low emission transformation and completing assessment and monitoring publicity, and further receiving approval from the provincial (municipal) ecological environment management department to meet the standards for environmental performance level A (A-grade maintenance)

<sup>19</sup> "high-end, intelligence, green, and efficiency" and "make to order, marginal product, profitable revenue, and cash profit"



## Management Measures for Full-Process Ultra-Low Emissions

During the reporting period, Baosteel actively advanced waste gas emissions management, covering the entire production and operation process including material processing and transportation, manufacturing, logistics and transportation, and operation management. We are committed to meeting ultra-low emissions requirements in all aspects.

### Material transportation, processing, and storage:

Qingshan Base completed the transformation of "storing ores in sheds and coal in bunkers", realizing the full closure of open-air storage yards such as coal bunkers, ore yards, and blending yards. It has built 33 coking coal silos with a storage capacity of 240,000 tons, thereby reducing unorganized emissions in material storage.

Meishan Base has built 15 enclosed stockyards and 26 silos for material storage. Effective dust removal and suppression measures such as closed transportation, collection and disposal have been taken for the 57 kilometers of conveyor belts. The unorganized emission sources in the production of each process have been closed and controlled, the air volume and air dampers of the dust removal facilities have been optimized and adjusted. The unorganized emission control has reached ultra-low emission requirements.

### Production:

Qingshan Base has upgraded the equipment for key production processes, relocated and upgraded five sintering units and installed three modern sintering units, realizing closed production in batching, sintering, screening, etc. It upgraded the environmental protection equipment for No. 6 and No.7 blast furnaces, realizing closure of the blast furnace ore tank and cast house, as well as the closure of scrap steel workshop. In addition, Qingshan Base optimized the secondary dust removal system for No.3 steelmaking plant, to further improve soot collection efficiency in steelmaking. By closing production operations for key processes and upgrading dust removal processes, the waste gas emissions in Qingshan Base have been significantly reduced.

### Logistics transportation:

Meishan Base leverages the advantages of riverside wharves and railway transportation, with over 80% of its clean logistics by rail and waterway. The base renews all vehicles and non-road mobile machineries<sup>20</sup>. It has built battery replacement stations for new energy vehicle, facilitating the green and environmentally friendly transportation of new energy vehicles. Meishan Base has completed plant access control upgrading, clean transportation and black smoke detection systems, with A-level clean transportation management.

### Operations management:

Meishan Base has built a smart environmental protection control platform to realize dynamic monitoring of the atmospheric governance in all areas across the plant. The control platform consists of 83 CEMSS<sup>21</sup>, 42 ambient air micro-stations, 256 TSPs, and 6 VOCs. Each detection device monitors the atmospheric governance in all areas across the plant 24 hours a day, to realize horizontal and vertical environmental management. This environmental protection control platform safeguards the healthy operation of environmental protection facilities and comprehensively improves dynamic waste gas management.



Garden-style Plant of Meishan Base



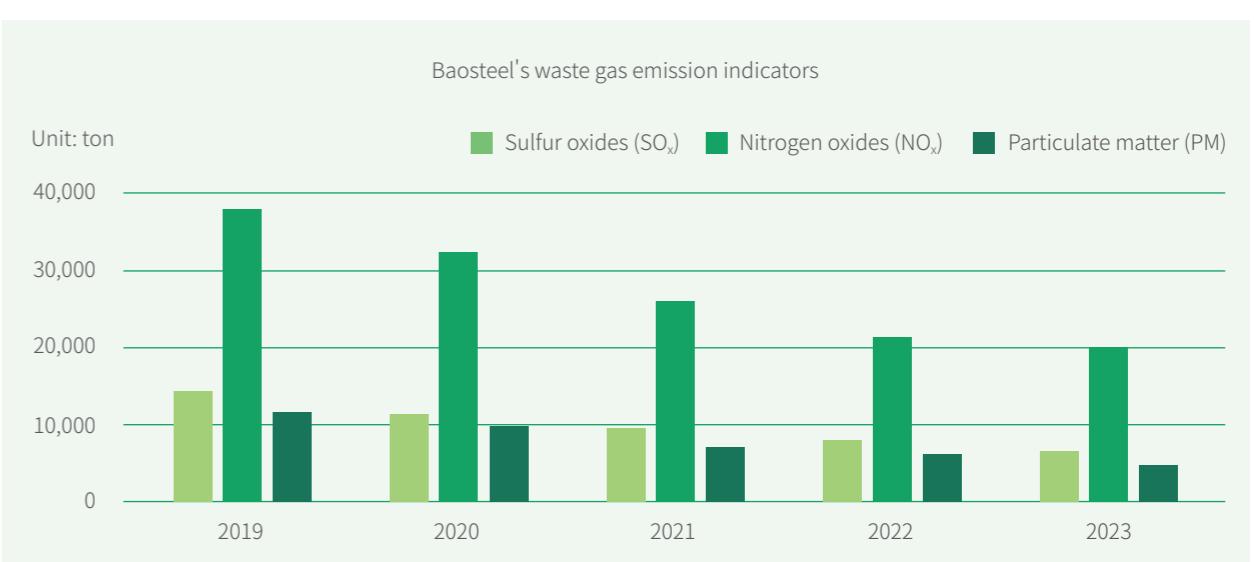
Enclosed Raw Material Storage Yards at Baoshan Base

### Emissions of air pollutants from Baosteel's four bases and Huangshi Coated Plate in 2023

By virtue of the full-process waste gas emission management measures, Baosteel has realized continuous reductions in various waste gas emission indicators and successfully reached the emission reduction target for 2023.

S/N	Indicator	Unit	2022			2023		
			Permitted	Target	Actual	Permitted	Target	Actual
1	Sulfur oxides (SO <sub>x</sub> )	tons	27,705	12,815	7,927	25,592	8,692	6,556
2	Nitrogen oxides (NO <sub>x</sub> )	tons	54,473	31,916	21,253	54,753	23,220	19,845
3	Dust	tons	22,486	9,846	6,276	21,544	7,035	4,725

Compared with 2019, the emissions of dust, sulfur oxides and nitrogen oxides reduced by 55%, 47% and 51% respectively.



<sup>20</sup> Including forklifts, shovel, and excavator, etc.

<sup>21</sup> Refers to Continuous Emission Monitoring System.

## Waste management

Baosteel has set the overall goal of "solid waste shall be disposed of in the plant", and closely focuses on the three major directions including source reduction of solid and hazardous waste, recycling, and harmless disposal. The Company carries out waste management from six dimensions including policy and regulation publicity, system capacity building, scientific research and exploration, key project implementation, information system construction, and special supervision and inspection. During the reporting period, Baosteel's comprehensive utilization rate of solid waste reached 99.92%, the return-to-production utilization rate of solid waste reached 30.95%, and all hazardous wastes were subject to compliant disposal. It achieved a record-breaking level in 2022 and continued to create new heights.

### Policy and Regulation Publicity: Study Policies and Documents

During the reporting period, each base of Baosteel actively cooperated with China Baowu to research and prepare the pilot work plan for the construction of a waste-free group, and organized to study policies and documents such as the *Overall Implementation Plan for Major Hazardous Waste Projects (2023-2025)* and the *Work Plan for the Construction of "Waste-Free Cities" during the "14th Five-Year Plan"*, so that all employees could further understand Baosteel's requirements and arrangements for the compliant disposal and reduction of waste. Qingshan Base organized special training on solid waste and chemical management technologies, to promote key points of environmental management compliance inspection for hazardous waste, storage pollution control standards, management plans, and management records preparation skills.

### System Capacity Building: Qingshan Base Continues to Advance Standardized Storage of Hazardous Solid Wastes

During the reporting period, Qingshan Base updated and released the *Hazardous Waste Management Measures* and the *General Industrial Solid Waste and Hazardous Waste Management Standards* for solid waste, to strengthen the capacity of waste management system. In addition, Qingshan Base upgraded a company-level standard emergency warehouse for hazardous waste in accordance with relevant national regulations. The warehouse area was equipped with oil separators, emergency tanks, and waste gas treatment facilities. Remote monitoring facilities and face recognition access control systems were installed for standardized storage of hazardous waste of the Company.

### Scientific Research and Exploration: Each Base Conducts Research on Hazardous Waste Treatment

During the reporting period, each base of Baosteel carried out multiple scientific research projects focusing on the utilization of solid waste and the harmless disposal of waste. Baoshan Base conducted research and experiments on the impact of sludge ore blending and sintering on environmental protection; Qingshan Base carried out research on the utilization of solid waste, and jointly conducted research with the Central Research Institute on the return-to-production technology of typical carbon-containing hazardous waste, as well as small-scale experiments on the harmless disposal of cold-rolled oily sludge sintering; Dongshan Base focused on the scientific research project of disposing cold-rolled nickel-containing waste from No. 3 blast furnace in rotary hearth furnace, and completed relevant industrial tests and demonstrations.

### Key Project Implementation: Advance Multiple Key Projects of Waste Management

During the reporting period, Baosteel advanced several key projects of waste management. Baoshan Base launched the trial operation of the comprehensive utilization system upgrade project; Qingshan Base's newly-built secondary resource homogenization line had reached production capacity; Meishan industrial waste pre-treatment project has entered commissioning stage; and raw material yard OG sludge and waste desulfurizer storage area ground hardening project at Dongshan Base was progressing in an orderly manner.



### Information System Construction: Baoshan Base Carries Out Intelligent Upgrading of Solid Waste Recycling System

During the reporting period, Baoshan Base continued to advance the intelligent upgrading of solid waste recycling system, significantly upgraded the system based on the principle of streamlining, reconstructed the basic system configuration, and optimized the full-process information management of "generation-transfer-return/delivery". The system was put into operation in August and running well. The collaborative operations between PC terminal and APP terminal were realized in this project for the first time, with such functions as online scanning and material delivery.

During the reporting period, the relevant indicators of solid waste disposal in Baosteel's steel segment are shown in the table below:

Indicator	Unit	Data
Total generation of solid waste (① + ② )	10,000 tons	3,296.03
① Generation of hazardous waste	10,000 tons	65.12
Harmless disposal of hazardous waste	10,000 tons	65.15
Method	Incineration	10,000 tons
	Landfill	10,000 tons
	Comprehensive utilization	10,000 tons
② Generation of general waste	10,000 tons	3,230.91
Method	Return-to-production	10,000 tons
	External utilization of solid waste products	10,000 tons
	Other methods	10,000 tons
		2.81

Generation and utilization of solid wastes from Baosteel's four bases, Huangshi Coated Plate and Lubao Steel Pipe in 2023

## Resource protection

Baosteel is keenly aware of the importance of rational use and management of resources to the stable operation of the steel industry and the long-term development of human society. We bolster water resource protection through water environment risk management, water resource management, and wastewater management, and boost the sustainable utilization of water resources through practical actions. We adopt a variety of conservation measures for packaging material resources and promote green packaging practices.

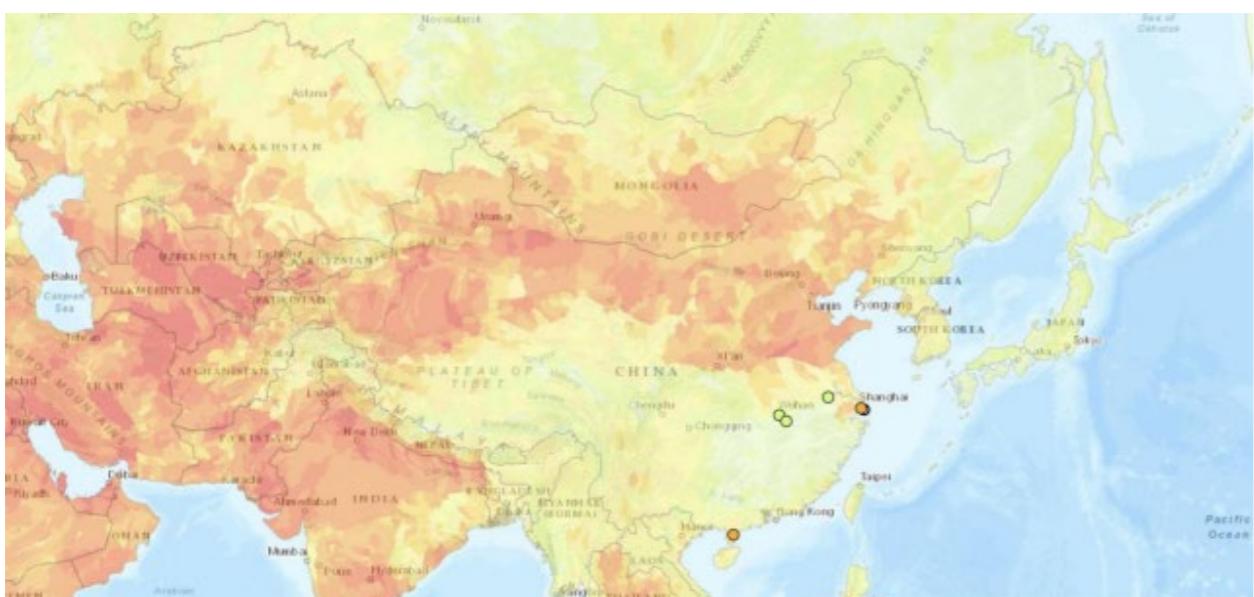


### Water resource protection

#### Water environment risk management

Baosteel strives to protect water resources in a scientific and professional manner, and conducts water risk evaluation using scenario analysis tool and specialized database, with the aim of developing its own management strategies. We have referred to the WWF Risk Filter to obtain quantitative water resource risk scores for water scarcity, flood, and water quality risk faced by each operating location's watershed, and conduct a preliminary assessment of the water resource risks faced by the existing operating locations, and classify the risks into "low", "medium" and "high". Based on the analysis of "current scenario", "negative scenario", and "positive scenario", Baosteel has forecast various water resource risks that each operating location will face in the future.

Based on the results of water resource risk evaluation, we have formulated targeted forward-looking management strategies to control and mitigate future water shortage risks. In addition, we conduct weighted analysis on the risk evaluation results to assess the water risks faced by stakeholders such as surrounding communities, with the aim to minimize both internal and external impacts.



Risk Map of Each Operating Location of Baosteel in 2023

Scenario	2023	2030	2050
Assessment results of water shortage risks	The water shortage risks faced by all operating locations are at low-medium level	About 30% of operating locations will face medium-high level water shortage risk	About 15% of operating locations will face medium-high level water shortage risk
Baosteel's Management Strategy	<p><b>Establish benchmark water-saving projects:</b> Actively promote pilot water-saving projects, continue to explore water-saving processes and technological paths, and create benchmark water-saving projects</p>	<p><b>Comprehensively promote water-saving practices:</b> Comprehensively promote benchmark water-saving projects, review and optimize their improvement items, and further improve water efficiency</p>	<p><b>Create water-saving cluster effect:</b> Collaborate with neighboring communities, partners, and other stakeholders to jointly explore cooperative water-saving models, and reduce water resource risks through water-saving cluster effects</p>
	Regular monitoring: Baosteel strictly complies with relevant requirements of the <i>Administrative Measures for Water Intake Permits</i> , regularly conducts water balance testing and water price monitoring to determine the spatiotemporal supply and demand distribution of water resources, and comprehensively identifies water scarcity risks on the short-term, medium-term, and long-term full value chain, thereby taking water risk management measures in advance, carrying out daily water resource management, and improving water efficiency		

It is also indicated by the evaluation results that the flood risks and water quality risks faced by all operating sites of Baosteel are at a high level. The risks will continue to rise in the future. As such, Baosteel has developed comprehensive monitoring mechanisms and emergency plans for extreme weather disasters (refer to "Address Climate Change—Strategy" for details), and established a comprehensive wastewater discharge management system (refer to "Ecological Environment Protection—Compliant Discharge/Emission" for details), so as to contribute our efforts to the global water resource protection initiative.

In addition, we conducted a forward-looking management needs assessment based on the results of water risk evaluations and regulatory requirements trends in the areas where we operate, to ensure that compliance risks in water risk management are minimized. During the reporting period, Baosteel reported no violations of sewage discharge regulations or other water risk incidents, and not subject to any penalties related to water resources.



#### Baosteel Reservoir Construction: Explore Water-Saving Cooperation Model

Baosteel persists in guaranteeing municipal water supply around the enterprise, thus the Baosteel Reservoir is constructed. As a service reservoir for Baoshan Base, the Baosteel Reservoir has clear water and excellent indicators such as chloride ion concentration. In addition to providing production water for Baosteel, when the Yangtze River salt tide strikes, the Baosteel Reservoir retains salt tide and stores fresh water to assist the Chenhang Reservoir, providing high-quality raw water for enterprises and residents in the basin.

## Water resource efficiency improvement

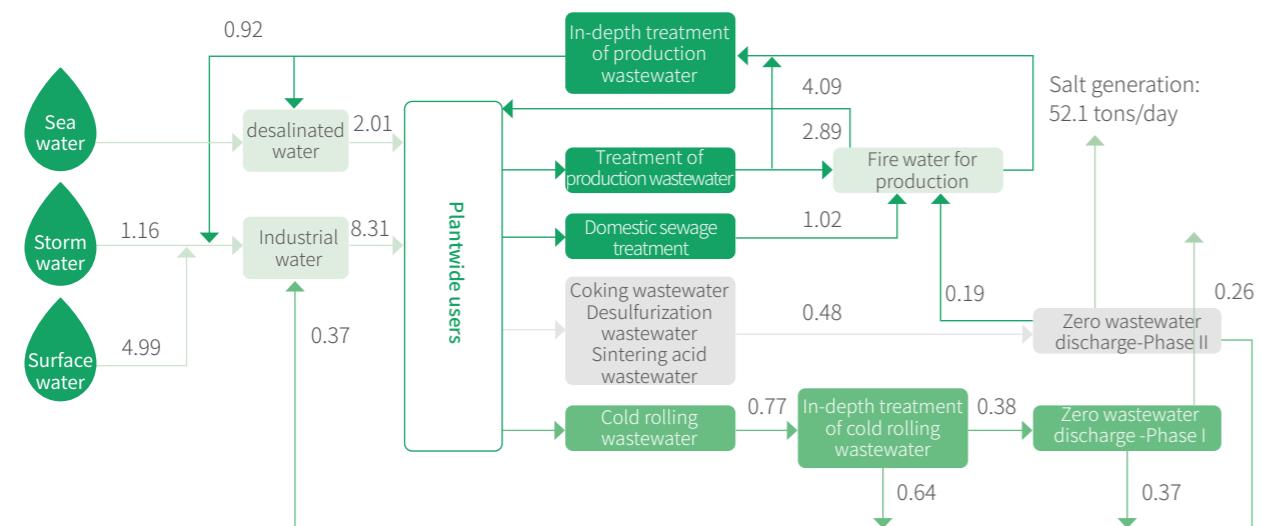
Following the principle of "multiple uses of one water, graded utilization, and cascade use", Baosteel places paramount importance to water resource protection. We have comprehensively explored the feasibility of benchmarking water-saving projects based on the *Water Resource Management Strategy 2023-2030*, and jointly improved water resource efficiency from the management, production, and operation. In addition, we have organized training related to water resource management for all employees to raise their awarenesses of water conservation and enhance their water resource efficiencies. During the reporting period, Dongshan Base was awarded the honorary title of "Guangdong Provincial Water Saving Benchmark Enterprise".

