

2021 Environmental, Social and Governance Report

Maanshan Iron and Steel Co., Ltd.



About the Report

Solemn Commitment

The information and data disclosed in the Report are derived from the Company's statistical reports and official documents and have been audited by relevant departments. The Company guarantees that there are no false records or misleading statements in the Report and is responsible for the truthfulness, accuracy and completeness of the contents.

Basis of Report

The Report is mainly based on the Environmental, Social and Governance Reporting Guide of the Stock Exchange of Hong Kong, the *Guidelines* on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR4.0) of the Chinese Academy of Social Sciences, the Notice on Strengthening the Social Responsibility Commitment of Listed Companies cum Issuing the Guidelines on Environmental Information Disclosure for Listed *Companies on the Shanghai Stock Exchange* of the Shanghai Stock Exchange, the Guidance on Better Fulfillment of Social Responsibility by State-owned Enterprises of the State-owned Assets Supervision and Administration Commission of the State Council, the Sustainability Reporting Standards (GRI *Standards)* of the Global Reporting Initiative, and the United Nations Sustainable Development Goals (SDGs).

Scope of the Report

Unless otherwise specified, the Report mainly describes the economic, social and environmental performance of Masteel and its subsidiaries Changjiang Steel, Hefei Company, and Magang Rail Transportation Equipment Company in terms of their practices in social responsibility fulfillment and performance during the period from January 1, 2021 to December 31, 2021. The selection of the scope of the reporting entities is based primarily on materiality and substantiality. Unless otherwise stated, the currencies involved in the Report shall be in CNY.

Charting a Course for a New Era

Name Description

"China Baowu" used in the Report is the shorted form of China Baowu Steel Group Corporation Limited. "Magang Group" used in the Report is the shorted form of "Magang (Group) Holding Co., Ltd.". "Masteel", "Company", and "We" are the shorted form of Maanshan Iron and Steel Co., Ltd., and "Baosteel Hong Kong" is the shorted form of "Baosteel Hong Kong Investment Co., Ltd.".

Preparation Process

Investigation of the concerns of stakeholders – Report planning – Report framework construction – Report preparation training – Collection of materials – Report preparation – Internal discussion – Report design – Solicitation of opinions – Report revision – Management review – Board of Directors review – Release of the final draft.

Text Language

The Report is available in simplified Chinese, traditional Chinese, and English. If there is any discrepancy between the three versions, the simplified Chinese version shall prevail.

Form of Release

The Report will be published in printed version and PDF electronic version. The PDF electronic version can be downloaded in the social responsibility column (http://www.magang.com.cn/d3/shzr/index.html) at the official website of Masteel. To reduce the impact of printing on the environment, we encourage readers to download the electronic version whenever possible.

The Report is printed on recycling paper. To save paper, we will limit the length to the greatest extent. For more information, please visit the official website, WeChat official account or the annual financial report of Masteel.

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Message from Chairman



The year 2021 is the first year of implementing the 14th Five-Year Plan and embarking on a new journey toward building a modern socialist country in an all-round way. The year 2021 is also the first year of Masteel's comprehensive planning during the 14th Five-Year Plan period. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we fully applied the guiding principles of the successive plenary sessions of the 19th National Congress of the Communist Party of China (CPC) and the 19th CPC Central Committee, and put into practice the guiding principles of General Secretary Xi Jinping's important speech during an inspection tour of China Baowu Masteel Group. Centering on the annual targets and tasks, Masteel Group focused on lean and efficient operations, strived to be a trailblazer, seized rare market opportunities, yielded remarkable results in terms of production capacity release, index improvement, efficiency and benefits, innovative breakthroughs, etc., and promoted sustainable high-quality leapfrog development.

We deepened reform and innovation, and achieved excellence-based prosperity. To maintain the enterprise's vitality, we built the management and control model of "one headquarters, multiple bases". We kept to innovation-led development, eliminated bottlenecks that stifle technological innovation, accelerated the R&D and application of new technologies, new materials and new products, and enhanced the overall manufacturing capability and technology leadership capabilities. In accordance with the requirements of the "Four Uniformlys", we moved faster to implement the intelligent manufacturing strategy, promoted the upgrading of intelligent manufacturing, and accelerated digital and intelligent development to build efficient, safe and environmentally friendly intelligent steelworks, lead the high-quality development of the steel industry, and help achieve the strategic goal of making China a manufacturing power.

We seized the opportunity presented by the "Dual Carbon" goals to ensure long-term development through green development. Upholding the concept of "lucid waters and lush mountains are invaluable assets", we stayed committed to green development, followed the requirements of peak carbon dioxide emissions and carbon neutrality, and resolutely pursued green, recyclable and low-carbon development. We produced steel goods that are both environmentally friendly and of high quality, and demonstrated the green and low-cost advantages of high-performance products throughout the lifecycle. We earnestly implemented the notion of environmental protection management featuring "treatment of three wastes - waste gas, waste water and solid waste" and "cleaning, greening, beautifying and civilizing" as well as "two better and one integration". We promoted the "Yangtze River Protection" initiative, carried out large-scale greening of the factory grounds, comprehensively improved the essential ecological and environmental protection, improved on-site environment from bonsai to scenery and built the "garden-style riverside urban eco-steelworks".