Water saving in management	Water saving in production	Water saving in operation
<p>It refers to the systematic management of water conservation at management level, such as applying tools like smart water conservation systems to analyze water consumption and identify water conservation potentials.</p> <p>Baoshan Base conducts a process water balance test to reduce water waste in each process.</p>	<p>It refers to implementing water conservation measures in production, such as adopting water-saving processes and recycling reclaimed water.</p> <p>Qingshan Base explores water conservation potentials in various production processes, and has carried out more than 50 water conservation projects.</p> <p>Dongshan Base recycles all production wastewater across the plant, replaces pellet filter fabric flushing water and upgrades water-saving performance of No.1 and No.2 blast furnaces, saving about 5,000 m<sup>3</sup> of water per day.</p>	<p>It refers to the implementation of water conservation measures in enterprise operation, such as saving water in office, and employee accommodation.</p> <p>Meishan Base develops water-saving measures to reduce domestic water consumption, implements quota control for domestic water consumption in each unit, and blocks water leakage points in areas not in use.</p>

## Water-saving measures

### Full-Process Intelligent Control Technology of Water System: Develop Multi-Channel Water Conservation Technology

During the reporting period, Dongshan Base conducted systematic analysis on water intake, water consumption and drainage, developed multi-channel sustainable utilization technologies for unconventional water sources, "cascade treatment—graded recovery—quality-based utilization" wastewater treatment technology, and full-scale recycling technology for wastewater into the sea. In addition, Dongshan Base maintains dynamic balance in all parts of the water system through full-process intelligent control technology, to realize full-scale recycling of wastewater in long-process steel plants.

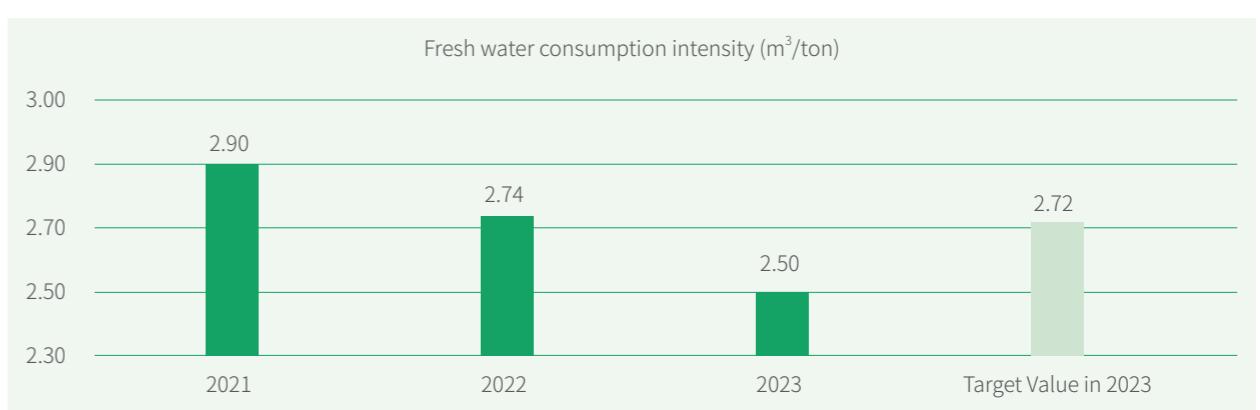


Water System Flow Chart of Dongshan Base

By the end of the reporting period, the water resource utilization indicators of Baosteel's four bases, Huangshi Coated Plate and Lubao Steel Pipe were as follows:

## Water resource utilization indicators of Baosteel's four bases, Huangshi Coated Plate and Lubao Steel Pipe

Indicator	Unit	2021	2022	2023	2023 target
Total water consumption	10,000 m <sup>3</sup>	13,976	14,061	13,276	/
—surface water	10,000 m <sup>3</sup>	12,479	12,138	11,614	/
—desalination	10,000 m <sup>3</sup>	489	663	647	/
—recycled stormwater	10,000 m <sup>3</sup>	1,009	1,260	1,016	/
Fresh water consumption intensity	m <sup>3</sup> /t crude steel	2.90	2.74	2.50	2.72



## Packaging materials conservation

Guided by the "3R" principle (reduction, reuse, and recycling), Baosteel is committed to improving resource utilization efficiency of packaging materials in operation and promoting green packaging practices.

Our product packaging materials such as steel plate for internal and external protection, iron corner protector, packaging pad/plastic, rust-proof paper, etc. All the product packaging materials comply with EU Directive 94/62/EC on packaging and packaging waste. Baosteel has achieved 100% recycling and reprocessing of product packaging materials shipped with its own processing and distribution system.

The rust-proof paper and binding tape of steel coils shall be processed into finished board packaging or packaging materials of small coil materials for reuse in view of actual loss and availability.

Packaging iron sheets, protective rings, and plastic gaskets for steel coils shall be classified and stacked, and social resources shall be regularly sought for recycling and reuse of them.

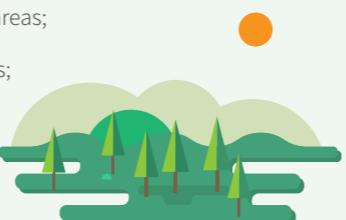
Processing and Distribution System Achieves the Reuse of Packaging Materials

## Biodiversity protection

Biodiversity is closely related to human well-being. It underpins human survival and development. Baosteel has taken a holistic approach to biodiversity and adopted multiple measures to maintain ecological balance, and ensure the integrity and stability of ecosystems. We conduct biodiversity protection and land use assessments for all nodes of the construction and operation process in accordance with relevant requirements, and have made the following pledges regarding the selection of project development and operation sites (please refer to the *Basic Policies for Sustainable Development* for details).



- Keep away from ecological protection red lines and fragile ecological diversity areas;
- Avoid business activities near World Heritage sites and IUCN I-IV protected areas;
- Refrain from invading wildlife habitats;
- Avoid soil erosion and deforestation;
- Conduct regular biodiversity risk evaluation, and develop mitigation plan;
- Cooperate with stakeholders in biodiversity protection.



To define the Company's biodiversity management policy, Baosteel conducts quantitative evaluation on biodiversity-related risks. We refer to the WWF Risk Filter, and obtain intrinsic risk scores for multiple sub-indicators such as biodiversity importance, watershed physical risk, and ecosystem dependency in each operating location in terms of the degree of dependence of its own operations on the ecological environment and the impact of its operations on the ecological environment. In view of the authoritative data sources, Baosteel has conducted a preliminary assessment of the biodiversity risks faced by various operating locations, nearby environment, and upstream/downstream basins in various dimensions. The assessment results indicate that all operating points of Baosteel are facing medium to high risks.

Based on the results of biodiversity risk assessment, we have developed short- and long-term management strategies for biodiversity protection to minimize the impact of business operations.

### Short-term management strategy

Develop a biodiversity risk mitigation plan for key risk areas, perform targeted and extensive work to protect and compensate the ecological environment, such as the compensation for aquatic biological resources and aquatic ecological environment in the previous year, thereby avoiding any damage to biodiversity within our own operational scope.

### Long-term management strategy

Manage to optimize our operations and supply chain layout to ensure that our operating locations are further away from biodiversity vulnerable areas, and require our supplier partners and transportation chains to stay away from biodiversity vulnerable areas. We will also seek external cooperation opportunities to make more profound contributions to biodiversity conservation and ecological environment restoration.



To implement short-term management strategies, Baosteel has developed a biodiversity conservation plan covering all aspects of project operations to provide comprehensive protection for the ecological environment. In addition, we carried out a variety of biodiversity-themed conservation projects during the reporting period to consistently explore new models of harmonious coexistence between business and nature.

#### Procurement

Test the imported raw materials to prevent invasion of foreign species

#### Site selection

Strictly comply with the *Law of the People's Republic of China on Environmental Impact Assessment* and other relevant laws and regulations, and ensure that new projects are far away from natural reserves

Evaluate and analyze the biodiversity status of the operating locations in view of the IUCN Red List and National Protected Species Register, and development management and protection plans

#### Project operation

Avoid negative impacts on the natural environment

Work with local authorities to carry out species monitoring and wildlife protection actions



#### Yangtze River Protection: Protect Biodiversity of Yangtze River Basin

During the reporting period, Baosteel advanced the "Yangtze River Protection" strategy and carried out biodiversity conservation in the Yangtze River Basin. Each base adopted dry dust removal, dry gas recovery and other processes to reduce sewage discharge, and improved standardized management of stormwater and sewage outlets and wastewater collection to minimize interference with the natural environment and biology in the Yangtze River Basin. In addition, Meishan base carried out activities on the *Yangtze River Protection Law of the People's Republic of China* and formulated the *Yangtze River Protection Action Plan*, thereby developing a green transformation path for steel enterprises along the Yangtze River. Baosteel implemented clean water and emission reduction in parallel, and promoted coordinated economic and ecological development, safeguarding clear water of the Yangtze River and providing paradise for finless porpoise.



#### Migratory Bird Habitat Protection: Baosteel Reservoir Wetland Is Selected into the List of Important Habitats for Terrestrial Wildlife (the first batch)

During the reporting period, the Baosteel Reservoir wetland, an important habitat for migratory birds, was included in the *List of Important Habitats for Terrestrial Wildlife (the first batch)* issued by the State Forestry and Grassland Administration. It covers an area of 6.95 square kilometers, including 3.47 square kilometers of land area and 3.48 square kilometers of Yangtze River estuary area. The protected species are mainly winter migratory birds such as the little swan, the horned grebe, and the tufted duck. Baosteel is deeply engaged in wetland and migratory bird protection to contribute to biodiversity conservation.



#### Dongshan Base Participates in the Construction of "Mangrove City" in Zhanjiang

During the reporting period, Dongshan Base participated in the construction of the Mangrove City in Zhanjiang by planting and maintaining mangroves in the sea and exploring blue carbon in marine carbon sinks. Dongshan Base organized theoretical study group to visit the mangrove area on Jinniu Island in Huguang Town, Mazhang District, Zhanjiang, and the southern base of for marine aquaculture seed (the National 863 Program). They also conducted on-site inspections on mangrove growth, the surrounding ecological environment, and the fishery seeds.



Mangrove Base Visit

# 03 | Social



As a world-renowned steel enterprise, Baosteel actively fulfills its social responsibilities. Always upholding the principle of "quality first", we ensure product quality and facilitate the Company's intelligent transformation through strict quality management system and technological innovation. In terms of customer service, Baosteel is committed to offering comprehensive and tailor-made solutions to meet the needs of different customers, and ensuring compliant product quality through a stable supplier cooperation system. In terms of talent pool building, the Company attaches great importance to employee management and training, and provides employees with favorable workplace and incentive mechanisms to stimulate their creativity and work enthusiasm. In addition, we are actively involved in social welfare activities to contribute to sustainable development of the society.

## Pillar of the country

Baosteel is keenly aware that product quality serves as the cornerstone of the Company's survival and development. The Company strictly controls every aspect from procurement, manufacturing, to customer service, to ensure the stability and reliability of product quality and services. Furthermore, the Company optimizes and manages the supply chain, and establishes long-term stable cooperative relationships with suppliers to improve the stability of the supply chain.



## Quality assurance

Baosteel has always been committed to customer satisfaction and providing high-quality steel products for various industries, we have earned widespread trust and praise. Through strict quality control processes and advanced production technologies, we continuously improve product quality standards and carry out technological innovations and improvements to cater to customer needs.



### Quality management system

Baosteel diligently adheres to laws and regulations such as the *Law of the People's Republic of China on Product Quality* and focuses on product quality system establishment. We have developed 66 internal technical quality management documents, covering the procurement of raw materials, product manufacturing, product testing, and other aspects. During the reporting period, we revised and issued 18 management business summarizing and management policies, with the aim to consistently improve product quality controllability. In 2023, the Company has no negative incidents of product quality and safety. In 2023, the company had no negative product quality and safety incidents.

We actively implement the management concept of "competition in the market; competitiveness in the field". We consistently optimized quality management system by establishing a three-level quality management inspection mechanism at the operational, departmental, and company levels. The Company is dedicated to creating a comprehensive and effective routine management mechanism to carry out at least one routine inspection per week, and developing a monthly inspection plan that covers core production links such as steelmaking, hot rolling and cold rolling.

During the reporting period, the headquarters and all production bases of Baosteel obtained the external quality management system certification.



### Product quality certification

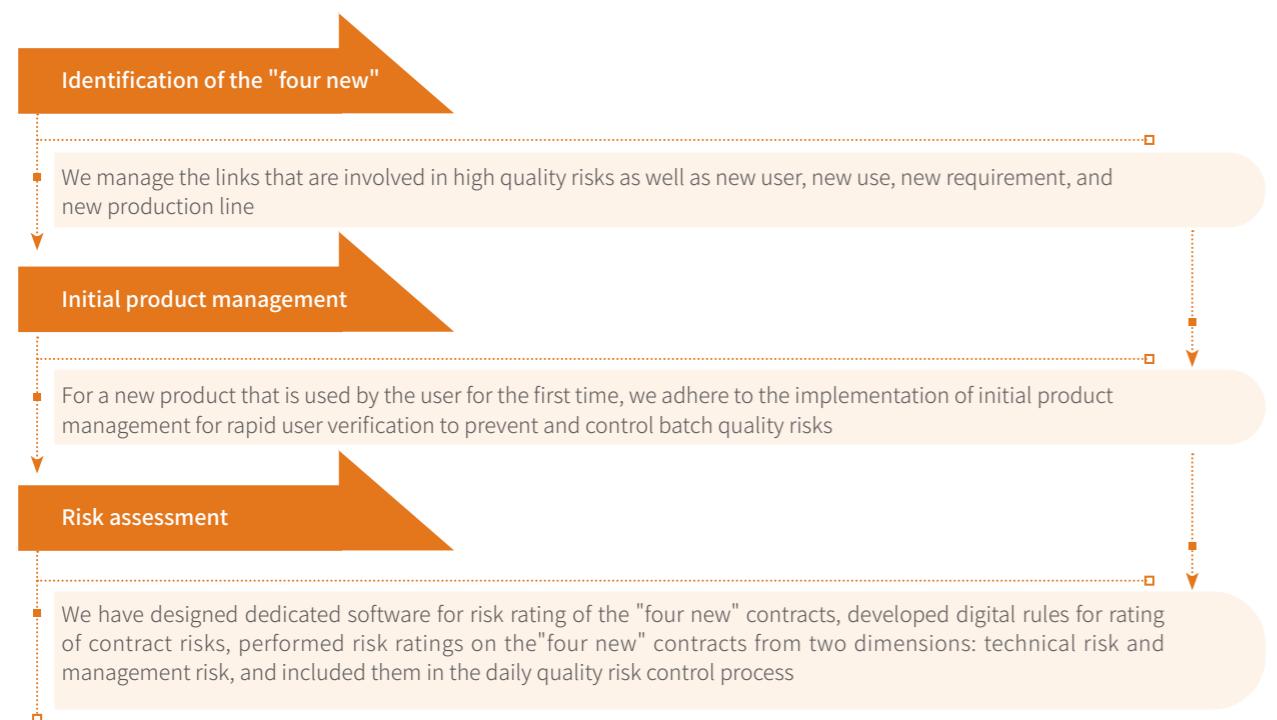
In 2023, Baosteel obtained numerous domestic and international certifications for a wide range of products, thereby enabling product quality to continue to meet industry standards and customer expectations.



<sup>22</sup> All automotive plate plants have passed IATF 16949.

## Quality risk control

Baosteel continuously bolsters monitoring and tracking of product quality, promptly identifies and solves potential quality issues during manufacturing through daily inspection and critical quality control points monitoring. We adopt a "customized" control process and measures from user identification to user tracking for the identified "four new" businesses (i.e. new user, new use, new requirement, and new production line).



### Management of the "Four New" Quality Risks

In supply chain management, Baosteel strictly controls the quality of raw materials and purchases high-quality raw materials. We continue to optimize procurement conditions, strengthen the management of impurities such as coal, track abnormalities on a monthly basis, report to suppliers on a quarterly basis and put forward quality suggestions, and strengthen supplier quality management. During the reporting period, the abnormal proportion of iron ore, coal, and by-products were all consistent with the annual objective. In addition, we conduct regular quality testing on raw materials, record key information such as testing frequency, procedures, and results in detail to ensure the compliance of raw materials with standards and requirements. In 2023, the pass rates of multiple raw materials such as alloys, refractories, casting powder, and steelmaking auxiliary materials in spot checks met the annual target value.

Beyond that, we have taken comprehensive monitoring measures for product manufacturing, to keep a close eye on production processes, key quality issues, and process indicators. Through continuous tracking of key indicators and processes, we precisely understand the changes in the production process. In addition, each manufacturing unit conducts detailed analysis and follow-up on abnormal indicators, and establishes effective monitoring and warning mechanisms, to ensure prompt identification and solution of potential problems. In 2023, the Company's occurrence rate of scrap and defective products decreased by 10.8% compared to 2022, and the occurrence rate of spot goods decreased by 6.9% compared to 2022, both of which were better than the annual target.

### In 2023

the Company's occurrence rate of scrap and defective products decreased by

**10.8 %**



the occurrence rate of spot goods decreased by

**6.9 %**



## Quality training

Baosteel values the importance of management optimization in improving organizational efficiency, and improves corporate quality management by strengthening the quality risk responsibility awareness among employees. We develop major quality training programs in line with the Company's quality management standards, annual quality management objectives, business development needs, and job skill requirements. We regularly organize employees to participate in quality knowledge, job skills, and other quality management knowledge education and practical training to help employees master core job skills in the business line. In addition, we consistently improve employees' awareness of practical operations through activities such as "Quality Month".



In 2023, Baosteel launched a "Quality Month" campaign with the theme of "Deepening the Collaboration between Production, Sales, and Research to Enhance Manufacturing Capabilities". During the campaign, the four major bases held a variety of activities centering on this theme, including themed publicity, basic quality management improvement, quality methods application and promotion, and mass quality activities.

### Raise quality awareness

- Issue the *Notice on Participating in the Quality Management Knowledge Contest for SOEs*, to notify all bases to participate in the national quality month knowledge contests, which involve the relevant concepts, methods, and tools of comprehensive quality management knowledge. More than 1,300 employees participated in the knowledge contests.



### Strengthen quality training

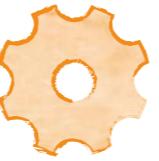
- Organize standardized management and improvement training for the entire process of automotive plate manufacturing, including the improvement of the quality management system for automotive plates, standardized management of the operation area, the promotion of standardized evaluation standards for the manufacturing system, the full-process CP training of GI external plates and full-process CP training of EG external plates, aiming to comprehensively enhance the Company's manufacturing capabilities by improving the full-process manufacturing capacity management of automotive plates.
- Invite outstanding customer representatives to conduct lectures to technicians, grassroots managers, and customer service personnel, and guide employees to value quality and improve their logical thinking through quality management and practical case studies.

### Increase service capability

- Lead the quality supervisors and business leaders of each process to visit the GAC Toyota Quality Hall, stamping line, and GAC Fengtong's blanking line for special exchanges, with the aim to strengthen the quality philosophy of "customer first and zero defective products in market" among employees.
- Visit key strategic users to conduct in-depth exchanges on the demand for frame steel and wear-resistant steel in various semi-trailers, dump trucks, oil tankers, and cement tankers, as well as the production capacity, quality control measures, and control levels of hot-rolled steel, to ensure that products meet market demands.

# R&D and innovation

Baosteel is committed to building a robust R&D management system to ensure the orderly development of R&D management, intellectual property rights protection, and technological innovation activities. We focus on the application and protection of intellectual property rights, provide reliable legal support for innovative technological achievements, and continuously launch innovative products.

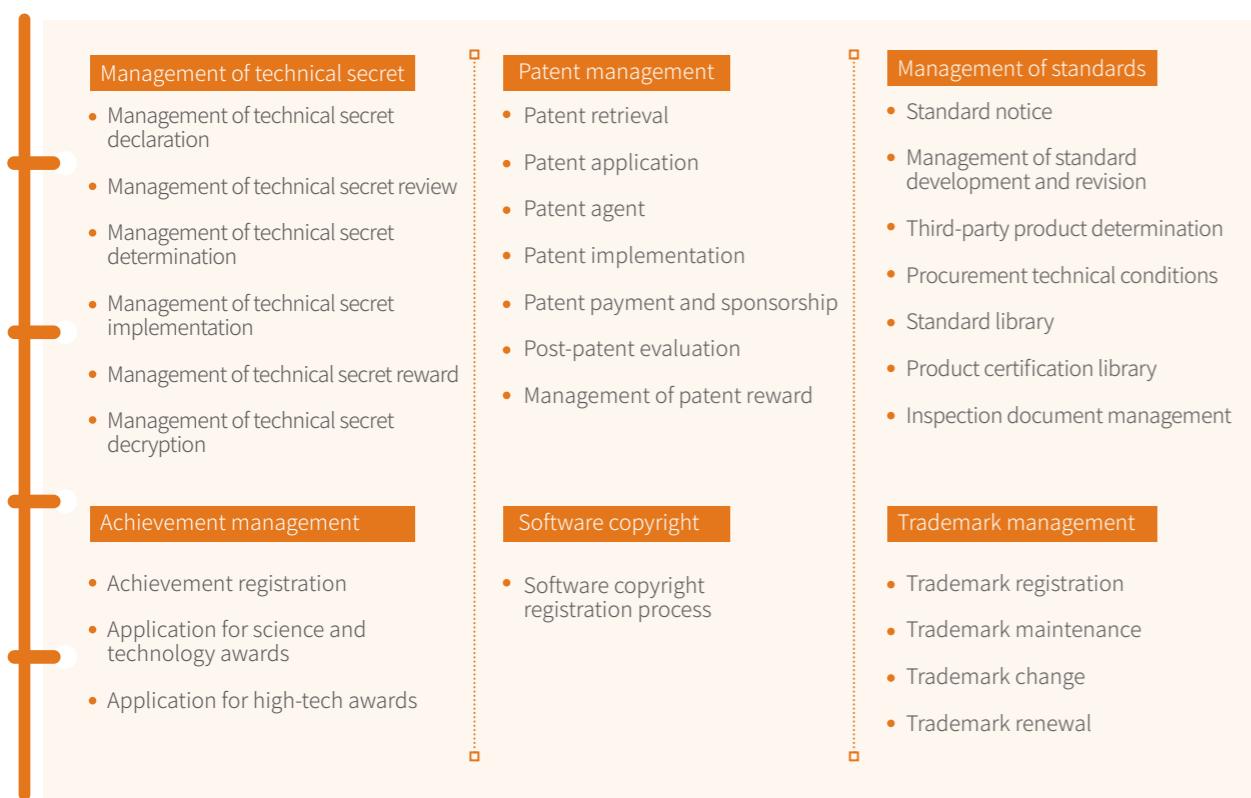


## R&D management

Baosteel regards scientific research and innovation as the core driving force for enterprise development. The Company revised the *Management Measures for Scientific Research Projects* to further standardize the classification of scientific research projects management, and provided additional descriptions on major core technology breakthroughs, open competition mechanism and basic research projects. In 2023, Baosteel invested RMB 19.57 billion in R&D, with 8,809 employees engaged in research and experimental development.

## Intellectual property protection

In full compliance with laws and regulations such as the *Patent Law of the People's Republic of China*, and the *Trademark Law of the People's Republic of China*, and the *Copyright Law of the People's Republic of China*, Baosteel implements systems for intellectual property project management, improves the intellectual property management system, and bolsters the protection of intellectual property such as trademarks, patents, and copyrights. In addition, we continue to strengthen employee awareness in intellectual property management and protection through continuous promotion and training, to ensure effective protection of the Company's intellectual property. During the reporting period, the Company boasted 7,151 intellectual property rights, including 85.6% invention patents and 14.4% utility model patents respectively.



Intellectual Property Management System



## IPR Specialized Training in 2023

In 2023, Baosteel organized IPR specialized training to enhance employees' abilities in using and protecting intellectual property rights. The training included lectures on patent application drafting and review response skills for all employees, patent case analysis and layout discussions for product research institutes, as well as advanced database application and management training for patent analysis teams, with the aim to stimulate technological innovation vitality and improve the quality and skill of patent applications.



Training on Patent Application Drafting and Review Response Skills

## Innovation technology

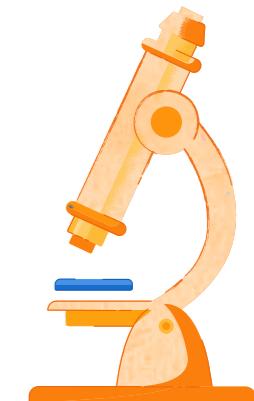
Upholding the spirit of innovation, Baosteel is dedicated to providing customers with higher-quality and more reliable products. We consistently improve product quality and performance through continuous R&D and technological innovation to meet the ever-increasing customer demands. In addition, we incorporate green and low-carbon products into satisfaction surveys to evaluate product performance and market acceptance more comprehensively, thereby optimizing product design and service quality. Our products are well received by the market, widely recognized, and have received multiple industry awards, highlighting Baosteel's industry-leading position in innovation.

### HyRESP, Hydrogen Reduction & Electric Smelting Process (HyRESP)

The HyRESP process efficiently synergizes hydrogen and electricity, and creates a hydrogen metallurgical process with wider resource adaptability through process configuration adjustments.

### Hydrogen-enriched Carbonic oxide Recycling Oxygenate Furnace (HyCROF)

HyCROF is a low-carbon process technology developed by Baosteel based on the blast furnace process, aiming at achieving the complete utilization of carbon chemical energy through the carbon cycle, and achieving significant carbon reduction with the use of hydrogen.





### Awards for R&D and Innovation in 2023



The Baosteel Zhanjiang Iron & Steel Non-Oriented Silicon Steel Product Development Project was awarded the Special Prize for Metallurgical Scientific and Technological Achievements in Guangdong Province in 2023

The Baosteel Smart Hot Iron Transportation System (SmartHIT System) was included in the 2023 Fortune Most Influential IoT Innovation List



The Research and Application of Key Technologies for Intelligent Blast Furnace Project was awarded the first prize of the Metallurgical Science and Technology in 2023



The Development and Application of Key Technology for Smart Control and Zero Discharge of Water System in Full-Process Steel Plant was awarded the first prize in metallurgical science and technology in 2023



### Industry-university-research institute cooperation

The Company makes full use of the discipline, intelligence and other resource advantages of domestic and foreign colleges and universities, focuses on cooperation fields and key direction, and relies on industry-university-research cooperation to realize the close combination of university knowledge diffusion and the Company's technological innovation needs, acquires cutting-edge knowledge, and realizes technology leadership.

#### Participate in the construction of the Sub-Center for National Process Manufacturing Intelligent Control Technology Innovation Center

In 2023, Baosteel participated in the construction of the steel sub-center of the National Process Manufacturing Intelligent Control Technology Innovation Center, and defined the responsibilities, software, and hardware research directions, as well as the short, medium, and long-term goals of the sub-center. We developed intelligent model software, business collaboration management software, intelligent detection, and robot-related products for steel manufacturing with independent intellectual property rights and product competitiveness, and promoted the high-end, intelligent, and green development of China's process industry.

#### Make progress in Cooperation with University of Science and Technology Beijing and Shanghai Jiaotong University

In 2023, Baosteel cooperated with the University of Science and Technology Beijing and Shanghai Jiaotong University to carry out application-oriented basic research, focused on material R&D, process technology innovation, and engineering problem solving to enhance R&D capabilities. Baosteel and the University of Science and Technology Beijing jointly established the "Advanced Metal Materials Joint Research Institute" and planned nearly 30 cooperation projects, including research on the control of inclusions in bearing steel. Baosteel and Shanghai Jiaotong University jointly established the "Future Steel Joint Research Center" and planned nearly 20 cooperation projects, such as the gradual tensile test of clutch hub parts. The cooperation between both parties boosted the intelligent and green development of the steel industry.

Industry-University-Research Activities in 2023

## Intelligent transformation

Intelligent manufacturing is an important driving force for achieving China's strategic goal of manufacturing power. Baosteel closely keeps up the trend of intelligent manufacturing, empowers steel manufacturing with digital technology, and is committed to improving product quality and service competitiveness. Through in-depth integration of digital intelligence technology and steel production, we advance intelligent manufacturing in an all-around way, explore effective paths for digital transformation, and contribute to the intelligent upgrading of the industry.



### Intelligent system

As a forerunner in management reform, Baosteel has always adhered to the transformation from decentralized management to centralized and unified intelligent planning. We have successfully developed a cross-process consistent quality management technology and established an information system together with Baosight Software. Through intelligent transformation, we integrate process parameter data into a unified quality data platform, so as to achieve a process-based and information-based quality management system. This platform covers the quality information of ironmaking, steelmaking, hot rolling, and cold rolling product processes and ensures the sharing of information through the entire process, injecting new impetus into Baosteel's intelligent transformation.

#### New technology management system (BeS system)

This system collaborates with external R&D forces to create an efficient R&D ecosystem service that integrates industry and finance, coordinates production plans and R&D resources, takes into account both the R&D characteristics of the headquarters and the bases, develops structures and standards for key technology information, covers upstream and downstream businesses related to technology R&D, realizes the interconnection of multiple systems, and actively explores the development of comprehensive platforms.



#### Quality control (BIQS system)

We make use of the BIQS system to raise the quality control level, continuously develop new functional requirements in the thick plate and steel pipe areas, vigorously improve the effectiveness of functions and applications that have been launched in various areas, and launch all functions in all areas.

#### Quality management tool (PFMEA system)

We organize product and process engineers to fully discuss the requirements of the new quality management tool (PFMEA). We sorted out the PFMEAs for the three hot rolling lines, imported them into the BIQS system in full format, and tested the import function and edit function of the PFMEA module. In addition, we organized seminars on the new PFMEA for ironmaking, steelmaking, hot rolling, cold rolling, and other units, and imported 3 hot rolling lines, 32 cold rolling units, 22 steelmaking units, and 14 ironmaking units into the new technology management system (BeS system).

In 2023, Baosteel improved the new technology management system (BeS system) based on the requirements of the new quality management tool (PFMEA). We sorted out the PFMEAs for the three hot rolling lines, imported them into the BIQS system in full format, and tested the import function and edit function of the PFMEA module. In addition, we organized seminars on the new PFMEA for ironmaking, steelmaking, hot rolling, cold rolling, and other units, and imported 3 hot rolling lines, 32 cold rolling units, 22 steelmaking units, and 14 ironmaking units into the new technology management system (BeS system).

## Smart base

Adhering to the core goal of improving quality and efficiency, Baosteel carries out progressive explorations and practices, and establishes a range of intelligent manufacturing implementation plans with the characteristics of the steel industry. After years of intensive development, Baosteel's intelligent manufacturing is moving from the mode characterized by the "4 As" (all operating positions are taken by robots, all operating rooms are centralized, all operation and maintenance are remotely done, and all services are online), to version 2.0, which is characterized by the "3 cross-integration" (exploring cross-industry integration, cross-space integration of "one headquarters and multiple bases", and human-machine interface integration). Significant achievements have been made in intelligent manufacturing. In 2023, the Company's "3 cross-integration" index maintained the leading position within China Baowu.



### Baosteel's smart base construction objectives

- By 2025, the "4 As" intelligent manufacturing (1.0) will have come to a successful conclusion, and the four smart manufacturing bases will be completed
- Build a group of highly collaborative intelligent plants with rapid response and lean production
- Build 200 or more intelligent production lines, and achieve full-process coverage of intelligent plant operation
- Build a production decision-making platform for intelligent ironmaking plant, an intelligent steelmaking center, and intelligent hot-rolling decision-making center, an operation and decision-making system for intelligent steel pipe and strip business unit, and other intelligent control platforms for plants



The Company adheres to the in-depth integration of digital intelligence technology and steel manufacturing, conducts business activities centering on the "4 As" (all operating positions are taken by robots, all operating rooms are centralized, all operation and maintenance are remotely done, and all services are online) and "3 cross-integration" (exploring cross-industry integration, cross-space integration of "one headquarters and multiple bases", and human-machine interface integration), and comprehensively promotes the construction of intelligent bases and plants. In 2023, Baoshan Base completed numerous technological improvements, built and put into use 25 annual key data application systems including multi-base, multi-discipline and multi-level IMC one-step, digital R&D platform, smart security, steel pipe and strip operation and decision-making system, and intelligent steelmaking center.



### Full-Process Construction of Overseas Steel Bases

In May 2023, Baosteel signed a shareholders' agreement with Saudi Aramco and the Saudi Arabia Public Investment Fund (PIF) to jointly invest in the construction of the Saudi heavy plate company.

As an integrating point of Saudi Arabia's "Vision 2030" and the "Belt and Road" Initiative, an important initiative of China Baowu and Baosteel to promote internationalization and cultivate world-class enterprises, and a model for promoting China—Saudi Arabia economic exchanges and cooperation, this project adopts international top-notch technology to build the world's first full-process green thick plate plant, with an annual output of 2.5 million tons of direct reduced iron, 1.67 million tons of steel, and 1.5 million tons of thick plates, serving multiple industries in the Middle East and Northeast Africa (MENA), including oil and gas, shipbuilding, marine engineering, and construction.



Shareholders Agreement Signing Ceremony for the Steel Plate Manufacturing Joint Venture



### Baosteel Speeds up the Application and Promotion of Bao Robot, and Accelerates the R&D of the First Industrial Robot

In 2023, Baosteel focused on improving on-site labor efficiency and eliminating safety risks, and accelerating the deployment of industrial Bao Robot. The Company deployed another 245 industrial robots, totaling 1,424 robots. The professional technical team completed the R&D of the first industrial Bao Robots in 9 categories.

In addition, in response to China Baowu's guideline on the efficiency of robot applications and the 3D jobs substitution, we are committed to 3D jobs substitution by robots and have formulated a three-year improvement plan to promote robot applications and technical exchanges at each base.

## Intelligent talents

In 2023

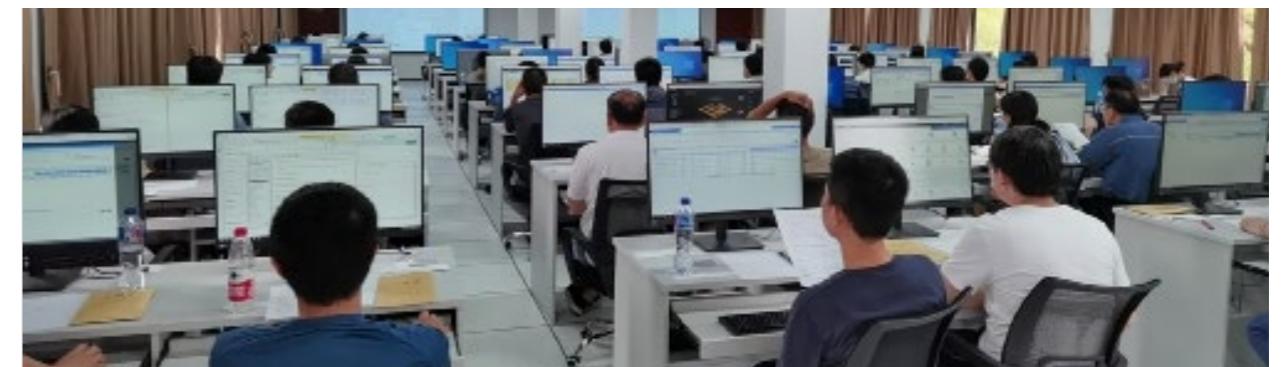
**1,417** employees

were qualified in training



### Baosteel Organizes Digital Intelligence Engineer Accreditation Training and Examination

In 2023, to advance the digital talent training system and improve the capabilities of technicians, Baosteel organized digital intelligence engineer accreditation (BCDA) training and examination. We apply such means as learning and application through examinations to improve the digital and intelligent thinking ability of digital intelligence employees in business and data integration. By the end of the reporting period, we established more than 30 BCDA (primary) training courses in digital and intelligent basic quality, digital and intelligent thinking ability, digital and intelligent tool application, big data platform application and practice, as well as digital and intelligent ability development, which comprehensively helped employees to implement independent development and improve their data mining application capabilities.



Digital Intelligence Engineer Accreditation and Examination

## Customer service

Baosteel has been constantly focusing on the protection of customer rights and interests while improving its service and product quality. We strictly comply with laws and regulations, improve our internal management systems, standardize the acceptance and feedback of customer complaints, create smooth customer communication channels, and provide our customers with the best product usage experience.



### Customer service system

Baosteel has established an organizational structure of technical service that integrates management, execution, and support. During the reporting period, we optimized production, sales, and research work mechanisms, and members of the production, sales, and research teams directly communicated with users to quickly solve most issues. We are consistently upgrading the application of Baosteel's IMC (Integrated Marketing Center), implementing a closed-loop management process from demand and complaint collection, identification, transformation, to disposal. By improving manufacturing and R&D capabilities, we have increased the response speed to customer demands.

### Customer demand management

We listen to users' voices and respond to their demands by means of visits, surveys, etc. The Company promotes the integration of production, sales, and research, strengthens the collaboration between marketing and manufacturing, optimizes and improves the customer service system, and continuously improves products through the PDCA cycle, with the aim to meet customer demands and improve customer satisfaction.



#### Meishan Base Conducts User Technical Service and In-Depth Visits in 2023

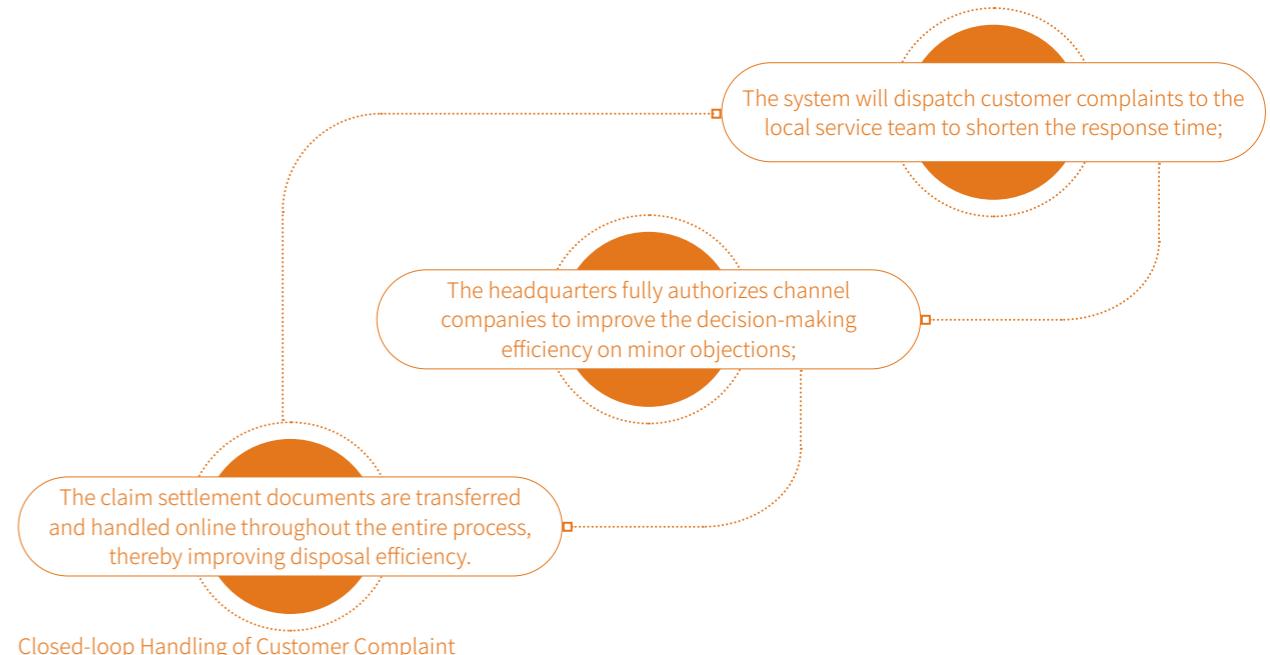
In 2023, Meishan Base visited users every month to gain intensive understanding on industry trends and accurately grasp market demands and development trends, to guide product R&D. Meishan Base is committed to providing more accurate services for users while meeting common needs and taking into account individual needs. During the reporting period, Meishan Base collaborated with 10 users by means of "Joint Studio" to conduct product upgrades, thereby effectively enhancing user perception.