We built a high ground for talents, and achieved a win-win situation for both employees and the enterprise via mutual concerning. We improved the incentive mechanism for employee post innovation and value creation, designed and managed scientific and effective employee career advancement channels, comprehensively improved employees' competence and quality, sparked employees' passion for work, and promoted the harmonious progress of employees and enterprise. We put people first, and earnestly helped employees in difficulty solve problems and worries; we held diverse recreational activities to add diversity to employees' lives, increasing their sense of benefit, happiness and security. We met employees' yearning for a better life with "Three Haves" and built consensus and pooled strength for the long-term corporate development of the Company.

We kept the rural vitalization campaign alive, forged a vision of common prosperity, and drew a blueprint for harmony. We implemented plans on ensuring the alignment between the results of poverty alleviation and rural vitalization, strengthened organization and leadership, prioritized the work, and fulfilled work responsibilities, so that rural vitalization is for and depends on the people, and its results are shared by the people. In line with the requirements of "responsibility, policy, assistance, supervision", we increased the input of assistance funds, and implemented innovative and detailed assistance measures in terms of industry, education, consumption, etc. We made significant progress in developing agriculture, building beautiful countryside and helping farmers become wealthy, and pooled the efforts for rural vitalization.

We forge ahead courageously for sustained growth. At the starting point of "CNY 100 Billion Masteel", we nurture the ambition to "become the global leader of excellent and special long steel products", accelerate intelligent upgrading, keep to green and low-carbon development, do a good job in work safety, and accelerate the implementation of new projects. We regard the beginning as the decisive battle and the initial stage as the home stretch. We work with the spirit of "accomplishing what requires three-year efforts in one year". With a sense of selfless dedication, we make pioneering and innovative efforts, push the envelope, achieve unprecedented results, and strive to build a new Masteel with sustained growth!



-Dina Yi Secretary of the Party Committee and the Chairman of Masteel

About Masteel

Company Profile

As one of the largest steel manufacturers and retailers in China, Masteel has a supporting production scale of 20 million tons of steel and nearly 20,000 employees. In 2021, the crude steel output of the Company reached 20.97 million tons. The Company achieved an operating revenue of CNY 113.85 billion and a total profit of CNY 7.02 billion. Listed in both Hong Kong and Shanghai, the Company ranked 139th in 2021 Fortune Top 500 China Enterprises.

The predecessor of the Company is Maanshan Iron Factory founded in 1953. Maanshan Iron and Steel Company was founded in 1958. In 1993, Maanshan Iron and Steel Company went through the reorganization of joint-stock system. On September 1, 1993, it was divided into Maanshan Masteel Corporation and Maanshan Iron and Steel Co., Ltd. In 1998, the controlling shareholder Maanshan Masteel Corporation was reorganized into Masteel (Group) Holding Co., Ltd. On September 19, 2019, the State-owned Assets Supervision and Administration Commission of Anhui Province, which held 100% of equity of Masteel Group transferred 51% equity of Masteel Group to China Baowu, with the direct controlling shareholder of the Company remaining unchanged, i.e. Masteel Group. China Baowu became the indirect controlling shareholder of the Company. The actual controller of the Company changed to State-owned Assets Supervision and Administration Commission of the State Council from the State-owned Assets Supervision and Administration Commission of Anhui Province.

The Company boasts advanced cold-rolled and hot-rolled sheets, galvanized sheets, color-coated sheets, non-oriented silicon steel, large and small H-beams, heavy H-beams, high-speed wire (bar) materials, high-speed wheels, and other production lines. It is mainly engaged in sales of the automobile sheets, home appliance sheets, non-oriented silicon steel, hot-rolled sheets, H-beams, high-quality special steel, construction wires and bars, wheels, and other steel products, forming a unique structure with four dominant products of "high-quality, special steels, train wheels and axles, sheets and strips, and long products". The Company's products are widely applied in aviation, railway, maritime industries, automobiles, home appliances, shipbuilding, construction, machinery manufacturing, and other fields and national key projects, and exported to over 50 countries and regions.

he crude steel output of the Company reached







Organizational Structure

Organization Chart of Maanshan Iron and Steel Co., Ltd.



Enterprise Culture



Spirit of "a flower blossoming in the South of the Yangtze River"



To be a global leader in the steel industry for highquality, special, long steel products

Big Events in 2021

01

Atmospheric corrosion resistant hot-rolled H-beam products for railway rolling stock and rolled steel monolithic wheel products for railway express passenger trains were awarded "Gold Cup Special Quality Products" by China Iron and Steel Association.

03

The Company supplied the first batch of heavy H-beams to Luoyang Science and Technology Museum project. This project became the first key project in China to adopt domestic heavy H-beams, filling the gap of domestic application of heavy H-beams.

05

The first hybrid retrofit locomotive in China was successfully put into operation in the Company.



By virtue of its excellent performance, the Company was selected into the list of SASAC benchmarking enterprises.

09

10

04

The first meeting of Masteel Carbon Neutrality Working Leading Group was held.

02

Successful batch trial production of extreme-dimensioned heavy H-beams H1109*461*21*40.5mm, realizing the first launch in Asia, breaking the monopoly of foreign steel mills on this product specification, and filling the gap in the domestic market.

06

The "Development and Application of Oxidation Behavior Control Technology in Steel Hot Rolling Process" won the Second Prize of the National Science and Technology Progress Award.

08

In the 2020 annual "National Benchmarking Competition for Energy Saving and Consumption Reduction of Key Large Energy-consuming Steel Production Equipment ", all five blast furnaces of the Company won awards at all levels of the group competition.

The 5G high-quality industrial intranet construction and application project won the first prize in the MEC edge computing competition final of the 4th "Bloom Cup" 5G Application Solicitation Competition.