User Technical Service and In-Depth Visits

## Handling of customer complaint

Baosteel handles customer complaints following the principle of safeguarding customer production, reducing customer losses, and enhancing user perception. The customer complaints are synchronized and shared with the manufacturing base by IMC in order to analyze the causes, develop measures, and prevent similar customer complaints. Through the rapid delivery of improved materials from the manufacturing end, the improvement is quickly verified at the site until the user is satisfied. In addition, Baosteel collaborates with customers to develop material use technology and efficiently solves various problems encountered during product upgrades.



## Customer satisfaction evaluation

### In 2023

Baosteel gained a customer satisfaction evaluation score of

**92.94**

## Responsible marketing

Baosteel adopts a comprehensive evaluation system that combines subjective and objective indicators for customer satisfaction evaluation, covering the five main dimensions of quality, cost, development, delivery and service (QCDDS). This system fully embodies customer satisfaction and incorporates customer satisfaction into the Company's internal performance indicators by continuously tracking the subjective indicators. Furthermore, Baosteel collects various needs and complaint information in the satisfaction survey and provides proactive response, and promptly communicates information to relevant departments for investigation, feedback, and improvement, with the aim to complete a closed-loop management of issues proposed by customers. In 2023, Baosteel gained a score of 92.94 points in customer satisfaction evaluation. Baosteel's customer satisfaction keeps rising based on the evaluation results of the recent three years.

Baosteel has always persisted in responsible marketing and safety control of advertisements. We develop responsible marketing-related systems and define responsible marketing requirements in strict accordance with laws and regulations such as the *Law of the People's Republic of China on Protection of Consumer Rights and Interests*, and the *Advertising Law of the People's Republic of China*. Beyond that, the Company has developed an array of in-house publicity compliance guidelines to further standardize advertising and provide customers with complete, accurate, objective, and understandable information. We keep bolstering compliance control in marketing, pricing, channels, and operations. During the reporting period, all of our marketing staff received ESG-related training, there were no litigation incidents related to responsible marketing, and there were no violations related to product and service information and labelling.

## Win-Win industry chains

Baosteel shoulders the responsibility of leading the industrial chain towards high-quality development and working with suppliers and partners to build a high-quality steel ecosystem. We optimize supplier management, comprehensively carry out green and low-carbon supply chain construction, and strengthen organic linkage with various industry partners, to form a new model of mutual beneficial cooperation in the industrial chain of joint contribution, win-win results and shared benefits.



### Supplier management

#### During the reporting period

The Company had  
**100** raw material suppliers

In which  
**90**% were domestic

The Company had  
**2,622** equipment and material suppliers,

In which, approximately  
**99**% were domestic

Baosteel attaches great importance to business cooperation with suppliers, continuously optimizes supplier management, strengthens supplier auditing, improves the level of smart procurement and sunshine procurement, and works together with various supplier partners. Baosteel is responsible for supplier management, and has a procurement management committee to review important decisions and consolidate the foundation of supply chain management.

The suppliers of Baosteel are mainly divided into raw material supplies and equipment and material suppliers. In terms of raw material supply management, we carry out the access, audit, evaluation, and grading management of raw materials suppliers in accordance with the Management Measures for Raw Material Suppliers, the Management Measures for Supplier Site Audit, and the Evaluation Standards for Raw Material Suppliers. We conduct management of equipment and material suppliers, in accordance with the Management Measures for Certification of Equipment and Material Suppliers, the Audit Standards for Goods Suppliers and the Evaluation Standards for Goods Suppliers. In 2023, we completed the low-carbon performance evaluation of suppliers, 1,119 suppliers released product carbon accounting reports and earned positive points; another 19 suppliers earned extra points due to green factory certification, thereby further bolstering the low-carbon management of equipment and material suppliers.



#### Supplier Entry

Strict screening of new suppliers based on customer needs and professional management and qualification requirements for quality, safety, environmental protection, professional management and qualification, etc. (e.g. ISO 14001, ISO 9001, etc.);

For different types of suppliers (production, trade, logistics services, etc.) to implement classification management, requiring specific licensing documents.

#### Supplier Management Measures

In terms of intelligent procurement, Baosteel continues to promote intelligent solutions for procurement, plans a digital and intelligent development pathway based on business processes and operation management, successfully implements multiple digital procurement management programs such as digitalization of procurement budgets, digitalization of procurement strategies, and AI-aided review of procurement contracts. AI-aided review of procurement contracts improves the procurement personnel's efficiency of contract review by more than 40%. During the reporting period, the level of electronic collaboration between our procurement of materials and spare parts and suppliers further improved, with 100% of electronic inquiry and quotation, 136,781 transaction orders, and cumulative order amounting to RMB 2.72 billion.

In terms of sunshine procurement, Baosteel has established sunshine procurement index based on the perspectives of risk control and supervision, aiming at business, management, and supervision. On the basis of sunshine procurement index of 1.0 and 2.0, Baosteel has optimized detailed index management indicators to establish a scientific and open procurement evaluation mechanism. We make full use of the sunshine index to promptly eliminate the risk potentials reflected by the index, and improve supply chain risk control as well as management quality and efficiency.

#### Sunshine Procurement Index 1.0

- Covering 123 business indicators, covering 7 processes including supplier access, plan formulation, procurement sourcing, contract signing, contract execution, procurement quality, and procurement performance
- 17 management indicators, covering system management, risk management, smart procurement, supplier management, and performance management, constituting the risk control mechanism for Sunshine Procurement Index together with business indicators
- 20 supervision indicators, reflecting the work of discipline inspection and supervision

#### Sunshine Procurement Index

#### Sunshine Procurement Index 2.0

- "Six change indexes" are established based on the existing indicator system, including the six dimensions of optimizing the ratio of long-term agreement prices and spot procurement, realizing "tender as far as possible", promoting the ultimate inventory, strategic layout of raw materials, "one company with multiple bases" to strengthen penetrating services, and building an efficient "horse racing" mechanism
- In line with the six major reform tasks of each department, 43 indicators are designed, integrating existing business and management indexes to precisely upgrade procurement management capabilities and risk control

#### Sunshine Procurement Index 3.0

- Based on the Sunshine Procurement Index of 1.0 and 2.0, we will continue to optimize the Sunshine Procurement Index of raw materials and improve the quality and efficiency of procurement supervision by focusing on following five aspects: increasing the concentration of indicators, improving the sensitivity of indicators, bolstering the tightness of indicators, enhancing the intelligence of indicators, and boosting the effectiveness of indicators



#### Supplier Review

Fill out the "Supplier Qualification Audit Form" for new suppliers, and submit it to the supervisor and the procurement center for review before it takes effect;

Conduct regular on-site quality audits by establishing an annual audit plan for suppliers with a stable relationship with us;

For the unqualified items in the audit, guide the supplier to take corrective measures, and follow up the verification of the corrective effect.

#### Supplier Assessment

Assessment criteria include quantitative performance, purchase evaluation and user unit evaluation;

According to the comprehensive evaluation system (supplier performance, physical quality, price level, contract performance, on-site service, objection handling, user opinions, etc.), the Company offers a comprehensive annual score to suppliers.

#### Suppliers Classification

Supplier of raw materials: Classify suppliers into five levels: A, B, C, D and E. suppliers below level D are unqualified and will be considered for suspension of cooperation;

Material and equipment suppliers: Based on the principle of "industry leading and excellent performance", suppliers are classified into 7 levels, and those with a total annual assessment score greater than 85 can be promoted.

## Supply chain ESG management

Baosteel deepens the supply chain ESG risk management, integrates ESG performance into supplier access and assessment, strengthens the ESG management of supply chain, and creates a sustainable supply chain system with shared responsibility. We have standardized the ESG performance of suppliers in accordance with the *Supplier Code of Conduct*, clarified the environmental, labor, and human rights requirements, and optimized supplier performance assessment and second-party audit regulations during the reporting period.

We implement full-process control over the ESG management and risk evaluation of suppliers, comprehensively investigate environment, energy, and other ESG-related qualifications during access survey, and sign the *Integrity Pledge* with suppliers to bind them to operate with integrity, with a 100% supplier sign-up rate by 2023.



Supplier ESG Risk evaluation Process

Baosteel has carried out regular ESG-related audits of suppliers, particularly the assessment of green and low-carbon performance (such as reducing toxic substance emissions and carbon emissions) in the second-party audit of equipment and material suppliers. In 2023, we set up a total of 147 ESG audit standards or dimensions and conducted on-site audits of 10% of raw material suppliers and 7% of equipment and material suppliers. In addition, we further improved the rigor and professionalism of supplier audit management, and actively invited third-party agencies to conduct on-site audits<sup>23</sup> of suppliers, including suppliers' conflict mineral-related performances<sup>24</sup>. Suppliers with serious violations such as conflict mineral disputes and the use of child labor will be subject to one-vote-down system, and the Company will not cooperate with the suppliers

involved. During the reporting period, a total of 63% of raw material suppliers and 94% of equipment and material suppliers passed the Company's social responsibility assessment in the form of questionnaires and on-site audits, and no major violations involving labor disputes and environmental violations were found.

Baosteel actively plays the leading role in the industrial chain, and mobilizes upstream and downstream enterprises to promote full-life cycle carbon reduction actions, thus providing excellent products and making contribution as a steel manufacturer for the green and low-carbon transformation of the industrial chain. We give priority to green and low-carbon products in our procurement, and establish a guidance mechanism to improve the classification and promotion rules for new low-carbon products. We identify new low-carbon products from six dimensions.



### During the reporting period

We have carried out carbon footprint accounting and certification to guide

**1,300** suppliers

Baosteel has taken the lead in promoting carbon accounting for industrial products in the domestic industrial procurement field. During the reporting period, we had guided more than 1,300 suppliers to carry out carbon footprint accounting and certification, covering about 35% of the total. We have completed more than 3,000 carbon accounting reports for industrial products, initially covering all carbon accounting for key industrial products of Baosteel.

We focus on in-depth communication and exchange with suppliers, and convey the Company's latest low-carbon procurement concepts and requirements through a variety of means. We actively communicate the Company's energy conservation and emission reduction requirements to suppliers, thereby boosting the green transformation of supply chain. In addition, we focus on assisting suppliers in enhancing their competitiveness through technical support and other means, with the aim to jointly advance win-win cooperation between upstream and downstream supply chains and realize coordinated development.



We have organized 9 energy conservation and carbon reduction training sessions for suppliers through live streaming and on-site releases at the Carbon Expo, covering industrial carbon accounting method as well as energy conservation and carbon reduction work, with more than 1,500 participants.



At the 2nd Supply Chain Partner Conference, the Company leaders presented the low-carbon development plan and ESG development pathway for the industrial supply chain, with the aim to assist suppliers in realizing low-carbon and sustainable development.



We have conducted more than 50 carbon reduction technology exchanges, with over 170 suppliers participated.

## Vision of Green Supply Chain

Helping the steel bases of Baosteel achieve low-carbon and green transformation, for industrial procurement:



Strive to achieve carbon peaking of the supply chain



Achieve an 8% reduction in carbon intensity of supply chain industrial products compared to 2020



A 30% reduction in carbon intensity of supply chain industrial products compared to 2020



Strive to achieve carbon neutrality of the supply chain

<sup>23</sup> Completed the third-party audit for Zhuzhou Smelter Group Co., Ltd.

<sup>24</sup> Completed the conflict minerals audits for Yunan Tin Company Limited and Ganzhou Jiangwu Ferrotungsten Co., Ltd.

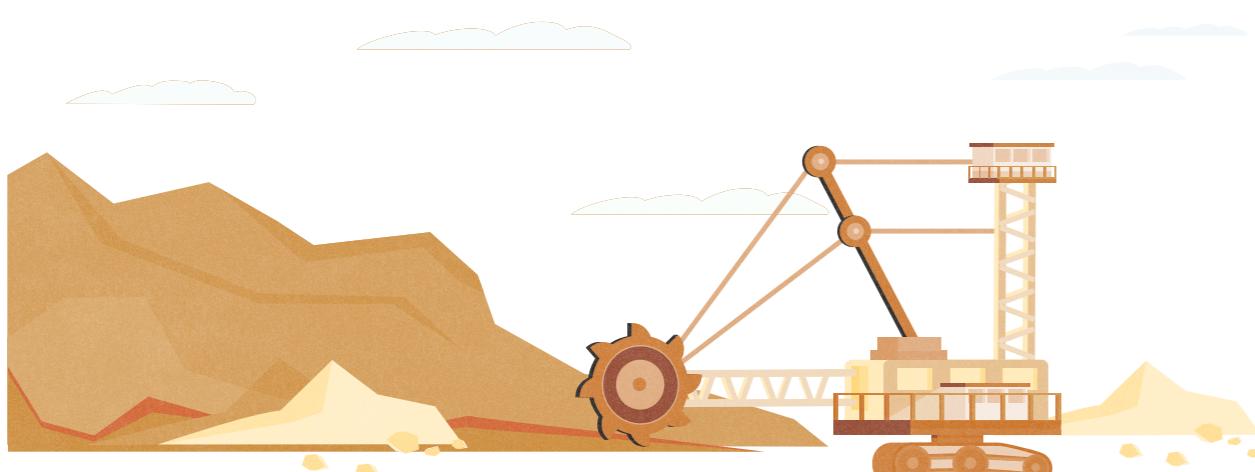
## Conflict minerals management

Baosteel is committed to not sourcing raw materials from conflict minerals from conflict-affected and high-risk areas, such products as 3TG (metallic minerals such as tantalum, tin, tungsten and gold). The Company has issued the *Statement Related to Not Purchasing Minerals from Conflict Areas* on its official website, and has included information on the investigation of conflict minerals in the supplier access audit form, requiring suppliers to provide information on the certification of responsible minerals. We will not cooperate if the supplier has a conflict mineral dispute.

During the reporting period, we conducted due diligence on all suppliers through questionnaire research to ensure that the process was in compliance with their certificates of origin and the Conflict Minerals Reporting Template (CMRT)<sup>25</sup>. The Company assesses the risk of suppliers based on the findings, and we will immediately stop cooperating with the suppliers with high risk of conflict minerals. During the reporting period, all of our suppliers have been listed on the audit compliance list published on the CFSI (Conflict-Free Minerals Sourcing Initiative) website in the United States, and 100% of suppliers involved in conflict minerals had reported to Baosteel.

Establishment of the Management System	Risk Identification and Assessment	Risk Response Measures	Independent Third Party Audit	Management of Disclosure
<ul style="list-style-type: none"> <li>Formulate responsible mineral policies</li> <li>Relevant departments to form responsible minerals work promotion group</li> <li>Requirements of the <i>Supplier Code of Conduct</i></li> </ul>	<ul style="list-style-type: none"> <li>Collect information through questionnaires</li> <li>Sorting out 3TG raw material supply</li> <li>Due diligence forms sent to suppliers involved in conflict minerals (refer to RMI's CMRT)</li> <li>Web search for suppliers</li> <li>Supply chain risk evaluation, divided into three categories: high, medium, and low</li> </ul>	<ul style="list-style-type: none"> <li>For high-risk supplies, stop all businesses and conduct third-party audits to confirm risk</li> <li>For medium-risk suppliers, third-party audits to confirm risk</li> <li>For low-risk suppliers, make regular and good information tracking</li> <li>Conflict minerals clause added to supplier contracts</li> </ul>	<ul style="list-style-type: none"> <li>Require independent third-party audits for suppliers rated as high-risk and medium-risk for the year</li> <li>The audit institution is appointed by Baoshan Iron &amp; Steel</li> <li>Audit report shared with Baoshan Iron &amp; Steel</li> </ul>	<ul style="list-style-type: none"> <li>Disclosure of conflict minerals management in the annual <i>Sustainable Development Report</i> of Baoshan Iron &amp; Steel</li> </ul>

Conflict Minerals Management Process



<sup>25</sup> Developed by the Responsible Minerals Initiative (RMI)

## Co-building the industry

Baosteel actively explores strategic partnerships with other industry leaders, leverages its technological and innovative advantages. Baosteel actively participates in industry exchanges and sharing, and promotes the high-quality development of the steel industry through the development of industry standards, strategic partnerships and cooperation between industry, academia and research. By the end of the reporting period, we had joined 95 social organizations such as the World Steel Association, the China Iron and Steel Association, and the Global Alliance for Low Carbon Metallurgy Innovation, continuously expanding the intensity and extensivity of industry participation and communication.

Baosteel is deeply involved in domestic and international standardization in key areas, and focuses on strategic directions and actively participates in domestic and international standardization work in key areas in depth for leading industrial development. Additionally, we have further implemented standardization reform and bolstered the leading role of standards, thereby promoting high-quality development of the steel industry.

### Baosteel Participates in the Development of the First Domestic Industry Standard in Engineering of Long-Distance Hydrogen Transmission Pipeline

In 2023, the *Engineering Specification for Design for Hydrogen Transmission Pipeline (T/CSPSTC 103-2022)* was officially released, becoming the first industry standard for the engineering design of long-distance hydrogen pipeline in China. Baosteel participated in the development of the specification entirely, provided professional recommendations and comments on the material selection and use of hydrogen pipelines.

With the implementation of the country's "Carbon Peaking and Carbon Neutrality" strategy, hydrogen energy is becoming one of the significant ways for clean energy transformation, and the standardization of hydrogen pipelines has become an integral part in the industrialization of hydrogen technology. This standard has laid a solid foundation for the market development of enterprises as well as their technologies and products.

### The Enterprise Standard Developed by Baosteel Is Rated as "Shanghai Standards"

"Shanghai Standards" are a set of high-level standards developed benchmarking with domestic leading and international advanced requirements, aiming at supporting the construction of "Service in Shanghai, Made in Shanghai, Shopping in Shanghai and Shanghai Culture" and "International Economic Center, Financial Center, Trade Center, Shipping Center and Technological Innovation Center". In 2023, the enterprise standard *Cold-Rolled Grain-Oriented Silicon Steel Strip Specialized for UHV (including DC conversion) Transformers developed by Baosteel* was reviewed by the expert group at the World Standards Day 2023 Theme Activity in Shanghai, and the key indicators/elements were recognized as advanced and novel compared with the standards at home and abroad such as IEC, EN, JIS, GB, and the actual performance of international mainstream grain-oriented silicon steel manufacturers. This standard reached domestic leading and international advanced level, and obtained the identification certificate of "Shanghai Standard" in 2023.

This standard fills the gap in the technical standards for cold-rolled grain-oriented silicon steel for UHV AC transformers of 1000kV and above as well as DC converter transformers of ±800kV and above at home and abroad, provides reference for the selection and quality evaluation of silicon steel products for extra-large electric power projects and UHV AC and DC power transmission and transformation projects in China, and establishes international demonstration in large-scale hydropower projects and power transmission and transformation projects.

Upon its implementation, Baosteel's market share of UHV AC and DC transformers has steadily increased from 70% in 2017 to over 95% at present. They have completely replaced imported products and solved the "bottleneck" technology in UHV transformer materials, enabling Baosteel to become the world's first supplier of UHV "steel heart".