11

Two products, railway wagon wheels for alpine areas and rebar welded mesh for reinforced concrete, were awarded "Anhui Industrial Excellent Products" in 2021.

12

The Intelligent Manufacturing Project Phase II was wrapped up.

10

The Company won the Anhui Province Emission Peak and Carbon Neutrality Tackling Award. The experience summary paper submitted was compiled into the Anhui Province Emission Peak and Carbon Neutrality Tackling Anthology.

Focus

Build a Green Urban Steel Plant Through the Change from "Bonsai" to "Integrated Scenery"

Masteel is a typical urban steel mill, backed by the Yangtze River and nestled in urban green belts formed by Maanshan Mountain, Rentouji Cape and Xishan Mountain, allowing the Company to be deeply integrated into the city. The Company adheres to Xi Jinping Thought on Ecological Civilization and conscientiously implements the decisions and arrangements of the Party Central Committee and the State Council on vigorously promoting ecological progress. Following the requirements of " treatment of three wastes -- waste gas, waste water and solid waste and cleaning, greening, beautifying and civilizing" and the environmental protection target of "two better and one integration" of China Baowu, the Company aims at achieving "the high quality of enterprise development, the high attractiveness of plant appearance, the high standard of ecological environment and the high grade of employee life", makes planning from a high position, conducts integrated designs, and promotes advances in a systematic way, thus contributing to the urban ecological progress with garden-style plants.

The Company adheres to the approach of "improving ecology, adding colors, upgrading quality, enhancing connotation". A series of greening measures have been taken, including demolition of walls to reveal green scenes, demolition of abandoned buildings to grow green plants, insertion of greenery into any available spaces, etc., to achieve full green coverage of the vacant land in the factory area through conventional greening methods, optimize the low greening quality areas, and beautify and enhance the greening of key parks and key road sections, forming a greening pattern of "the availability of bright flowers in spring, cooling shades in summer, charming scenery in autumn and visible evergreens in winter". In 2021, the Company built 275,000 square meters of new green areas and renovated 41,000 square meters of green areas, with a greening coverage rate of 33.9%, 3.1 percentage points higher than that in the year 2020. All of the measures have protected biodiversity to the greatest extent while making rational use of land resources.



CASE

"A Flower Blossoming in the South of the Yangtze River" exudes stronger fragrances after improvement

Upon entrance into the factory area of Masteel, visitors, while walking along the clean road, will find towering plants surrounded by verdant greenery, with uniquely designed scenes strewn everywhere. The factory area is full of distinctive scenes, with different charms exhibited by the Welcome Park, Dedication Park, Pioneer Park... The Intelligent Control Center for Cold Rolling, the Intelligent Control Center for transport materials, the Operation Control Center and other areas show a blend of greenness and intelligent technology. Green grasses and brilliant flowers will come into view when visitors travel along the Santai West Road, Gaolu East Road, the Happiness Avenue, etc. In the factory area, chimneys with painted patterns seem to be also enjoying peace amidst pale clouds and light breezes.















CASE

Appearance Improvement of the South District Factory

Dedication Park

It is an area integrating offices, the Centralized Control Center, the Shared Service Center and the Ecological Park, covering an area of more than 50,000 square meters, of which the environmental improvement and renovation area makes up for nearly 90% and the rest is construction area. In the Ecological Park, with the theme of water resources utilization and ecological construction, rainwater is collected and purified through the permeable pavement and sunken green spaces to create a recessed green space; with the original large trees retained, specialty fruit trees are introduced and undergrowths and ground covers are supplemented to create a rich forest canopy line and plant community. Throughout the entire park, a variety of elements complement each other and form a delightful contrast creating a rich three-dimensional landscape exuding classic elegance.



Striving Park

Striving Park is located in the middle section of Santai Road, which was originally flanked by factory walls, factory gates, and railways, with chaotic traffic flow and poor greening. A series of improvement measures, including breaking down the walls on both sides of the road, laying road asphalt, demolishing the surrounding scattered buildings, carrying out regional greening and upgrading and comprehensive pipeline rectification, was taken to build a transparent, neat, and open factory environment. Now, the Park has turned into an ecologically harmonious and environmentally friendly garden factory, characterized by well-arranged trees and shrubs, well-coordinated paving of footpaths and roads, green spaces setting each other off, and rich layers of plant communities.



Focus

Help to Achieve Emission Peak and **Carbon Neutrality with High Profile** and High Standards

The iron and steel industry is a highly energy-intensive industry and a major carbon emitter among the 31 manufacturing sectors, accounting for about 15% of China's total carbon emissions. On September 22, 2020, General Secretary Xi Jinping announced China's vision of achieving carbon emissions peak and carbon neutrality at the General Debate of the 75th Session of the United Nations General Assembly, showing the world China's determination to promote the green and lowcarbon of economy and society. In 2021, the Working Guidance of the CPC Central Committee and the State Council for Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy and the Action Plan for Carbon Dioxide Neutrality Before 2030 of the State Council were successively issued, putting forward clear requirements for promoting energy-saving and carbon-reducing transformation in the steel industry, deepening the supply-side structural reform, optimizing the industry structure, and advocating clean energy alternatives. In 2021, the Company conducted in-depth study and implementation of the important instructions of General Secretary Xi linping on carbon emissions peak and carbon neutrality, proactively responded to the goal of carbon emissions peak of China Baowu, and developed feasible action plans. By conducting efficient coordination and leveraging synergy, the Company is steadfastly following a green low-carbon development path featuring the best brand, strong support and high suitability.