#### Baosteel's market share of UHV AC and DC transformers

Increased from

**70%**  
in 2017



To

**95%**  
in 2023



## Harmonious development

As the core driving force for the long-term operation of enterprises, talent creates real value. Baosteel is committed to building an equal, fair, and transparent platform, providing employees with abundant development opportunities, concerning their occupational health and safety, caring for their work-life balance, and sparing no effort to safeguard their legitimate rights and interests. In addition, Baosteel fully leverages its industry advantages to undertake the national strategies of rural revitalization and common prosperity, proactively engage in public welfare undertakings, and perform corporate social responsibility in an all-round way.



## Employee employment

Adhering to the "people-oriented" development strategy, Baosteel prioritizes the development and management of human resources. We are committed to creating an equal and inclusive workplace through diversified recruitment methods.



### Compliant employment

In full compliance with laws and regulations such as the Labor Law of the People's Republic of China and the Labor Contract Law of the People's Republic of China, Baosteel consistently improves its employee employment system, and strives to create a fair, equal, diversified, and integrated workplace. We respect and accept the unique experiences and diverse backgrounds of each employee, and strive to build an inclusive working atmosphere providing employees with sense of belonging.

Indicator	Unit	2022	2023
Total number of employees	Person	44,445	<b>43,126</b>
<b>By gender</b>			
Male	%	88	<b>88</b>
Female	%	12	<b>12</b>
Proportion of women in senior management positions	%	7.5	<b>8.4</b>
<b>By age</b>			
Below 30	%	17	<b>14</b>
30-40	%	32	<b>30</b>
40-50	%	33	<b>34</b>
Above 50	%	18	<b>22</b>
<b>By nationality</b>			
China	%	99.99	<b>98.51</b>
Overseas	%	0.01	<b>1.49</b>
<b>Minority groups/vulnerable groups</b>			
Minority ethnic groups (ethnic minorities)	%	2.40	<b>2.55</b>
Vulnerable groups	%	0.71	<b>0.28</b>
Proportion of Minority groups/vulnerable groups in senior management position	%	/	<b>3.1</b>
<b>Race</b>			
Asian	%	/	<b>99</b>
Others	%	/	<b>1</b>
<b>Employment</b>			
Newly hired employees	Person	2,674	<b>1,465</b>
Male	Person	/	<b>1,274</b>
Female	Person	/	<b>191</b>
<b>Turnover</b>			
The number of employees who voluntarily resign	Person	213	<b>854</b>
Proportion of resigned employees to the total number of employees	%	0.45	<b>1.98</b>

## Talent recruitment

Baosteel is deeply convinced that talent is the core driving force for enterprise development. The Company always prioritizes the development and management of talent resources. We are dedicated to building a robust talent system, setting up reasonable positions, creating a high-quality talent management model, and advancing the Company's overall strategy through talent strategies. In terms of talent recruitment, we carry out online and offline recruitment activities through campus recruitment and social recruitments based on the Company's talent evaluation requirement, to attract high-quality skilled talents.

### Platform evaluation

We work with outstanding human resources providers to improve recruitment efficiency

### Talent Demands Evaluation

### Candidate evaluation

We evaluate candidates from multiple dimensions such as professional competence, learning ability, communication skills, collaboration capability, and stress tolerance to determine their comprehensive abilities and competencies for the jobs

### Demand evaluation

In view of future personnel changes, production line adjustments, and other factors, we accurately assess personnel demands through intensive research on the production lines, close communication with the employment plants/ departments, and industry benchmarking, and develop reasonable recruitment plans accordingly

## Local employment

In 2023

**518**

local people were employed by Baosteel

In terms of campus recruitment, Baosteel has established talent recruitment channels through university—enterprise cooperation based on the "dual-system" university—enterprise cooperation mode. We have established close partnerships with many well-known universities to launch joint training programs. The Company has set up a university—enterprise cooperation working group, regularly held university—enterprise joint meetings, and set up a special fund for "Baosteel Class" to provide students with excellent practice opportunities. Interns who complete their internships and graduate successfully will be officially employed by Baosteel, to ensure the Company's talent pool. In 2023, the "Baosteel Class" cooperated with more than 10 partner universities, with a total participant of more than 900 people.

In terms of social recruitment, Baosteel continued to leverage its platform advantages to recruit talents and strengthen localized recruitment for overseas projects during the reporting period. We signed an agreement with Saudi Arabia ARAMCO and Saudi Arabia's Public Investment Fund to establish a joint venture company, and initially formulated a recruitment plan for 2024. We plan to recruit 20 regular employees locally in Saudi Arabia to increase the proportion of local employees and ensure the staff reserve for the joint venture company.

In 2023, Baosteel employed 518 local people, which promoted local employment.

## Employees' rights and interests

Baosteel adheres to the "employee-centered" core value and safeguards the fundamental rights and interests of employees. The Company improves employee benefits and care systems through smooth and diversified communication channels, as well as long-term salary incentive mechanisms, and enhances employees' corporate identity.



## Safeguarding of rights and interests

Baosteel respects the freedom of association and speech of its employees. We have formulated internal management measures such as the *Labor Contract Management Measures* in accordance with laws and regulations such as the *Trade Union Law of the People's Republic of China* and the *Regulations on Collective Contracts*, implemented a favorable two-way communication mechanism, and built a diversified democratic communication platform for employees. The Company has established trade union as the effective channel for employee communication, understands and responds to employee appeals through various methods such as briefings, employee congresses, and employee representative proposals. In 2023, Baosteel held a collective negotiation meeting for the 2023-2024 collective agreement to complete collective agreement negotiation, signing, secret ballot voting, review, and announcement.

We regularly organize staff seminars to know their minds, understand their difficulties, and answer their questions face-to-face. In 2023, our "Representative Appointment" activity collected 56 opinions and suggestions, which were coordinated and answered by relevant departments and conveyed to employees through the labor union, to ensure that their opinions and suggestions are valued.

### Safeguarding employees' rights and interests In 2023

All Baosteel's in-service employees were members of the Labor Union

**100** %

Signed a collective agreement with the Company

**100** %

Labor contract signing rate

**100** %



Beyond that, we conduct employee engagement surveys to explore the impact of work environment on employees regularly based on the KINCENTRIC engagement model, aiming to prevent potential risks, safeguard employee rights and interests, and stimulate employee enthusiasm and engagement. The survey questionnaire covers multiple core drivers such as career development, diversity and inclusion, job tasks, life balance, learning and development, with an engagement score of 77%.



## Safeguarding employee human rights

We comply with laws and regulations such as the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, the *Law of the People's Republic of China on the Protection of Minors*, the *Law of the People's Republic of China on the Protection of Women's Rights and Interests*, the *Trade Union Law of the People's Republic of China*, and the *Special Provisions on Labor Protection of Female Employees*. We have developed internal human rights policies such as the *Human Rights Basic Policy* in accordance with international standards such as the *Universal Declaration of Human Rights* and the *Declaration on the Protection of Human Rights*, clarifying the basic principles in employee management, workplace, welfare and benefits, etc., improving human rights management processes, and ensuring that the human rights of all employees and stakeholders are fully respected and protected.

The Company fully respects and protects the employees' rights and interests, and absolutely eliminates child labor and forced labor in any form. We have formulated the *Code of Conduct of Basteel* to clearly stipulate the conditions for employee recruitment. During recruitment, we strictly review the identity information of applicants, comply with relevant laws and regulations in the country or region, and employ or accept no workers not at the minimum age for employment in the country or region. The Company strictly prohibits any labor contracts involving slavery, forced labor, bonded labor, or indentured labor, and pledges to comply with the laws and regulations of the country or region, and oppose involuntary labor of all forms. In 2023, Baosteel saw no incidents of child labor or forced labor.

Baosteel has formulated internal management systems such as the *Standard for the Management of Labor Employment Risk Prevention* and the *Administrative Measures for Employee Complaints and Appeals*, to improve its human resources management system and regulations. We resolutely eliminate any form of discrimination, harassment, or threats based on gender, region, age, race, religion, etc. We provide employees with a service hotline (26648088) and other reporting channels, and pledge to keep confidential the reporter's personal information. Upon reception of the report, we will conduct immediate investigation and handling. In 2023, the Company saw no incidents of human trafficking, discrimination, or harassment.

In addition, the Human Resources Department, the Labor Union, the Safety & Guardian Department, and other departments coordinate to carry out the Company's human rights assessment and due diligence. In 2023, Baosteel conducted an RBA audit<sup>26</sup> and found no priority non-compliances, which met the customers' requirements for supplier social responsibility management.



<sup>26</sup> The RBA audit in 2023 covered regular employees and contract employees of Baosteel Cold Rolling Mills, Baori Auto Sheet, as well as regular employees of the Manufacturing Department, the Energy and Environmental Protection Department, and departments of the Headquarters

**Evaluation preparation**

Through seminars, collection and feedback of employee opinions and suggestions, and research on the collective agreements, we understand the current situation of human rights-related issues

**Human rights impact evaluation**

The Safety & Guardian Department conducts special inspections on work safety, workplace, and occupational health; the Human Resources Department manages working hours, salary payment, social security contributions, and labor contracts

We conduct employee engagement surveys, including work experience, life balance, learning and development, diversity and inclusion, as well as other drivers, to understand the potential impact of the work environment on employees

**Prevention and mitigation measures**

All employees are subject to regular internal training and promotion on human rights and labor rights, with 100% coverage rate every two years

Employees are free to choose to report to the Company's Labor Union, office, and Supervision Department by calling, writing, visiting, or online messaging based on their real names or otherwise. According to the *Administrative Measures for Employee Appeals and Complaints*. The employee consultation service hotline operates around the clock, and resolves matters within 7 working days from the date of acceptance in principle

**External audits**

Special social responsibility audits are conducted in all plants of the Company with respect to human rights and labor once every two years, according to the requirements of the Responsible Business Alliance (RBA)

We prepare rectification plans for audit issues and regularly track performance results

**Baosteel's Human Rights Due Diligence Procedure****Salary welfare**

Baosteel has always adhered to the principle of "paying salary based on job value, work performance, and personal contribution". The salary distribution is regardless of gender, age, ethnicity, and other factors. The fixed salary varies with position ranks, while the variable salary changes with work performance and personal contribution.

Baosteel implements a salary distribution policy that integrates salary incentives and non-salary incentives, and carries out targeted hierarchical management. We build a multi-dimensional and multi-tier salary distribution system covering basic salary, performance bonus, medium- and long-term incentives based on job value, competence, performance and contribution, to improve the competitiveness of core talents' salaries, build a reasonable salary distribution, and stimulate employee enthusiasm.

**Compensation benefits**

**Salary and bonus** Basic compensation, position compensation, performance bonus, performance bonus, special incentive, and technology reward

**Allowances and subsidies** Job allowance, relocation subsidy, traffic subsidy, meal subsidy, rental subsidy, maternity subsidy, travel subsidy, high-temperature subsidy, annual condolence subsidy, hospitalization subsidy

**Medium- and long-term incentives** We establish the minimum shareholding ratio for CEO and the Executive Committee, and provide equity incentive, profit sharing incentive, growth incentive for young backbone R&D talented persons, risk collateral incentive for value creation team, and cumulative contribution incentive for technological innovation

**Tenure incentives** We implement a three-year tenure responsibility system, and honor the incentives upon reaching the targets in three years

To better balance work and life, we have developed a series of support measures, including remote work opportunities, flexible work schedules, allowing employees to take leave to care for sick family members, and appropriate work time adjustments for pregnant female employees. In addition, we provide longer maternity leave for female employees to help them better balance work and life.

Beyond that, we consistently optimize employees' insurance plans. Based on accident comprehensive insurance and employees' own insurance resources, we are seeking a new mode of group purchased value-added insurance to provide employees with more diversified insurance selections. In 2023, all our employees purchased the social security insurance.

**Non-compensation benefits cover all employees**

**Various guarantees** Pension insurance, medical insurance (including maternity insurance), unemployment insurance, work-related injury insurance, provident fund, supplementary provident fund, enterprise annuity, comprehensive accident insurance, one million medical insurance, union mutual assistance insurance, employee cafeteria, and physical examination

**Holiday and leave** Legal holidays and weekends; paid leave; home leave; family leave; recuperation leave

**Programs** Corporate pension program, supplementary housing provident fund, health insurance program, physical examinations, and free work lunch and other corporate benefits

**Employee support activities** Sports and health activities, flexible working time, home office, breastfeeding room

## Employee care

Baosteel has established a caring work system of "Party committee leadership, administrative support, labor union promotion, diversified participation, and technological assistance", and launched a "six-sided"<sup>27</sup> work structure to promote the "five inclusive cares + five precise cares" through concrete actions, thereby enhancing employees' sense of happiness and belonging.

In 2023, the Company advanced practical projects, continued to carry out on-site environmental improvement, kept upgrading employee care plans. In addition, we promoted the "Healthy Baosteel" action, improved the "1+4+N" care system for expatriate employees, organized a variety of cultural and sports activities, led employees to pursue a better life, and realized work-life balance.



<sup>27</sup> The "six-sided" work structure refers to Party leadership, value creation, intelligent integration, five inclusive cares, five precise cares, coordinated actions



## Baosteel Organizes "Inspirational", "Green" and "Tribute" Themed All-staff Cultural Activities

In January 2023, Baosteel held a "Touching Baosteel" activity with the theme of "Fighting Crisis and Creating A First-class Enterprise—Song of Ice and Fire". Through this grand, solemn, and joyful annual cultural and commendation event, all employees of Baosteel shared the same desire to overcome obstacles and all difficulties together and step over downturn period, lit the warm fire with the heart of steel, resolutely defend industry-first position, with resolute determination to build a world-class steel enterprise.

In June 2023, Baosteel held the "Green Steel, Better Life" event for World Environment Day, showcasing the unremitting efforts and sincere wishes of all employees to live in harmony with nature and the city.

In September 2023, during the "Facing the Future, Honoring the Past" theme week of, Baosteel gathered the employees strength, inherited and promoted the "85·9" Baosteel Spirit, and enhanced the employees' sense of gain, happiness, and security through a series of activities including the "Ideological and Political Classroom on the Move" "85·9" Special Edition, the "Flags of the Elder Generation, Strength of the Rising Generation" themed sharing session, the creative and heartwarming employee feedback activities, the "Old Party Member, Old Leader and Old Model Work" conversation, the "Salute the Past and Embrace the Future" running, "Baosteel's employee family members", and the "Love in Baosteel" activities, thereby continuously injected new vitality into the Company's high-quality development.



Baosteel's "Fighting Crisis and Creating A First-class Enterprise—Song of Ice and Fire" Inspirational Activity



## Full Love In the Mid-Autumn, Heartwarming Comforting in Employee Dormitory

As the National Day and Mid-Autumn Festival were around corner in September 2023, Baosteel planned and carried out a "Welcome the Double Festival and Deliver Warmth" comforting activity, during which the Company communicated with young employees about their living comfort and life needs, delivering warmth and blessings of the festival.



"Welcome the Double Festival and Deliver Warmth" Comforting Activity

## Employee development

Baosteel places paramount importance to the all-round development of its employees, assists each employee in their long-term development through a robust training system and well-established career growth channels, and allows each employee to play their roles in respective positions, thereby realizing mutual growth with the Company.



### Employee empowerment

To effectively improve the overall capabilities of employees and create a scientific talent pool, Baosteel has developed the *Administrative Measures for Employees' Sparetime Self-Study and Training* and established a diversified employee cultivation system. We implement a multi-dimensional training system based on individual development requirements, to encourage employees in further studies and self-improvement. Baosteel continues to improve the "159" Talent Project Five-Year Plan. The Company is committed to building a high-quality and professional talent team to provide solid talent support for the Company's long-term development.

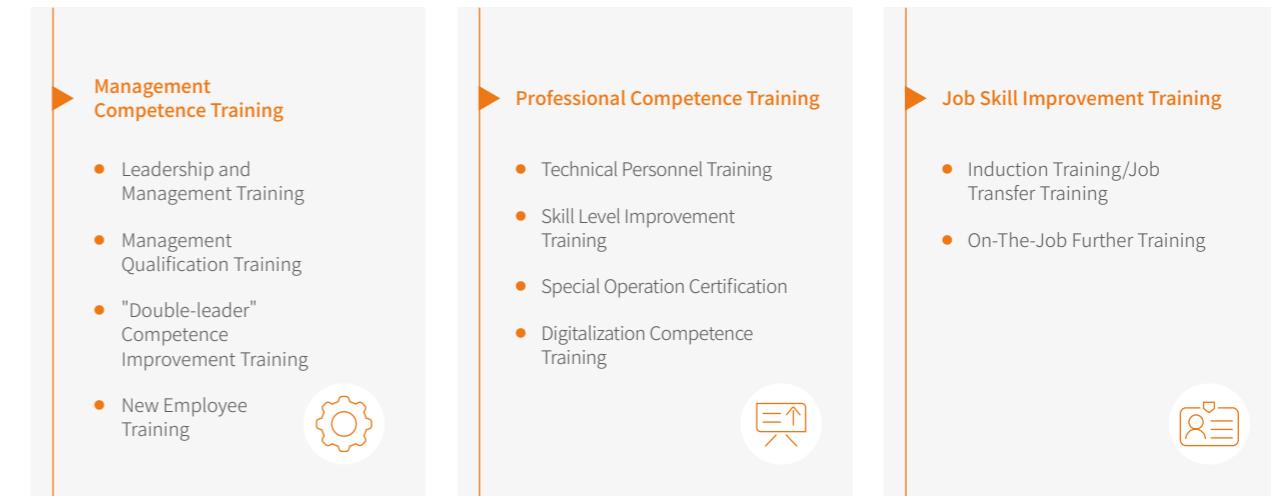


Talent Project of Baosteel



By 2027, the Company is committed to achieving the goal, namely a number of academicians or equivalent level of strategic scientists, a dozen Baowu scientists or high-level composite talent, a hundred-level industry leaders, thousands of outstanding engineers, 10,000-level highly skilled personnel.

The Company empowers employees based on actual requirements, closely follows talent development strategies, and comprehensively stimulates employees' inherent potential. We rely on intensive on-site surveys and advanced online learning platforms to continuously accumulate experience and tailor-make training plans for employees. In addition, we conduct comprehensive and systematic online statistics and management of the training process for internal employees with the help of online analysis platforms, to maximize the training effectiveness.



Training Programs of Baosteel

Beyond that, we cooperate with Wuhan University and University of Science and Technology of China to jointly develop quality courses, aiming to provide better education and training for employees. The Company's certificate incentive mechanism covers all employees, thus maximizing their learning enthusiasm and career development motivations.

In 2023

**616,700**

total number of employee training sessions

**129**

average training hours for employees



#### Baosteel Develops International Talent Cultivation Plan Based on International Development Strategy

Baosteel focuses on the first overseas steel base construction project and strengthens international talent cultivation. The Company has planned training courses such as "Intermediate and Advanced English" and "Cultural Policy" targeting at language skills and cross-cultural integration abilities. In terms of language skills, we have conducted a total of 780 hours of training for more than 230 reserve talents to be dispatched, and provided core members with 24 practical courses on oral English communication by foreign teachers. In terms of cross-cultural integration abilities, we have held a public lecture series titled "Ten Lectures About Saudi Arabia", with a total of 5,070 participants, laying a solid foundation for cross-cultural integration in international operations.



### Pursue Overseas Dreams | Baosteel Organizes Cultural Integration Training for Overseas Local Employees

In 2023, to implement a new round of talent development plan and advance the "a dozen Baowu scientists or high-level composite talent, hundred-level industry leaders, thousands of outstanding engineers" Talent Project, Baosteel organized a special training program for overseas employees cultural integration under the theme of "One Baosteel, One Dream, Work Together for the Future". This training helped Baosteel accelerate the establishment of a high-quality international talent team, support overseas marketing strategies, and facilitate the high-quality development of overseas business. A total of 23 outstanding employee representatives from 4 overseas companies and 16 countries participated in the training.