Governance structure

In May 2021, the Company set up a Leading Group on Carbon Neutrality headed by a key leader, established a Carbon Neutrality Office, and launched a carbon neutrality liaison system to drive scientific and technological innovation, technical cooperation, best practice promotion, and carbon data and carbon asset management in the field of green and low-carbon development field in a coordinated way, intending to provide strong organizational support for achieving the goal of carbon emissions peak and carbon neutrality.

Strategic planning

The Company has actively carried out the preparation of the Action Plan for Carbon Emissions Peak. In line with the Company's strategic plan and production plan, it calculated and measured the total carbon emissions, carbon emission intensity, comprehensive energy consumption per ton of steel and other indicators for each year from 2021 to 2035, developed and implemented carbon reduction measures in terms of energy structure optimization, energy saving and emission reduction, energy efficiency improvement, etc., striving to achieve "carbon emissions peak in 2023, technological capability for carbon reduction of 30% in 2025 and carbon emissions reduction of 30% in 2035" and drive the high-quality development of the enterprise with lowcarbon transition.

Carbon emissions verification

In the first quarter of 2021, the Company activated the verification of carbon emissions in 2021 in time and completed the collection, accounting and confirmation of carbon emission data and the preparation of the Carbon Emissions Report 2020 and monitoring plans, etc. From May to August, it completed the preparation of the Carbon Emissions Data Control Quality Plan for Captive Power Plants, the 2020 Carbon Emissions Report for Captive Power Plants and the data upload into the system; in the meantime, it completed the carbon emissions verification organized by Anhui Provincial Department of Ecology and Environment, and the rectification of non-conformities. From September to December, the Company carried out research and compilation of carbon emissions reports and data quality control plans by the process level in the steel industry; and cooperated with professional organizations in verification, emissions tracking and analysis, policy interpretation, and other aspects. In 2021, the Company emitted 1.82 tons of carbon dioxide per ton of steel (unverified), a decrease of 0.05 tons per ton of steel over the year 2020.

Special training sessions

The Company organized relevant departments and secondary units to participate in special training on carbon emissions, to build a solid knowledge base of carbon emissions management. In March 2021, the Company organized relevant management and technical personnel to participate in the "Carbon Emissions Peak and Carbon Trading Training Series for Iron and Steel Industry" held by the China Iron and Steel Association to deepen their understanding of carbon policies and the trading market at home and abroad. In June 2021, the Company invited experts from the Metallurgical Industry Planning and Research Institute to give a special lecture on "Masteel's Action Plan for Carbon Emissions Peak and Carbon Reduction" to all functional departments and subsidiaries to further deepen the Company's understanding of climate change.

Labor competition

Under the management theme of "Identifying Gaps Through Comprehensive Benchmarking, Creating a World-class Enterprise", the Company, through a firm grasp of the strategic focus of green and low-carbon development, centered on the action plan for carbon emissions peak and has prepared and issued the "2021 Green and Low-carbon Labor Competition Program of Masteel".



Low -carbon projects

39.3MW

The Company's total installed capacity of photovoltaic power generation had reached

million kWh

The annual power generation exceeded

10.5 The annual power generation up from 2020 by

Promote distributed rooftop photovoltaic power generation

Efforts were made to accelerate the construction of photovoltaic power generation projects. As of the end of the year 2021, the Company's total installed capacity of photovoltaic power generation had reached 39.3 MW. In 2021, the annual power generation exceeded 21 million kWh, an increase of 10.5% over the year 2020.

Continuously advance the recycling of waste heat and energy

In February 2021, the flue gas and waste heat recovery project of the galvanizing line of the Company's cold rolling mill was put into operation, adding six tons of steam recovery per hour; in June, the construction of an automated steel burning upgrade and energy-saving project for the 2250 heating furnace was completed at the Company's No.4 Steelmaking and Steel Rolling General Works, achieving gas savings of over 7%.

CASE

The Company has actively promoted the construction of the distributed rooftop photovoltaic power generation project and effectively increased the proportion of green energy use, to provide strong support for the realization of low-carbon emission reduction. In the project, photovoltaic panels are put up on the roofs of the Cold Rolling General Works, the No.4 Steelmaking and Steel Rolling General Works, the Special Steel Company, the Long Steel Division, and other main plants. In the project's 25year economic life cycle, the average annual power generation capacity reaches 30 million kWh, which can save 12,000 tons of coal for power generation, reduce carbon dioxide emissions by about 30,000 tons, and lower sulfur oxide emissions by 900 tons and nitrogen oxide emissions by 450 tons per year, achieving obvious energy-saving and emission reduction effects.





The distributed rooftop photovoltaic power generation project

Corporate Governance

Masteel is committed to establishing a sound corporate governance system and standardized corporate governance procedures to fully protect the interests of shareholders and all stakeholders and achieve long-term, stable and sound development of the Company by building a professional and diversified corporate governance structure, ensuring timely and accurate disclosure of corporate information, adhering to business ethics, upholding integrity, and strengthening governance based on rule of law.

Governance Overview

The Company strictly complies with the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, and other relevant laws and regulations as well as the listing rules of the Company's stock listing exchange, and has established a corporate governance structure featuring a clear division of work and mutual checks and balances to ensure science-based and rational decision-making and efficient operation of the Company.

In 2021, the Company observed the provisions of the *Corporate Governance Code* (the "Code"), Appendix14 to the *Rules Governing the Listing of Securities* on the Hong Kong Stock Exchange and endeavored to adopt, where appropriate, the recommended best practices contained in the Code.