Cultural Integration Training for Overseas Local Employees



### Chief Masters Training in 2023: Improve through Technical Exchange, Gather Strength for Development



"Leading Program" Training

In 2023, Baosteel organized "Leading Program" Training, and the 2023 Chief Masters Centralized Training was successfully held in Wuhan. The training aimed to further enhance the political literacy and broaden the horizons of the chief masters team, and strengthen the communication between the core technical team and the customers. More than 90 people including company leaders and chief master representatives from various units participated in the event.



### 2023 Youth Salon - Face-to-Face with Senior Management

In February 2023, the Company's Youth League Committee organized the "Youth Salon - Face-to-Face with Senior Management" event, during which 10 outstanding young people shared their stories about their hard work based on their own positions, and interacted with company leaders on topics such as the Company's strategic development and talent cultivation.



2023 Youth Salon - Face-to-Face with Senior Management

## Promotion assessment

To ensure an open, fair, and equal promotion system, Baosteel strictly regulates the job responsibilities of employees at all levels. To ensure fairness and diversity, the Company does not rely on the single score in the promotion assessment, but conducts comprehensive multi-dimensional investigation and screening. Based on different characteristics of employees, the Company provides different career development paths, endowing each employee with development direction and goal. The career promotion paths mainly include employee promotion, technician employee paths, and management employee promotion.

#### Employee career path:



#### Technical employee career path:



#### Management employee career path:

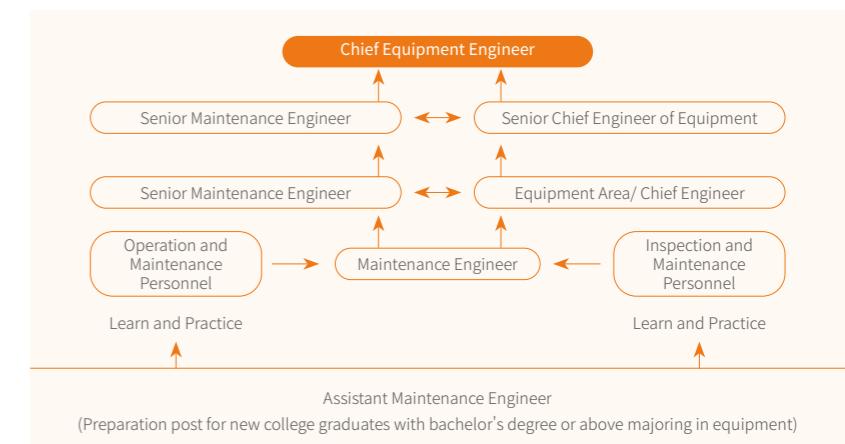


#### Career Paths



### Baosteel Sets up "Maintenance Engineer" Position to Expand the Employees' Career Paths

Baosteel has tailor-made an internal job transfer mechanism and established "Maintenance Engineer" position by breaking down the boundaries between operational and technical positions within the equipment system, to boost employee career development and optimize human resource allocation while meeting the Company's business development needs. During the reporting period, a total of 155 people in the Baoshan Base were employed as "Maintenance Engineer".



Development Path for Equipment System Employees

We implement diversified performance assessment methods for different job positions, aiming to assess employees' work performance comprehensively and objectively. We conduct performance assessment for all employees to fairly recognize their efforts and contributions every year. For managers, we apply a comprehensive assessment method to obtain feedback from multiple perspectives, with the aim to help them better understand their own management effectiveness and continuously improve their leadership skills. In 2023, Baosteel incorporated green development, low-carbon technology R&D, and ESG system capacity improvement into the performance goals of the management, aiming to advance ESG management.

# Health and safety

Baosteel is committed to establishing a robust occupational health and safety management system, equipping employees with necessary safety awareness and skills through safety training. Along with that, we strictly implement daily inspections and regular maintenance and strive to create a safe and healthy workplace, thereby effectively facilitating the physical and mental health of employees, and minimizing workplace safety risks.



## Occupational health and safety management system

Baosteel strictly complies with laws and regulations such as the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases* and the *Production Safety Law of the People's Republic of China*, and has revised system documents including the *Internal Security Management Measures*, the *Collaboration Units Safety Management Measures*, the *Safety Violation Score Management Measures*, the *Safety Listing Management Procedures for Equipment Maintenance and Self-Powered Projects*, the *Safety Production Accident Risk Investigation and Control Requirements*, and the *Safety Violation Score Management Standards*, aiming to build a dual prevention mechanism of classified safety risk control and potential hazards investigation and management, and effectively preventing major and serious safety accidents.



Structure of Baosteel's Production Safety Committee



ISO 45001:2018 Occupational Health and Safety Management System

Baosteel has established a safety production committee led by the Chairman of the Board, bringing into full play its coordinating and reviewing functions in the field of health and safety. We further clarify the specific responsibilities of the Production Safety Committee, the Production Safety Committee Office, and relevant departments in terms of health and safety in full compliance with the All-Staff Production Safety Responsibility System, implement the safety responsibilities to individuals and departments, and establish a safety management mechanism involving all employees for joint maintenance, thereby ensuring that the Company's effective safety production. By the end of the reporting period, Baosteel did not report any major or above production safety accidents.

The Company cooperates with BSI (British Standards Institution) to conduct the annual full-coverage and full-process certification of occupational health and safety management system. We upload the non-conformities and related suggestions to the integrated management system and organize relevant departments to adopt corrective and preventive measures. During the reporting period, the ISO 45001 occupational health and safety management system certification covered all the Company's main production bases.

### During the reporting period

ISO 45001 occupational health and safety management system certification in all the Company's main production bases

**100** %

To enhance safety production management, Baosteel sets corresponding medium and long-term safety production targets and plans in accordance with the actual situation. These targets aim to improve management efficiency, ensure the compliance of various safety production measures, and ensure the compliance of implementation through planning. In 2023, Baosteel reported 6 safety production accidents, and the total recordable injury frequency of employees and contractors has successfully achieved the annual safety production target.

### Completion of Major Safe Production Targets and Indicators in 2023

Target	Completion in 2023		
We implement all-staff production safety responsibility system, and ensure 100% effective implementation of the responsibility of managers at all levels to incorporate safety management into their respective industries, businesses, as well as production and operations	Target reached		
100% effective participation of self-management activities such as on-site employee safety awareness training, anti-violation, post risk identification, potential hazards screening, and safety commitment	Target reached		
100% effective rectification of issues identified in safety supervision and inspection	Target reached		
We identify and quickly manage major potential safety hazards dynamically, with 100% self-inspection detection and on-schedule rectification rate	Target reached		
100% implementation of prevention and rectification measures for production safety accidents	Target reached		
Prevention of major and above production safety accidents	Target reached		
No concealment, misrepresentation or delay in reporting production safety accidents	Target reached		
Indicator	Unit	Target in	Actual in
Frequency of injuries (including collaborative employees)	Number of injuries/million man hours	<0.22	0.02
Injury severity rate (including collaborative employees)	Total lost time/million man hours	<194	72
Indicator	Unit	2022	2023
Number of production safety accidents <sup>28</sup>	/	7	6
Accidents involving personnel injuries	/	/	4
Among them: Baosteel employees	/	3	4
Baosteel contractors	/	4	0
Lost worktime injury severity	Total lost worktime rate (TLWR)/million man hours	0.026	0.02
Among them: Baosteel employees	Total lost worktime rate (TLWR)/million man hours	0.035	0.05
Baosteel contractors	Total lost worktime rate (TLWR)/million man hours	0.023	0
Total recordable injury frequency rate (TRIFR)	Total lost worktime rate (TLWR)/million man hours	/	0.07
Among them: Baosteel employees	Total lost worktime rate (TLWR)/million man hours	/	0.18
Baosteel contractors' employees	Total lost worktime rate (TLWR)/million man hours	/	0.03
Number of people involved in dangerous sign events	Person	2	553*
Among them: Baosteel employees	Person	1	22
Baosteel contractors	Person	1	531
Occupational health checks coverage	%	100	100

\*The statistical caliber for number of people involved in dangerous sign events has been adjusted in 2023.

<sup>28</sup> Including those involving personnel injuries and not involving personnel injuries.

## Safety management

Baosteel regards risk investigation, safety accident handling process and emergency drills as the three pillars of enterprise safe production. The close cooperation of these three aspects enables prompt identification of potential risks, and ensures immediate handling of emergencies, thus providing a solid safety assurance for the Company's stable and healthy development.

### Risk investigation measures

- We focus on high-risk areas, improve special control and emergency rescue capabilities by strengthening gas management and belt conveyor special management, and control production safety risks. In 2023, we rectified a total of 621 insufficient effective heights of drainage devices, shared 26 drainage devices, replaced 1,157 drainage devices serving for more than ten years, and installed 252 fixed gas alarm devices in public gathering places.
- We strengthen the source management of safety, occupational health, and fire protection, conduct review, pre-evaluation, and acceptance of multiple projects, and ensure that safety and occupational disease prevention facilities are designed, constructed, and put into operation simultaneously with the main project. In 2023, we completed the safety facility inspection and evaluation of six projects.
- We continuously strengthen the inspection and correction of violations, intensify the investigation and punishment of serious violations and the exposure of typical cases. In 2023, we investigated and handled 160 bans and 1,963 Class-A violations, reported 48 typical cases in the weekly safety bulletin, and suspended the contract qualifications of subcontractors in violation, thus effectively improving the safety control.
- We conduct in-depth special inspections and plan to advance the investigation and rectification of potential hazards, and effectively improve safe production management and the quality of potential hazards investigation. In 2023, we identified a total of 18,710 potential hazards, all of which were recorded into the safety information system for tracking and rectification.
- We conduct special investigation and rectification of four new hazard sources, comprehensively sort out the process risks of newly commissioned or renovated production lines, complete 399 improvement points, thus effectively reducing on-site risks.
- We actively advance the special rectification action against major accident hazards, clarify tasks, improve guarantee measures, and establish professional teams. We have sorted out a total of 28,038 equipment and facilities, and all major hazards have been rectified.



Safety Accident Handling Process

Baosteel has accelerated its intelligent safety information system, launched 14 functional modules and implemented online control and early warning for hazard sources, high-risk groups, and major potential hazards. The Company has built an eight-in-one intelligent security system and keeps optimizing and improving. In addition, the Company actively cooperates in the construction of China Baowu's major risk monitoring platform, promote demonstrations at Baoshan Base, advances each base to promptly access major risk monitoring data, and integrates with the intelligent information system to improve the effectiveness of risk management and control.



### Industry First Case: Zhanjiang Iron and Steel Develops Intelligent Vehicle-Mounted Leakage Detection Device and 3D Visualization System for Gas Pipeline



The First Prize of Baosteel's Excellent Case in Work Team Safety Hazards Investigation and Rectification in the 2nd Half of 2023.



### Flood and Typhoon Prevention Safety Emergency Drills

In June 2023, Baoshan Base conducted an emergency drill for flood and typhoon prevention, to simulate various emergency situations under typhoon yellow warning. To ensure the good condition of flood prevention facilities, Baoshan Base implemented a total of 8 flood prevention facilities projects this year, with a total investment of RMB 5.1 million, including stormwater drainage upgrades for main roads, pipeline dredging, river embankment heightening, reservoir monitoring, material preparation, and establishment of meteorological warning systems.

Flood prevention facilities projects implemented this year

8

Total investment

RMB 5.1 million

## Occupational health

Relevant units of Baosteel have adopted a variety of measures including training, medical checkups, and testing occupational disease hazards based on respective business characteristics, and set a safety goal of  $\geq 95.5\%$  pass rate for occupational disease hazards testing, to continuously improve employee health and safety management. In 2023, the Company's occupational health medical checkup rate reached 100%, and the occupational disease hazards testing reached 98.6% pass rate. Baoshan Base organized occupational health medical checkups for a total of 2,949 employees involved in high temperature, radiative, dust, noise, and chemical toxins positions, with 100% implementation rate; the occupational injury rate was 7.5%, meeting the annual occupational health control indicators.

In 2023

The Company's occupational health medical checkup rate reached

100%

Occupational disease hazards testing reached

98.6% pass rate

## Safety culture construction

Safety culture is an important part of corporate culture construction. In order to ensure employee safety and strengthen employee safety awareness, the Company has carried out safety commitments, safety training and other activities to effectively curb production safety accidents. During the reporting period, the Company invested a total of RMB 522 million in safety production.

### Safety Training and Cultural Awareness Campaign in 2023

 <b>Safety commitment</b>	<ul style="list-style-type: none"> <li>To comprehensively improve employees' safety awarenesses and literacies, the Company organizes "safety learning" and safety commitment activities. The Company ensures that the safety commitments are closely aligned with the actual job by detailing employees' annual job safety commitments and conducting self-inspection and self-correction. In addition, the Company continues to strengthen the pertinence and effectiveness of safety skills training, and committed to improving employees' self-protection awareness and ability, thereby safeguarding the Company's production activities.</li> </ul>
 <b>Specially concerned groups</b>	<ul style="list-style-type: none"> <li>We organize safety education and capacity improvement training specially concerned groups such as new employees, newly promoted "Double Leader", and high-risk personnel such as those with Class A violations or annual scores of 10 points. In addition, we organize work-related injury prevention training, covering more than 8,100 employees. This approach has effectively improved employees' safety awareness and standardized operation, and prevented safety accidents.</li> </ul>
 <b>Warning case training</b>	<ul style="list-style-type: none"> <li>We have selected nine accident cases involving falling from height, mechanical injury and object strike, and prepared historical accident documents or the same process for each unit. In addition, we develop "micro classes" using violation videos and photos to provide case warning education to more than 14,400 employees. We organize all-staff online training to ensure they learn from the lessons and improve their safety risk prevention capabilities based on the principle of not letting pass if the root causes are not identified, the responsible persons are held accountable, the responsible persons and the like are not educated, and no preventive measures are adopted.</li> </ul>
 <b>Manager safety practice training</b>	<ul style="list-style-type: none"> <li>Baoshan Base conducts "typical manager safety behavior observation training" and invites experts to explain behavior observation tools to more than 370 managers and technicians. Through training induction, face-to-face communication, and on-site observation, the safety responsibilities of managers are deepened, operational errors are corrected, and job safety standardization is further advanced.</li> </ul>
 <b>Skill training</b>	<ul style="list-style-type: none"> <li>In view of the key and difficult aspects in safety management, Baoshan Base organizes specialized safety training on lifting machineries, construction electricity, high-altitude operations, etc., to improve the technical and practical skills of more than 400 employees. We take the opportunity of "Safe Production Month" to organize training on emergency equipment and intelligent inspection devices, invite external experts to exchange ideas, and improve the operational and emergency response capabilities of employees.</li> </ul>

## Collaboration unit safety management

In full compliance with the *General Rules for Human Resources of Collaborative Suppliers*, Baosteel extends its safety management standards to contractors and collaboration units based on the "4 S" management model of "same system, same standard, same promotion, and same evaluation and assessment". The Company is dedicated to establishing a stable safety management partnership with contractors and suppliers to advance their safety management performance. For continuous violations of safety bans, we will take intensive measures to minimize the potential impact of safety risks on the entire industrial chain and ensure the stability and safety of business operations.

Scope and responsibility of safety management	Measures of safety management	Assessment of safety management
<ul style="list-style-type: none"> <li>Incorporate the content of safety-related responsibilities for foreign economic contracts into company management standards</li> <li>Actively promote the division of regional safety responsibilities, and consolidate regional safety management</li> </ul>	<ul style="list-style-type: none"> <li>Organization of safety education</li> <li>Promote the overhaul of high-risk projects "downgraded"</li> <li>Remove unsafe factors from the perspective of collaborators and enhance operational safety conditions</li> <li>Conduct safety management diagnosis of collaborative projects such as new models</li> </ul>	<ul style="list-style-type: none"> <li>Implement assessment deductions for collaboration units, and assist in the supervision and rectification</li> </ul>

### Safety Management Measures of Contractors and Suppliers

## Hazardous chemicals management

We strictly comply with regulations including the *Identification of Major Hazard Installation for Hazardous Chemicals (GB 18218)* to guide functional departments in identification and adopting corresponding handling measures, with the aim to ensure compliance with safe production.

### Hazardous chemical diagnosis and assessment

- Hire a team of external experts to carry out diagnosis and evaluation of hazardous chemicals and major hazards in terms of systems and procedures, equipment and facilities, operation safety, etc.

### Improve the relevant qualifications

- Promote the re-certification of the *Certificate of Registration of Hazardous Chemicals*, and sort out and map the production and operation of oxygen, nitrogen, argon, hydrogen, gas, sulfuric acid and other hazardous chemicals

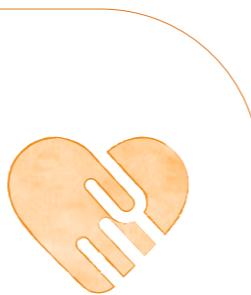
### Daily testing and inspection

- Carry out the responsible person dedicated management, regular site safety inspection of major hazards and record notification

### Hazardous Chemical Management of Baosteel

## Social welfare

The development of enterprises cannot be divorced from the engagement and support from the community, and the community thrives with the creation and contribution of enterprises. Baosteel has not forgotten to fulfill its social responsibility and support public welfare undertakings while engaging in its own stable operation and development. We proactively respond to the national strategy of rural revitalization, concerned about social development hot issues, and leverage our professional and resource advantages to carry out charity and public welfare activities, striving for harmonious coexistence with society. During the reporting period, Baosteel's social donation amounted to RMB 83.8537 million.



## Community engagement

Baosteel participates in community activities in an active manner, fully leverages its corporate social responsibility, spares no effort to improve the well-being and development of local communities, and strives to build a better and sustainable community. In 2023, the Company built a fruit processing plant in Guangnan County to help the village's public welfare undertakings and increase the village's collective economic income. It is expected to benefit 1,433 households with a population of 5,935 people.

### Tea Processing Facility Construction for Zhenyuan County

In 2023, Baosteel participated in the construction of the primary tea processing workshop—a public welfare project in Mengzhen Village, Jiujia Township. Tea processing workshop in Mengzhen Village changes the current unregulated tea processing, improves tea processing quality in Mengzhen Village, and increases tea output value. This initiative promotes the quality and efficiency of the tea industry in Mengzhen Village, and continues to increase the income of local residents, covering tea growers in Mengzhen Village as well as 289 households lifted out of poverty and those monitored.



Primary Tea Processing Workshop in Mengzhen Village, Jiujia Township

### Baosteel Establishes the First "Youth Hostel" in Yuhuatai District, Nanjing City

In 2023, to help Nanjing complete the top ten livelihood issues in 2023 and effectively facilitate employment and entrepreneurship, the Youth League Committee of Meishan Steel, in collaboration with the Nanjing Municipal Youth League Committee and the Yuhuatai District Youth League Committee, established the first "Youth Hostel" in Yuhuatai District, to provide up to 14 days of free transitional accommodation for college graduates who come and stay in Nanjing for job hunting and employment, alleviating the most urgent problem. By the end of the reporting period, this approach had served a total of 346 young talents who came to Nanjing, and received unanimous praise from the young people who ever stayed and the Nanjing government.



The internal environment of "Youth Hostel"

## Farmer-helping and agriculture-promoting

Baosteel actively responds to the national strategy of rural revitalization and advances rural economic development and social progress. We help local farmers increase their income and improve their living conditions by introducing advanced agricultural production technologies, creating employment opportunities, and supporting rural industrial development. In 2023, we donate a total of RMB 74 million, including 38 helping projects in four targeted counties in Yunnan Province, with a total donation of RMB 70.7 million; RMB 2.8 million donated to help the targeted poor households in Naozhou Town and Dongjian Street in Zhanjiang Economic and Technological Development Zone; and RMB 500,000 donated to help the targeted poor households in Wucunqiao Village in Lishui District and Fengzhen Town in Nanjing City.