Directors and the Board of Directors

Composition of the Board of Directors

As of the end of 2021 and the release date of the Report, the Board of Directors of the Company was composed of five directors, including two executive directors, three non-executive directors, and three independent non-executive directors.

Name	Gender	Chairman	Executive Director	Non-Executive Director	Independent Non- Executive Director
Ding Yi	Male	*	*		
Ren Tianbao	Male		*		
Zhang Chunxia	Female			*	*
Zhu Shaofang	Female			*	*
Wang Xianzhu	Male			*	*

There is no relationship between members of the Board of Directors (including the Chairman and General Manager) that is subject to disclosure, including financial, business, family, or other related relationships. The Company has received a statement of independence from all the independent directors as required by Rule 3.13 of Chapter 3 of the *Rules Governing the Listing of Securities on the Hong Kong Stock Exchange* for authorized representatives, directors, the board committee and the Company Secretary, and the Board, therefore, considers all independent directors to be independent.

Board meetings

The Board of Directors holds regular meetings four times a year and notifies the directors of the time, place, and agenda of the regular meetings 14 days in advance so that all directors have the best possible opportunity to attend. All directors have the opportunity to propose matters for discussion, which will be included in the agenda of the regular meetings. When the Board of Directors votes on related transaction matters, the related directors shall avoid presence, and the matters shall be approved by the non-related directors. All directors shall have the right and opportunity to review the meeting minutes. The Secretary of the Board is responsible for organizing and preparing for the Board meetings, and assisting the Chairman in ensuring that the meeting procedures comply with the requirements of relevant laws, regulations, and regulatory documents. In 2021, the Company held a total of 16 board meetings, and none of the directors was absent or failed to attend two consecutive meetings in person, nor were there any substitute directors attending in their stead.

Details of Directors' Attendance at Board Meetings

Name	Number of Meetings to Attend	Number of Meetings Personally Attended	Number of Meetings Attended Through Communication Mode	Number of Meetings Attended by Entrustees
Ding Yi	16	7	9	-
Ren Tianbao	16	7	9	-
Zhang Chunxia	16	7	9	-
Zhu Shaofang	16	7	9	-
Wang Xianzhu	16	б	9	1
Zhang Wenyang	1	-	1	-
Qian Haifan	2	-	2	-

Functions and powers of the Board of Directors and the Management

The Board of Directors is responsible for guiding, directing, and supervising the affairs of the Company with a focus on creating long-term value to ensure the sustainable growth of the Company. Its main responsibilities include setting strategic goals with due attention to value creation and risk management; convening the shareholders' meeting and implementing the resolutions of the shareholders' meeting; deciding on the Company's annual business plan and important investment plans; and setting matters such as profit distribution plans, basic management systems, and major acquisition or sale plans.

The main responsibilities of the management include providing necessary documents for the directors to help them identify potential problems as early as possible; organizing and implementing the Company's annual business plan and investment program; and drawing up the plan for setting up the Company's internal management structure, basic management system, etc.

Records of Committee Members' Attendance at the Committees

Director training and continuing professional development

The Company is committed to building a learning-oriented Board of Directors. In 2021, the Company arranged appropriate professional development training for directors, totaling approximately 122 hours, 24 hours per person. Such training opportunities are provided in different ways, including online or offline training courses and seminars held by securities regulators, associations of listed companies, and professional institutions and regular updates on the latest relevant laws and regulations as well as the market regulatory dynamics and information collected and collated. The current directors, Mr. Ding Yi, Mr. Ren Tianbao, Ms. Zhang Chunxia, Ms. Zhu Shaofang, Mr. Wang Xianzhu, and the former director Mr. Qian Haifan and Mr. Zhang Wenyang continue to update their knowledge and skills to ensure their contributions to the company. For example, Mr. Ding Yi and Mr. Ren Tianbao attended the training on corporate governance, ESG and director responsibility; Ms. Zhang Chunxia, Ms. Zhu Shaofang and Mr. Wang Xianzhu attended the special training on "Legal Liability and Risk Prevention of Independent Directors of Listed Companies" and the follow-up training for independent directors.

Chairman and General Manager

The Chairman and General Manager of the Company are different persons. The Chairman of the Board is Mr. Ding Yi. On March 16, 2021, Mr. Zhang Wenyang resigned from his position as General Manager due to job changes, and the Company has not yet appointed a new General Manager. The Chairman and the General Manager are independent and have a clear division of work: The Chairman is mainly responsible for corporate planning and strategic decision-making and presides over the Board of Directors meetings; the General Manager is responsible to the Board of Directors, leads the management and is mainly responsible for the day-to-day production and operation management of the Company.

Committees under the **Board of** Directors

Under the Board of Directors are four committees, i.e. the Strategy Development Committee (the "Strategy Committee"), the Review (Audit) Committee (the "Audit Committee"), the Nomination Committee, and the Remuneration Committee.

Committee Composition

Directors	Strategy Committee	Audit Committee	Nomination Committee	Remuneration Committee
Ding Yi	С		М	
Zhang Chunxia	М	М	С	М
Zhu Shaofang	М	С	М	М
Wang Xianzhu	М	М	М	С

Note: C - Chairman of the relevant committee, M - Member of the relevant committee; all members of the committee are independent non-executive directors except Mr. Ding Yi who is the Chairman and an executive director.

	Directors	Strategy Committee		Audit Co	t Committee Nominatior		n Committee Remuneratio		on Committee
		Attendance Required	Actual Attendance	Attendance Required	Actual Attendance	Attendance Required	Actual Attendance	Attendance Required	Actual Attendance
	Ding Yi	3	3			3	3		
-	Zhang Chunxia	3	3	7	7	3	3	3	3
	Zhu Shaofang	3	3	7	7	3	3	3	3
	Wang Xianzhu	3	3	7	7	3	3	3	3

Responsibilities of the Committees

Each committee deals with specific matters in accordance with the clear terms of reference under the Articles of Association and their respective working regulations. The main responsibilities of the Strategy Committee include: To study and monitor the medium and long-term strategic planning of the Company, to review major investment and financing proposals as well as major capital operation and asset management projects of the Company, as well as the ESG work of the Company and other responsibilities delegated by the Board of Directors. The main responsibilities of the Audit Committee include: To review the annual, semi-annual and quarterly performances of the Company, to examine the Company's risk management and internal control, to supervise and evaluate the external audit and internal audit work, and other duties delegated by the Board of Directors. The main responsibilities of the Nomination Committee include: To discuss the size and composition of the Board of Directors according to the actual situation of the Company, to study and review the candidates for directors, General Manager and Secretary of the Board of Directors, to evaluate the independence of independent directors and other matters authorized by the Board of Directors. The main responsibilities of the Remuneration Committee include: To formulate the remuneration and appraisal policies for directors and senior management, and to prepare draft equity incentive plans and other duties delegated by the Board of Directors.

The Board regularly reviews the composition and terms of reference of the committees to ensure that the arrangements remain appropriate for the current and future development of the Company. Details of the duties performed by the committees are set out in the "Corporate Governance" section of the Companys Annual Report 2021, which is available on the websites of the Shanghai Stock Exchange, the Hong Kong Stock Exchange, and the Company.

Board Secretary In addition to serving as the Secretary of the Board of Directors of the Company, Ms. He Hongyun is also the joint secretary of the Company with Ms. Zhao Kaishan, and advice and services from such persons are available to all directors. Such persons report to the Chairman on board governance matters, facilitate the flow of information and communication among directors and between directors and shareholders and the management and participate in duty performance training for a minimum of 15 hours.

Directors' securities transactions

As the Company is listed on both the Shanghai Stock Exchange and the Hong Kong Stock Exchange, the securities transactions by the Company's directors are subject to the strictest provisions of the relevant laws, regulations, and the listing rules of both exchanges. As confirmed in writing by all directors of the Company, by 2021, the directors of the Company have complied with the requirements of Appendix 10 - Model Code for Securities Transactions by Directors of Listed Issuers of the Rules Governing the Listing of Securities on the Hong Kong Stock Exchange.

Accountability and auditing

Financial reporting

It is the responsibility of the Board of Directors to oversee the preparation of the Company's accounts and to collect, on a regular basis, the Company's financial statements, management reports and other information relating to the Company's operations, finances, and prospects. In 2021, the Company disclosed its 2020 annual performance and 2021 semi-annual performance, first-quarter performance and third-quarter performance within three months, two months and one month after the end of the relevant accounting period, respectively. In respect of the accounts for the year 2021, the Board of Directors confirmed on March 23, 2022 the accounts, with accountable preparation ending on December 31, 2021, gave a true and fair view of the financial position, operating performance and cash flows of the Company.

Risk management and internal control (monitoring)

The Board of Directors declares that it is responsible for the establishment and effective implementation of the Company's risk management and internal control systems and has the responsibility to monitor the effectiveness of such systems. The Risk Management and Internal Control Department of the Company organizes risk identification and internal control assessment work on a quarterly basis four times a year and reports to the Audit Committee and the Board of Directors. The Company sets up an audit department, whose main responsibility is internal audit. The Department is responsible to the Board of Directors for supervising and evaluating the comprehensiveness of risk identification, the relevance of countermeasures and the implementation of risk verification in conjunction with the Company's internal control tests, and issuing a risk management supervision and evaluation report, which is reported to the Board of Directors at least once a year. At the same time, the Audit Department organizes the internal control evaluation work based on the corporate internal control specification system and the Company's internal control manual every year, and forms the internal control evaluation report, which is submitted to the Board of Directors for consideration.

On March 23, 2022, the Board of Directors heard the report on the status of risk management and internal control, the report on risk monitoring and evaluation, deliberated on the internal control evaluation report, reviewed and confirmed that the Company's control measures for strategic risks, financial risks, market risks and operational risks, legal risks and ESG risks were appropriate and the major risks were under control during the reporting period.

The Board of Directors confirms that as of the end of 2021, the Company had no material defects in its internal control over financial reporting, nor had it identified any material defects in its internal control over non-financial reporting, and concludes that the Company has maintained, in all material respects, effective internal control over financial reporting as required by the relevant regulations on corporate internal control of enterprises. Ernst & Young conducted an audit of the Company's internal control relating to financial reporting in 2021 and issued a standard unqualified internal control audit report.

Auditors

With the approval of the shareholders' meeting, the Company appointed Ernst & Young as the Company's annual auditor for 2021, responsible for the Company's annual financial audit and internal control audit in 2021. Ernst & Young has now completed such audit work and has issued a standard unqualified financial audit report and an internal control audit report. Pursuant to the authorization of the 2020 Annual General Meeting and as approved by the Audit Committee, the Board of Directors decided that the total remuneration payable by the Company to the auditors shall be 3.26 million (tax-inclusive), including CNY2.21 million for the financial audit for the year 2021, CNY550,000 for the internal control audit and CNY500,000 for the execution of the agreed procedures for the interim period of 2021. The accommodation and food expenses of the auditors during their work in the Company shall be borne by the Company. Ernst & Young charged HK\$50,000 (tax-exclusive) for the Company's profit tax filing services in Hong Kong.