### Beautiful Village Construction

During the reporting period, Baosteel undertook beautiful village construction in Zhezheng Village of Zhedong Township, this project would generate significant ecological, social, and economic benefits upon completion, setting a demonstration and guidance for rural revitalization favorable for living and business. We will further improve the infrastructure in the village, implement a centralized stormwater and sewage treatment and discharge system through centralized planning to solve the unorganized sewage discharge in the village, and improve the living environment. This project would directly benefit 110 households with about 470 villagers.



Beautiful Village Construction in Zhezheng Village

### Consumption Help

In March 2023, the Company purchased more than 20 tons of Orah mandarins from Guangnan County, effectively alleviating the local poo sales.

In September 2023, the Company organized the "SOE Consumption Help for Agricultural Development Week", with a total procurement amount of RMB 7.2 million.

In October 2023, the Company purchased "Jinyuanbao" Tea with a total value of RMB 330,000 to help promote the brand in Zhenyuan County.

## Education as foundation

Baosteel supports educational charity and regards education as one of the important pillars of social development. We improve the educational conditions in areas with insufficient educational resources by donating books and engaging in educational facilities construction, thus providing more students with access to quality education. In 2023, the Company donated RMB 300,000 to Baoshan Experimental Primary School, RMB 99,720 to targeted helping schools in Yunnan Province, and RMB 200,000 to No. 1 Kindergarten (Headquarters) in Potou District, Zhanjiang City to support education. Beyond that, the Company's Youth League Committee has carried out a "hand in hand" joint student support activity in collaboration with Ning'er County in Yunnan for seven consecutive years. In 2023, 61 employees of Baosteel collectively donated RMB 242,000 to 91 students with good academic performance and financial difficulties. The Company mobilized employees to donate about 3,200 books, school bags, stationery, and sports supplies to rural primary schools, and all employees took action to help with education.

### Caring Donation in Primary School in Zhenyuan County

In 2023, Baosteel donated a batch of dining tables and chairs to the Zhenyuan Nationalities Primary School to improve the environment of the school canteen. In addition, we carried out a heart-warming activity to encourage students to turn their gratitude into the strength for excellence, cherish learning opportunities, and strive to repay society with excellent scores. This activity effectively solved the safety and hygiene issues of students' centralized dining at campus, and made up for the shortcomings in educational infrastructure, injecting vitality into the steady development of compulsory education.



Equipment Procurement for School in Zhenyuan County

In September 2023, the final of the special "Open Competition" of the 18th "Challenge Cup" National College Students' Extracurricular Academic Science and Technology Works Competition was held at Guizhou University. Through the joint review by internal and external judges, awards of various grades were selected under Baosteel's topic—"Digital System for Carbon Reduction Technology with Ultimate Energy Efficiency in Steel Industry". This event attracted 74 entries from 33 universities in 13 provinces across the country, and 25 entries won awards.



Group Photo of Students and Judges at the "Challenge Cup" Competition

## Appendix 1 Main Data Indicators

"/": Baosteel has not disclosed historical data for some of the indicators, and the data has been disclosed starting in 2020 or 2021 through the improvement of the level of management of ESG indicators.

### Economic performance

Indicator	Unit	2021	2022	2023
Total revenue	100 million RMB	3,653.42	3,690.58	3,448.68
Total costs	100 million RMB	3,371.63	3,590.79	3,351.15
Operating costs	100 million RMB	3,244.76	3,462.93	3,231.27
Sales costs	100 million RMB	17.20	17.89	17.82
Administrative costs	100 million RMB	43.96	43.51	42.67
Research and development costs	100 million RMB	29.42	31.68	34.19
Financial costs	100 million RMB	17.88	15.46	9.94
Impairment loss of assets	100 million RMB	-11.08	-9.53	-2.17
Investment income	100 million RMB	39.75	51.12	44.21
Operating profit	100 million RMB	325.63	156.04	159.84
Total profit	100 million RMB	307.08	150.44	150.86
Net profit	100 million RMB	264.55	140.29	137.41
Social contribution value per share	RMB per share	2.44	1.84	1.97

### Environmental management

Indicator	Unit	2021 steel	2022 steel	2023		
				Steel	Others	Total
Environmental OpEx	100 million RMB	69.4	89.3	99.91	8.76	108.67
Environmental CapEx	100 million RMB	52.2	70.3	52.45	3.93	56.38
Number of environmental pollution incidents	/	3	2	0	0	0
Environmental penalties	10,000 RMB	117.4	84.0	0	0	0
Purchased steel scrap	10,000 tons	733	756	714	/	714

### Energy

Indicator	Unit	2021 steel	2022 steel	2023		
				Steel	Others	Total
Total fuel energy <sup>29</sup>	MWh	196,647,371	208,469,683	242,124,756	25,404,763	267,529,519
Energy intensity	MWh/ton of crude steel	4.62	4.61	4.58	/	/
Energy intensity	MWh/ton of product	/	/	/	0.85	0.85
Power generation from photovoltaic projects	MWh	73,184	174,358	269,535	5,019	274,554
Purchased renewable electricity	MWh	1,370,000	576,311	1,027,620	3,033	1,030,653

### Water

Indicator	Unit	2021 steel	2022 steel	2023		
				Steel	Others	Total
Total water consumption <sup>30</sup>		139.76	140.61	132.76	/	/
surface water	Million m <sup>3</sup>	124.79	121.38	116.14	/	/
desalination		4.89	6.63	6.47	/	/
recycled stormwater		10.09	12.60	10.16	/	/
Fresh water consumption intensity <sup>31</sup>	m <sup>3</sup> /t crude steel	2.90	2.74	2.50	/	/
Fresh water consumption intensity <sup>31</sup>	m <sup>3</sup> /t product	/	/	/	2.22	/
Water withdrawals of plants in water-scarce areas		0	0	0	/	/
Fresh water consumption in water-scarce areas	Million m <sup>3</sup>	0	0	0	/	/

<sup>29</sup> Scope of total fuel energy: the scope of total energy and energy intensity both covers the four bases

<sup>30</sup> Scope of Total water consumption: four bases, Huangshi Coated Plate and Lubao Steel Pipe

<sup>31</sup> Scope of fresh water consumption intensity Starting from 2023, sub-item of steel water consumption for Baosteel is adjusted to the total water consumption of surface water, desalination and recycled stormwater, with the data of 2021 and 2022 updated synchronously

## Air pollutants

Indicator	Unit	2021 steel	2022 steel	2023		
				Steel	Others	Total
Sulfur oxides ( $\text{SO}_x$ ) <sup>32</sup>	tons	9,158	7,927	6,556	210	6,766
Nitrogen oxides ( $\text{NO}_x$ )	tons	25,332	21,253	19,845	517	20,362
Dust	tons	7,047	6,276	4,725	61	4,786

## Wastewater Discharge

Indicator	Unit	2021 steel	2022 steel	2023		
				Steel	Others	Total
Wastewater discharge		50	37	32	2.54	34.54
Wastewater discharge of plants in water-scarce areas	Million m <sup>3</sup>	/	/	0	0	0
COD emissions	tons	795	664	561	103	664
Ammonia-Nitrogen emissions	tons	67	53	35	4	39

## Solid waste

Indicator	Unit	2021 steel	2022 steel	2023		
				Steel	Others	Total
Total generation of solid waste <sup>33</sup> (① + ②)	tons	30,379,258	31,501,501	32,960,293	38,976.00	32,999,269
① Generation of hazardous waste	tons	506,748	622,746	651,157	24,411	675,568
③ Harmless disposal of hazardous waste	tons	506,748	622,024	651,536	24,412	675,948
④ Incineration(no power generation)	tons	/	/	21,529	/	21,529
⑤ Incineration (power generation)	tons	/	/	0	/	0
⑥ Landfill	tons	/	/	448	/	448
⑦ Comprehensive utilization	tons	/	/	629,559	/	629,559
② Generation and disposal of general waste (⑧ + ⑨ + ⑩)	tons	29,872,510	30,878,755	32,309,136	14,566	32,323,702

<sup>32</sup> The Scope of waste gas emissions from the iron and steel segment was adjusted from four bases and Huangshi Coated Plate to four bases, Huangshi Coating and Lubao Steel Pipe from 2022, the same to NOx emissions and particulate matter emissions.

<sup>33</sup> The Scope of solid waste from the iron and steel segment was adjusted from four bases and Huangshi Coated Plate to four bases, Huangshi Coating and Lubao Steel Pipe from 2022.

Indicator	Unit	2021 steel	2022 steel	2023		
				Steel	Others	Total
⑧ General waste returning to production	tons				9,535,261	/ 9,535,261
Method		29,834,315	30,855,509			
⑨ Product volume from general waste	tons			22,745,738	6,967	22,752,705
⑩ Disposal of general waste by other methods	tons	38,195	23,246	28,137	7,599	35,736
Total waste disposal (② + ③)	tons	/	/	32,960,672	38,978	32,999,650
Total incineration of waste (④ + ⑤)	tons	/	/	21,259	/	21,259
Total landfill of waste (⑥)	tons	/	/	448	/	448
Other methods (② + ⑦)	tons	/	/	32,938,695	14,566	32,953,261

## Baosteel's overall greenhouse gas emissions

Indicator	Unit	2020	2021	2022	2023		
		Steel	Steel	Steel	Steel	Others	Total
(Scope 1&2)GHG emissions(Category 1 & 2)		10,170	10,115	10,756	10,902	272.37	11,174
(Scope 1)Direct GHG emissions(Category 1)	10,000 tons CO <sub>2</sub> e	9,768	9,732	10,418	10,617	112.19	10,729
(Scope 2)Indirect GHG emissions(Category 2)		402	382	338	285	160.17	445
(Scope 3)Indirect GHG emissions(Category 3、4&5)		3,436	3,706	3,409	2,753	/	2,753

## Four bases' greenhouse gas emissions

Indicator	Unit	2020	2021	2022	2023
		Steel	Steel	Steel	Steel
(Scope 1&2)GHG emissions(Category 1 & 2)		10,070.4	9,970.7	10,592.7	10,781.1
(Scope 1)Direct GHG emissions(Category 1)	10,000 tons CO <sub>2</sub> e	9,709.1	9,679.6	10,292.9	10,568.5
(Scope 2)Indirect GHG emissions(Category 2)		361.3	291.0	299.9	212.5
GHG emission intensity (Category 1 + Category 2)	tCO <sub>2</sub> e/ton crude steel	2.13	2.08	2.08	2.04

## Baosteel's iron and steel segments' greenhouse gas emissions

Indicator	Unit	2020	2021	2022	2023
Category 1	Direct GHG emissions(Scope 1)	9,768	9,732	10,418	10,617
Category 2	Indirect GHG emissions(Scope 2)	402	382	338	285
Category 3	Indirect GHG emissions from transportation	513	575	501	448
3.1	Transportation of purchased goods and services	413	452	379	312
3.2	Transportation and distribution of fuel	12	13	18	15
3.3	Transportation of products	84	107	100	117
3.4	Employee commuting	2.70	2.70	4.10	3.98
3.5	Business travel	0.70	0.90	0.30	1.33
Category 4	Indirect GHG emissions from products used by organization 10,000 tons CO <sub>2</sub> e	2,851	3,021	2,908	2,192
4.1	Emissions from purchased goods and services (manufacturing-related)	2,810	2,979	2,881	1,876
4.2	Capital goods	24	22	10	313
4.3	Waste disposal	18	20	17	3
Category 5	Indirect GHG emissions associated with the use of products from the organization	72	110	/	112
5.1	Invested companies	72	110	/	112
Sub-total for GHG emissions for categories 3, 4 and 5 (Scope 3)		3,436	3,706	3,409	2,753
Total GHG emissions(Scope 1,2&3)		13,606	13,820	14,165	13,654

## Product and customer service

Indicator	Unit	2021	2022	2023
R&D expenses	100 million RMB	160.77	172.5	195.7
R&D investment ratio	%	4.40	4.69	5.68
Patent applications	/	1,292	1,355	1,359
Patent grants	/	699	862	642
New product sales rates	%	14	16	13

Indicator	Unit	2021	2022	2023
Unique new trial product ratio	%	32	32	37
Economic benefits of scientific research projects	100 million RMB	28	28	32.8
Sales of BETTER products	10,000 tons	1,000	931	946
Sales of BEST products	10,000 tons	387	416	421
Sales of BETTER+BEST green products	10,000 tons	1,387	1,348	1,368
Customer Satisfaction	%	92.8	92.8	92.94
Customer Satisfaction coverage	%	/	/	80

## Supplier management

Indicator	Unit	2021	2022	2023
Number of suppliers	/	3,548	3,084	2,722
Proportion of suppliers in China	%	94	99	99
Proportion of overseas suppliers	%	6	1	1
Critical tier 1 suppliers	/	106	165	204
Critical non-tier 1 suppliers	/	1,855	1,330	1,707
Proportion of suppliers that have signed the Sustainable Sourcing Charter/ Supplier Code of Conduct	%	100	100	100
Proportion with CSR assessment (e.g. questionnaire)	%	38.1	43.8	92.9
Proportion that have undergone a CSR on-site audit	%	1.5	5.8	7.1
Proportion of green procurement of spare parts	%	26	28	25.55
Amount of local spare parts purchased	100 million RMB	148	220	233
Proportion of local spare parts purchased	%	47	58	57
Amount of spare parts purchased from SMEs	100 million RMB	57	118	119
Proportion of spare parts procured from SMEs	%	18	31	29

## Employment and diversity

Indicator	Unit	2021	2022	2023
Total number of employees	person	45,405	44,445	43,126
Employees under 30	%	16	17	14
Employees aged 30-39	%	32	32	30
Employees aged 40-49	%	34	33	34
Employees aged 50 and over	%	18	18	22
Male employees	%	88	88	88
Female employees	%	12	12	12
Chinese employees	%	99.99	99.99	98.51
International employees	%	0.01	0.01	1.49
Asian employees	%	/	/	99
Other ethnicities	%	/	/	1
Minority ethnic groups (ethnic minorities)	%	/	2.40	2.55
Disadvantaged groups	%	0.80	0.71	0.28
Newly hired employees	person	1,008	2,674	1,465
Newly hired male employees	person	/	/	1,274
Newly hired female employees	person	/	/	191
Proportion of managers who are female	%	7.0	7.5	8.4
Proportion of junior managers who are female	%	/	/	7.6
Proportion of senior managers who are female	%	/	/	8.8
Proportion of revenue generators who are female	%	/	/	11
Proportion of STEM researchers who are female	%	/	/	18.7
Average number of employee training hours	hours	128	144	129
Training input per employee	RMB	/	/	1,912
Proportion of employees trained in business ethics as a percentage of total employees	%	100	100	100
Proportion of employees trained in vocational and technical skills	%	100	100	100
Proportion of employees trained in anti-discrimination, anti-human rights violations	%	100	100	100

Indicator	Unit	2021	2022	2023
Proportion of environment-related employee trained	%	100	100	100
Active turnover rate	%	1.74	0.45	1.98
Social insurance coverage rate	%	100	100	100
Proportion of people covered by collective agreements	%	100	100	100
Number of incidents of child labour, forced labour and human trafficking	/	0	0	0
Number of incidents related to diversity, discrimination and harassment	/	0	0	0

## Charitable donations

Indicator	Unit	2021	2022	2023
Total amount of donations	10,000 RMB	7,856	8,230	8,385
Donations for rural rejuvenation	10,000 RMB	7,335	7,678	7,400
Donations to communities and charitable institutions	10,000 RMB	521	552	985

## Work Health and Safety

Indicator	Unit	2021	2022	2023
Total investment in safety	100 million RMB	7.4	4.5	5.22
Number of production safety accidents	/	11	7	6
Number of production safety accidents involving injuries	/	11	7	4
Among them: Baosteel employees	/	3	3	4
Baosteel contractors	/	8	4	0
Occupational health checks coverage	%	100	100	100
Number of occupational morbidity	person	0	0	0
Number of people involved in dangerous sign events	person	3	2	553 <sup>34</sup>
Among them: Baosteel employees	person	0	1	22
Baosteel contractors	person	3	1	531
Frequency of injuries to employees in workplace accidents	Number of injuries/million hours worked	0.038	0.026	0.02
Total recordable injury frequency rate (TRIFR)	million hours worked	/	/	0.07
Total recordable injury frequency rate (TRIFR)—Baosteel employees	million hours worked	/	/	0.18
Total recordable injury frequency rate (TRIFR)—Baosteel contractors	million hours worked	/	/	0.03
Lost time injury frequency rate (LTIFR)	million hours worked	/	/	0.02
Lost time injury frequency rate (LTIFR) Baosteel employees	million hours worked	/	/	0.05
Lost time injury frequency rate (LTIFR)—Baosteel contractors	million hours worked	/	/	0
Employees representing the Health and Safety Committee, as a percentage of all employees in all areas	%	100	100	100
Percentage of workplaces with OHS certification (ISO45001/OHSAS18001)	%	100	100	100
Deaths due to work-related injuries (Baosteel employees)	person	0	0	3
Deaths due to work-related injuries (Baosteel contractors)	person	2	2	0

<sup>34</sup> Due to statistical caliber change in 2023, potential hazards occurred without causing injuries will be recorded as dangerous sign events.