As of the end of the year 2021, Ernst & Young has provided audit services for the Company for a continuous period of 28 years. Ernst & Young has submitted a Statement of Independence to the Company's Audit Committee to provide an explanation and assurance of its independence.

Diversification

Directors

The Company reviews the composition of its Board of Directors from time to time and is committed to achieving professional and gender diversity among its directors. Since 2011, the Company's Board of Directors has included at least one female director. As at the end of the reporting period, two of the five executive directors are senior fellows of the steel industry with extensive experience in steel production, operation and management, and all of them are capable of making reasonable decisions on the matters before the Board.

The Company has two female independent directors, accounting for two-fifths of the Board, including Ms. Zhu Shaofang, who has extensive experience in accounting, auditing, and financial management, and Ms. Zhang Chunxia, who has a wide range of knowledge and experience in the steel industry and environmental protection. The other independent director, Mr. Wang Xianzhu, is knowledgeable in economics. All independent directors are fully capable of evaluating internal controls and reviewing financial reports.



Employees

The Company upholds gender equality and opposes gender discrimination. Male employees and female employees are equal in terms of remuneration, employment, work and promotion, holidays, opportunities and benefits. At the end of the reporting period, the proportion of female employees to the total number of employees was 8.34%, the proportion of female managers was 4.92%, and the proportion of female directors, supervisors and senior management to the total number of directors, supervisors and senior management was 35.71%.

Shareholder's rights

Shareholders' meeting

The Company strictly complies with the provisions of the *Articles of Association* and effectively protects the rights and interests of shareholders. The Company's Board of Directors has smooth communication channels with shareholders and makes every effort to maintain communication with them and encourage them to participate in the shareholders' meetings. The Chairman of the Board of Directors serves as the chairman of the meeting and introduces the voting procedures in detail to the attending shareholders and answers their questions.

In 2021, the Company held two general meetings of shareholders, both of which were presided over by Mr. Ding Yi, the Chairman of the Board, and the remaining directors, Mr. Ren Tianbao, Ms. Zhang Chunxia, Ms. Zhu Shaofang, and Mr. Wang Xianzhu, attended in person, and all the motions were approved by the shareholders.

According to the *Articles of Association*, shareholders who individually or collectively hold 10% or more of the total voting rights of the Company (including 10%) are entitled to call an extraordinary general meeting; shareholders who individually or collectively hold 3% or more of the Company's shares are entitled to submit new proposals to the Company in writing at the annual general meeting; shareholders who individually or collectively hold 1% or more of the Company's shares may nominate candidates for independent directors, and shareholders who individually or collectively hold 3% or more of the Company's shares may nominate candidates for directors and supervisors.

Shareholder inquiry and suggestions

According to the *Articles of Association*, shareholders, upon payment of costs, are entitled to inspect and copy relevant information, which mainly includes: The register of all shareholders of all segments; personal information of directors, supervisors, General Manager and other senior management of the Company; minutes of shareholders' meetings, resolutions of board meetings, resolutions of supervisory board meetings and financial and accounting reports. Shareholders may write to or call the Company to make inquiries and express their opinions to the Company or the Board of Directors. The following contact information is available on the Company's annual and semi-annual reports on the websites of the Shanghai Stock Exchange and the Hong Kong Stock Exchange, and is also published on the Company's websites.

No. 8, Jiuhua West Road, Maanshan City, Anhui Province, China

Adress and postal code:

Tel.:

86-555-2888158 2875252

Fax:

86-555-2887284

Email:

mggf@baowugroup.com

Company websites:

http://www.magang.com.cn (A-share)

http://www.magang.com.cn (H-share)

Shareholder returns

The Company is committed to creating long-term value for its shareholders and attaches great importance to the distribution of profits each year. The Company's *Articles of Association* stipulate that "in the annual profit distribution, the Company shall distribute in cash not less than thirty percent of the distributable profit for that year." For 2021, the total profit distribution recommended by the Board of Directors is about CNY 2.7 billion, and the distribution proportion is about 50%.

Shareholder communications

The Company attaches great importance to communication with shareholders and promotes and maintains fair and effective communication by regularly evaluating the implementation of its shareholder communication policy to ensure its effectiveness.

Information disclosure and investor relations

Following the new *Securities Law*, the *Measures for the Administration of Information Disclosure of Listed Companies*, and the *Reform Plan for the Legal Disclosure System of Environmental Information*, the Company revised the *Measures for the Administration of Information Disclosure* to continuously improve the disclosure responsibilities of directors, supervisors, and senior managers, as well as the content of disclosure such as significant events of environmental protection.

The Company has been taking various forms to proactively strengthen communication with domestic and overseas institutional investors. In 2021, due to the impact of COVID-19, the Company proactively strengthened communication with domestic and overseas investors in various forms, such as performance presentations, online meetings, telephone calls, and emails, which enhanced investors' understanding of the Company. During the reporting period, the Company live-broadcasted its 2020 annual performance press conference in Chinese and English on Quanjing website (http://www. p5w.net/) and its 2021 semi-annual performance press conference on the dual platforms of SSE Roadshow Center and Quanjing website (http://www.p5w.net/), with more than 50,000 views of the live broadcast and video replay of the performance conference; it participated in the "2021 Collective Reception Day for Investors of Anhui Listed Companies"; it received 12 visits from investors, held 39 telephone or video conferences with investors, participated in 8 on-site and online strategy sessions, and communicated with nearly 50 institutions and more than 200 people, and also responded to 58 questions from investors through the e-interactive platform of Shanghai Stock Exchange.