## Board and Investor Communication

Indicator	Unit	2021	2022	2023
Average board attendance rate	%	/	/	100
Minimum board attendance rate	%	50	50	50
Proportion of independent directors	%	/	/	45
Number of dependent directors	person	/	/	5
Proportion of female directors	%	/	/	9
Earnings Releases	/	7	6	2
Investment Strategy Sessions	/	59	47	46
Teleconferences	/	41	41	41
Investor interview reception	/	18 batches/77 people	5 batches/15 people	33 batches/161 people
Other				Overseas investor roadshows: 28 on-site sessions and 8 online sessions Answering questions from investors: 400 Teleconferences for capital markets 1 external meeting : three meetings ("I am a shareholder", Baowu Investor Meeting, Special Session about Blue-chip Baosteel)
Roadshow communication: 36		Overseas investor roadshows: 14		
Answering questions from investors: 280		Answering questions from investors: 307		
Investor relations questionnaires: 127		Silicon Steel and Climate Action video conferences: 2		
External communication: 1				

## Business Ethics and Information Security

Indicator	Unit	2021	2022	2023
Proportion of operating sites that have conducted internal audits/risk assessments for business ethics issues as a percentage of total operating sites	%	100	100	100
Proportion of third-party compliance systems ISO 37301 certified	%	/	/	25
Number of reports generated by the whistleblowing procedures	/	24	29	31
Number of corruption and bribery incidents recognised	/	0	0	0
Number of harassment or prejudice incidents recognised	/	/	/	0
Number of customer privacy data breach incidents recognised	/	/	/	0
Number of conflicts of interests incidents recognised	/	/	/	0
Number of money laundering or insider trading incidents recognised	/	/	/	0
Proportion of operating sites with information security management systems (ISMS) ISO 27000 certification (or other equivalent and comparable standards) out of total number of locations	%	/	/	25
Number of information security incidents recognised	/	0	0	0
Number of information breach incidents	/	/	/	0
Total number of customers and employees affected by the information breaches	person	/	/	0

## Appendix 2 Content Index of GRI Guidelines

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<b>GRI 304: Biodiversity 2016</b>				403-2	Hazard identification, risk assessment, and incident investigation	Social-Health and safety	P128
304-2	Significant impacts of activities, products and services on biodiversity	Environmental-Biodiversity protection	P90-91	403-3	Occupational health services	Social-Health and safety	P129
304-3	Habitats protected or restored	Environmental-Biodiversity protection	P90-91	403-4	Worker participation, consultation, and communication on occupational health and safety	Social-Health and safety	P129
<b>GRI 305: Emissions 2016</b>				403-5	Worker training on occupational health and safety	Social-Health and safety	P130
305-1	Direct (Scope 1) GHG emissions	Environmental-Address climate change-Indicators and goals	P74	403-6	Promotion of worker health	Social-Health and safety	P129
305-2	Energy indirect/Scope 2 GHG emissions	Environmental-Address climate change-Indicators and goals	P74	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Social-Health and safety	P128
305-3	Other indirect/Scope 3 GHG emissions	Environmental-Address climate change-Indicators and goals	P75	403-8	Workers covered by an occupational health and safety management system	Social-Health and safety	P126
305-4	GHG emissions intensity	Environmental-Address climate change-Indicators and goals	P74	403-9	Work-related injuries	Social-Health and safety	P127
305-5	Reduction of GHG emissions	Environmental-Address climate change-Indicators and goals	P74	403-10	Work-related ill health	Social-Health and safety	P129
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Environmental-Compliant discharge and emissions	P83	<b>GRI 404: Training and Education 2016</b>			
<b>GRI 306: Effluents and Waste 2020</b>				404-1	Average hours of training per year per employee	Social-Employee development	P123
306-1	Waste generation and significant waste-related impacts	Environmental-Compliant discharge and emissions	P84	404-2	Programs for upgrading employee skills and transition assistance programs	Social-Employee development	P122
306-2	Actions taken to prevent waste generation	Environmental-Compliant discharge and emissions	P84	404-3	Percentage of employees receiving regular performance and career development reviews.	Social-Employee development	P125
306-3	Composition of waste generated	Environmental-Compliant discharge and emissions	P85	<b>GRI 405: Diversity and Equal Opportunity 2016</b>			
306-4	Recovery operations used to divert waste from disposal	Environmental-Compliant discharge and emissions	P85	405-1	Diversity of governance bodies and employees	Social-Employee development	P125
306-5	Disposal operations	Environmental-Compliant discharge and emissions	P85	<b>GRI 406: Non-discrimination 2016</b>			
				406-1	Incidents of discrimination and corrective actions taken	Social-Employees' rights and interests	P117

Disclosure Item	Disclosure Title	Sections	Pages
<b>GRI 407: Freedom of Association and Collective Bargaining 2016</b>			
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Social-Employees' rights and interests	P115
<b>GRI 408: Child Labor 2016</b>			
408-1	Operations and suppliers at significant risk for incidents of child labor	Social-Employees' rights and interests	P117
<b>GRI 409: Forced or Compulsory Labor 2016</b>			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Social-Employees' rights and interests	P117
<b>GRI 413: Local Communities 2016</b>			
413-1	Operations with local community engagement, impact assessments, and development programs	Social-Employees' rights and interests	P132-133
413-2	Operations with significant actual and potential negative impacts on local communities	Social-Employees' rights and interests	P132-133
<b>GRI 414: Supplier Social Assessment 2016</b>			
414-1	New suppliers that were screened using social criteria	Social-Win-win supply chains	P108
<b>GRI 416: Customer Health and Safety 2016</b>			
416-1	Assessment of the health and safety impacts of product and service categories	Social-Quality assurance	P96
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Social-Quality assurance	P96
<b>GRI 417: Marketing and Labeling 2016</b>			
417-1	Requirements for product and service information and labeling	Social-Customer service	P105
417-2	Incidents of non-compliance concerning product and service information and labeling	Social-Customer service	P105
417-3	Incidents of non-compliance concerning marketing communications	Social-Customer service	P105
<b>GRI 418: Customer Privacy 2016</b>			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Social-Customer service	P45

## Appendix 3 Content Index of Sustainable Development Goals

United Nations Sustainable Development Goals (SDGs)	Introduction of Initiative	Chapter Index
SDG1. No Poverty	End poverty in all its forms everywhere.	Social-Social welfare
SDG3. Good Health and Well-being	End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	Social-Employees' rights and interests
SDG4. Quality education	Achieve gender equality and empower all women and girls.	Social-Social welfare
SDG5. Gender Equality	Achieve gender equality and empower all women and girls.	Social-Employment Social-Employees' rights and interests
SDG6. Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all.	Environmental-Environmental management Environmental-Compliant discharge and emissions Environmental-Resource protection
SDG7. Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable and modern energy for all.	Environmental-Address Climate Change-Strategy
SDG8. Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	Social-Employment Social-Employees' rights and interests Social-Win-win industry chains
SDG9. Industry, Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	Social-R&D and innovation
SDG10. Reduced Inequalities	Reduce inequality within and among countries.	Social-Employment Social-Employees' rights and interests
SDG11. Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient and sustainable.	Social-Social welfare
SDG12. Responsible Consumption and Production	Ensure sustainable consumption and production patterns.	Environmental-Address Climate Change-Strategy Social-Intelligent transformation Social-Customer service Social-Win-win industry chains
SDG13. Climate Action	Take urgent action to combat climate change and its impacts.	Environmental-Address Climate Change
SDG14. Life Below Water	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.	Environmental-Biodiversity protection
SDG15. Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	Environmental-Biodiversity protection
SDG16. Peace, Justice and Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	Governance-Corporate Governance
SDG17. Partnerships for The Goals	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.	Social-Win-win industry chains

## Appendix 4 Content Index of the Sustainable Development Accounting Standards Board (SASB)

Disclosure Issues/ Items	Title of Disclosure Items	Chapter Index
<b>Greenhouse Gas Emissions</b>		
EM-IS-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Environmental-Address Climate Change
EM-IS-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Environmental-Address Climate Change
<b>Air Emissions</b>		
EM-IS-120a.1	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N <sub>2</sub> O), (3) SOx, (4) particulate matter (PM10), (5) manganese (MnO), (6) lead (Pb), (7) volatile organic compounds (VOCs), and (8) polycyclic aromatic hydrocarbons (PAHs)	Environmental-Compliant discharge and emissions
<b>Energy Management</b>		
EM-IS-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Environmental-Address Climate Change
EM-IS-130a.2	(1) Total fuel consumed, (2) percentage coal, (3) percentage natural gas, (4) percentage renewable	Environmental-Address Climate Change
<b>Water Management</b>		
EM-IS-140a.1	(1) Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	Environmental-Resource protection
<b>Waste Management</b>		
EM-IS-150a.1	Amount of waste generated, percentage hazardous, percentage recycled	Environmental-Compliant discharge and emissions
<b>Workforce Health &amp; Safety</b>		
EM-IS-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) full-time employees and (b) contract employees	Social-Health and safety
<b>Supply Chain Management</b>		
EM-IS-430a.1	Discussion of the process for managing iron ore and/or coking coal sourcing risks arising from environmental and social issues	Social-Win-win industry chains

## Appendix 5 Independent Assurance Statement

**SGS** **ASSURANCE STATEMENT**

**SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE BAOSHAN IRON & STEEL CO., LTD. 2023 Sustainability Report**

**NATURE OF THE ASSURANCE/VERIFICATION**  
SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. (hereinafter referred to as SGS) was commissioned by BAOSHAN IRON & STEEL CO., LTD. (hereinafter referred to as BAOSTEEL) to conduct an independent assurance of the 2023 Sustainability Report (hereinafter referred to as the Report).

**INTENDED USERS OF THIS ASSURANCE STATEMENT**  
This Assurance Statement is provided with the intention of informing all BAOSTEEL's Stakeholders.

**RESPONSIBILITIES**  
The information in the Report and its presentation are the responsibility of the management, governing body of BAOSTEEL. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all BAOSTEEL's stakeholders.

**ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE**  
The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognised assurance guidance and standards including the principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) GRI 1: Foundation 2021 for report quality, GRI 2: General Disclosure 2021 for organisation's reporting practices and other organisational detail, GRI 3: 2021 for organisation's process of determining material topics, its list of material topics and how to manage each topic, and the guidance on levels of assurance contained within the AA1000 series of standards and ISAE3000.

The assurance of this report has been conducted according to the following Assurance Standards:

- SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)

Assurance has been conducted at a moderate level of scrutiny.

**SCOPE OF ASSURANCE AND REPORTING CRITERIA**  
The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below, especially the verification of the "Key Data Indicators" in the Report, including but not limited to:

- KPIs for Supplier Screening
- KPIs for Supplier Assessment and/or Development
- Energy Consumption
- Waste Disposal
- NOx Emissions
- SOx Emissions
- Dust Emissions
- Water Consumption
- Water Consumption in Water-Stressed Areas
- Direct Greenhouse Gas Emissions (Scope 1)
- Indirect Greenhouse Gas Emissions (Scope 2)
- Indirect Greenhouse Gas Emissions (Scope 3)
- Fatalities due to Work Injury
- Lost-Time Injury Frequency Rate (LTIFR) – Employees
- Lost-Time Injury Frequency Rate (LTIFR) – Contractors
- Total Recordable Injury Frequency Rate (TRIFR) – Employees
- Total Recordable Injury Frequency Rate (TRIFR) – Contractors

and evaluation of adherence to the following reporting criteria:

- GRI Standards 2021 (Reference)

**ASSURANCE METHODOLOGY**

The assurance comprised a combination of pre-assurance research, interviews with relevant employees located at Headquarters of BAOSTEEL (located at No.885, Fujin Road, Baoshan District, Shanghai, P.R. China) for onsite assurance.

**LIMITATIONS AND MITIGATION**

Financial data drawn directly from independently audited financial accounts has not been checked back with source data as part of this assurance process.

The GHG emission related data in the Report was directly adopted from the independent third-party verification data and the audit was conducted on the sampling basis during the assurance process.

The onsite assurance scope only covered Headquarters of BAOSTEEL. The data for assurance of report information was from the above scope.

The assurance process only involved interviews with the heads of relevant departments and certain employees and consultation with relevant documents did not involve external stakeholders.

**STATEMENT OF INDEPENDENCE AND COMPETENCE**

The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than many countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirms our independence from BAOSTEEL, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with CCAA Registered ISO 9001 auditor, ISO 14001 auditor, ISO 45001 auditor, Greenhouse Gas Verifier, SAI Registered SA 8000 auditor, CSR assessor, etc.

**FINDINGS AND CONCLUSIONS****ASSURANCE/VERIFICATION OPINION**

On the basis of the methodology described and the verification work performed, the information and data in the Report have been verified to be accurate and reliable, and they provide a fair and unbiased account of BAOSTEEL sustainability activities in 2023.

The assurance team is of the opinion that the Report has referred GRI Standard.

**Reporting Principles****Accuracy**

BAOSTEEL's report content is accurate and can publicly disclose multiple qualitative and quantitative information on performance to stakeholders.

**Balance**

BAOSTEEL presented the balance reporting rule in the Report and reported the environmental, social and governance issues truthfully.

**Clarity**

The report uses a variety of expression methods such as text descriptions, data tables, graphics, photos, etc., and is combined with case analysis narratives to make it easy for stakeholders to understand.

**Comparability**

BAOSTEEL conducted the statistics and analysis for KPIs, and reported the disclosures' impacts and purposes. In the Report, some data were compared with historical years, which to better assist stakeholders in evaluating and making decisions about the effectiveness of management systems.

**Completeness**

BAOSTEEL's report covers the identified material issues and their boundaries, reflecting the important impacts on the economy, environment and society, allowing stakeholders to evaluate BAOSTEEL's performance during the reporting period.

**Sustainability Context**

BAOSTEEL demonstrates its efforts in sustainable development from the economic, environmental and social aspects, and displays these performances in the context of sustainable development.

**Timeliness**

Verification shows that reported data and information are timely and valid during the reporting cycle. BAOSTEEL publishes the Sustainability Reports every year starting from 2005, which has good timeliness.

**Reliability**

All data and information within the scope of verification can be traced and verified.

**Management Approach**

BAOSTEEL's report discloses the management approaches of the selected special topics.

**General Disclosures**

BAOSTEEL's report disclosed some indicators according to GRI 2: General Disclosure 2021.

**Topic-specific Disclosures**

The specific issues involved in the identified important economic, environmental and social substantive issues were disclosed in accordance with the requirements of GRI Standards 2021.

**Findings and Recommendations**

Good practices and recommendations for the Report and management process were described in the internal management report which has been submitted to the management of BAOSTEEL for continuous improvement.

**Signed:**

For and on behalf of SGS-CSTC

David Xin

Sr. Director – Business Assurance

16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, P.R. China

Apr. 22<sup>nd</sup> 2024

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## Appendix 6 Greenhouse Gas Verification Statement

Statement of Conformity CN24/00002359

### Greenhouse Gas Verification Statement

The inventory of Greenhouse Gas emissions in  
1 Jan. 2023 to 31 Dec. 2023 of

Baoshan Iron & Steel Co., Ltd.

Business address: No. 885, Fujin Road, Baoshan District, Shanghai City, P.R. China  
Organization boundary: Detail organization boundary information has been listed in Annex, for multi-site statement

has been verified in accordance with ISO 14064-3:2019 as meeting the requirements of

**ISO 14064-1:2018**

Direct Emissions [Category 1]	
106,167,469.43 tonnes of CO <sub>2</sub> e	
Indirect Emissions from Imported Energy [Category 2]	
2,847,742.71 tonnes of CO <sub>2</sub> e	
Indirect Emissions from Transportation [Category 3]	
4,483,335.02 tonnes of CO <sub>2</sub> e	
Indirect Emissions from Products Used by An Organization [Category 4]	
21,923,127.51 tonnes of CO <sub>2</sub> e	
Indirect Emissions Associated with The Use of Products from The Organization [Category 5]	
1,121,090.04 tonnes of CO <sub>2</sub> e	
Indirect Emissions from Other Sources [Category 6] [be determined as non-significant indirect emissions and not quantified]	
Total Emissions Quantified	
136,542,764.72 tonnes of CO <sub>2</sub> e	



SGS has been contracted by Baoshan Iron & Steel Co., Ltd. (hereinafter referred to as "CLIENT"), for the verification of direct and indirect Greenhouse Gas emissions in accordance with

ISO 14064-3:2019

as provided by Baoshan Iron & Steel Co., Ltd. (hereinafter referred to as "RESPONSIBLE PARTY"), in the Greenhouse Gas (GHG) Assertion in the form of GHG Report covering GHG emissions of the period 1 Jan. 2023 to 31 Dec. 2023 (hereinafter referred to as "REPORT PERIOD").

#### Roles and responsibilities

The management of the RESPONSIBLE PARTY is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the calculation and determination of GHG emissions information and the reported GHG emissions.

It is SGS's responsibility to express an independent GHG verification opinion on the GHG statement as provided by the RESPONSIBLE PARTY for the REPORT PERIOD.

According to ISO 14064-3:2019, SGS has conducted a third-party verification of the provided GHG statement by RESPONSIBLE PARTY against the requirements of ISO 14064-1:2018 in the period 31 Jan. 2024, 1, 2, 5-6, 18-23 Feb. 2024. The verification is based on the verification scope, objectives and criteria as agreed between the CLIENT and SGS on 15 Apr. 2024.

#### Level of Assurance

The level of assurance agreed is that of Reasonable assurance.

#### Scope

The CLIENT has commissioned an independent verification by SGS in accordance to ISO 14064-3:2019 to assure the reported GHG emissions of RESPONSIBLE PARTY, in conformance with ISO 14064-1:2018 requirements within the scope of the verification as outlined below. The data and information supporting the GHG statement is historical in nature.

This engagement covers verification of emission from anthropogenic sources of greenhouse gases included within the organization's boundary:

- The organizational boundary is established following Operational control approach
- Location/boundary of the activities: detail boundary information has been listed in Annex
- Physical infrastructure, activities, technologies and processes: Production and related management activity of steel
- GHG sources, sinks and/or reservoirs included: GHG sources as presented in the GHG inventory and report of the RESPONSIBLE PARTY
- Types of GHGs included: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, NF<sub>3</sub>
- GHG information for the following period was verified: 1 Jan. 2023 to 31 Dec. 2023
- GWP adopted: IPCC 6 Assessment Report.
- Intended user of the verification statement: Private user

#### Objective

The purposes of this verification exercise are, by review of objective evidence, to independently review:

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- Whether the GHG emissions are as declared by the organization's GHG statement
- The data reported are accurate, complete, consistent, transparent and free of material error or omission.

#### Criteria

Criteria against which the verification assessment is undertaken are the requirements of ISO 14064-3:2019.

#### Materiality

The materiality required of the verification is considered by SGS to 5%, based on the needs of the intended user of the GHG statement.

#### Verification approach

SGS's approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions information and the controls in place to mitigate these. Our examination includes assessment of evidence relevant to the amounts and disclosures in relation to the organization's reported GHG emissions.

We plan and perform our work to obtain the information, explanations and evidence that we considered necessary to provide a reasonable level of assurance that the GHG emissions for the REPORT PERIOD are fairly stated.

We conduct our verification with regard to the GHG statement of GHG Report of the RESPONSIBLE PARTY which includes assessment of GHG information system and reporting plan/protocol. This assessment includes the collection of evidence supporting the reported data, and checking whether the provisions of the protocol reference, are consistently and appropriately applied.

#### Verification opinion conclusion

The RESPONSIBLE PARTY provided the GHG statement based on the requirements of ISO 14064-1:2018 that total emission 136,542,764.72 tonnes of CO<sub>2</sub>e in the organization boundary for the REPORT PERIOD.

The verification opinion as below is issued by SGS after an independent verification for RESPONSIBLE PARTY's GHG statement base on agreed Reasonable assurance:

Unmodified

The GHG statement submitted by RESPONSIBLE PARTY is prepared in accordance with ISO 14064-1:2018 on GHG quantification and reporting, is a fair representation materially, the GHG data and information in statement are explicit and supported by adequacy and appropriate evidence.

Modified

The GHG statement submitted by RESPONSIBLE PARTY has no material misstatement, however has some deficiencies which will prevent the issuance of unmodified verification opinion.

Adverse opinion

The GHG statement submitted by RESPONSIBLE PARTY:

- has no material misstatement or
- there is insufficient or inappropriate evidence to support an unmodified or modified opinion.

Disclaiming the issuance of an opinion

It is unable to obtain sufficient and appropriate objective evidence to form an opinion as to whether the GHG statement submitted is presented fairly in accordance with

ISO 14064-1:2018

This statement shall be interpreted with the GHG statement of GHG Report of the RESPONSIBLE PARTY as a whole.

Note: This Statement is issued by SGS-CSTC Standards Technical Services Co., Ltd. ("SGS") under its General Conditions for Greenhouse Gas Validation & Verification Services. The findings recorded hereon are based upon a verification performed by SGS. A full copy of this statement, the findings and the supporting GHG Assertion may be consulted from RESPONSIBLE PARTY. This Statement does not relieve Client from compliance with any by laws, federal, national or regional acts and regulations or with any guidelines issued pursuant to such regulations. Stipulations to the contrary are not binding on SGS and SGS shall have no responsibility vis-à-vis parties other than its Client.

The verification statement of greenhouse gases is concluded in English. Any translation differences, the English version shall prevail.

#### Annex

#### Multi-site Organizational Boundaries List

	Organization Name	Description of organizational boundaries
Site 1	Baoshan Iron & Steel Co., Ltd. (Baoshan Base)	No. 885, Fujin Road, Baoshan District, Shanghai City, P.R. China, Baoshan Base
Site 2	Wuhan Iron and Steel Co., Ltd. (Qingshan Base)	No. 1 Gate of Factory Square, Qingshan District, Wuhan city, Hubei Province P.R. China, Qingshan Base
Site 3	Baosteel Zhanjiang Steel Co., Ltd. (Dongshan Base)	No. 18 Daodong Avenue, Dongjian Street, Economic and Technological Development Zone, Zhanjiang City, Guangdong Province, P.R. China, Dongshan Base
Site 4	Shanghai Meishan Iron & Steel Co., Ltd. (Meishan Base)	Xinjian, Zhong Hua Men Wai, Yuhuatai District, Nanjing City, Jiangsu Province, P.R. China, Meishan Base