In 2021, the contents disclosed by the Company were true, accurate, and complete, without any false records, misleading statements, or material omissions. As assessed by the Shanghai Stock Exchange, the Company's information disclosure work for the relevant period from 2020 to 2021 was evaluated at A-level (Excellent). In 2021, the Company's environmental protection administrative penalty was zero, the best level for the same period in recent years.

Business Ethics

The Company strictly abides by business morals and ethical norms, compiles and publishes the *Employee Handbook*, which sets out clear provisions on labor discipline, integrity and self-discipline to standardize employee behavior and professional ethics, and strives to create a corporate culture of honesty and trustworthiness, diligence and integrity, and cleanness and uprightness. Meanwhile, for each employee, we strengthen the publicity of the *Employee Handbook* to ensure that the employees know 100% of the relevant regulations when signing labor contracts.

Code of conduct for business ethics

All employees perform their duties per the *Employee Handbook*, abide by professional ethics, and the management shall play an exemplary role; abuse of power for personal gain is strictly prohibited to prevent conflicts of interest.

Comply with the relevant provisions of the *Anti-Unfair Competition Law of the People's Republic of China* and the *Anti-Monopoly Law of the People's Republic of China* to promote fair competition and maintain the market economic order.

Develop the *Registration System for Persons Who Have Access to Insider Information* to regulate the management of persons who have access to insider information.

Formulate the *Management System on Connected Transactions* and *Management Measures for Internal Control of Connected Transactions* to regulate the internal management of connected transactions of the Company and ensure that all connected transactions of the Company comply with the principles of fairness, openness and impartiality, and protect the interests of all

transactions of the Company comply with the principles of fa shareholders and creditors of the Company from any harm.

Uphold Integrity

The Company has consistently complied with national laws and regulations and the Provisions Regarding Implementation of the Responsibility System for Construction of an Honest Party and a Clean Government and other systems and regulations for combating corruption and upholding integrity and has developed internal rules and regulations such as Detailed Rules on the Implementation of the Responsibility System for Construction of an Honest Party and a Clean Government and Anti-Fraud Management Measures. It adheres to the policy of addressing both the symptoms and the root causes, conducting comprehensive treatment, putting efforts into both punishment and prevention with a focus on prevention, to regulate the Company's business behavior and employees' practice, deepen the management of the integrity risk prevention and control, and build a clean environment for corporate development. The Board of Directors of the Company regularly receives reports on the anti-fraud work and the audit work.

Ensure unblocked channels for supervision and reporting

The Company has established a well-developed complaint correspondence and reporting system, covering open and transparent reporting in the form of letters, visits, telephone calls and online reporting. Meanwhile, the Company will strictly keep the informants' personal information confidential, and any unit or individual retaliation against the informants is strictly prohibited. In 2021, the Company accepted and handled a total of 136 complaint correspondences, reports and clues to problems of various types; after collective research and judgment, 101 clues to problems were identified, and 99 of them were closed. Thirtyfive cases were heard and all of them were closed; a total of 31 persons were given Party disciplinary punishment, 10 persons political disciplinary punishment, and six persons both Party and political disciplinary punishments.

Strengthen anticorruption training and education

The Company adheres to the principle of identifying signs of corruption and removing them early, regularly carries out education on discipline awareness, case-based warning, and upholding integrity in professional engagement. The Company strengthens the bottom-line thinking and discipline awareness of Party members and cadres and all employees by forwarding typical cases, assisting in guiding grass-roots units to carry out special education on integrity, giving lessons at the grass-roots level, and jointly holding integrity and rule of law publicity and education with the Rule of Law Publicity Office.





Two works were selected into the Second "Anhui Incorruptible Culture Excellent Project" (please scan the QR code for view)

Leverage the leading and guarantee role in seeing Party self-governance exercised fully and with rigor

Conscientiously implement the deployment of improving Party conduct and upholding the integrity and anticorruption efforts, refine and actualize the supervision and discipline enforcement measures, and urge Party organizations and discipline inspection agencies at all levels to assume responsibility and perform their duties.

Implement the Central Government's Eight-point Decision on improving Party and government conduct, organize special rectification of irregularities in spending on food and drinks and gift-giving with public funds, inspect 15 grassroots units, and urge the relevant units to conduct self-examination and correction and make immediate improvements in response to the problems found.

• • •

With special attention paid to important periods such as the New Year's Day and Spring Festival, May Day and Dragon Boat Festival, Mid-Autumn and National Day, we reiterate and emphasize the work requirements of improving the Party's working practices and exercising strict supervision and discipline enforcement, and forward the notification of typical cases to strengthen education and supervision.

• • •

Conduct practical and detailed daily supervision

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Leverage the "sword" role of disciplinary inspections; in 2021, we completed the task of disciplinary inspection of three units' Party organizations, identified 41 problems, and put forward 21 suggestions.



Leverage the role of supervision through auditing, strengthen the supervision and control of key areas and key processes; in 2021, we organized and implemented internal control evaluation, special audit investigation of the disposal of idle and abandoned assets, the audit of four key projects, the audit of the economic responsibility of seven leaders. As a result, 85 problems were identified and 76 audit suggestions were put forward.

Manage **Enterprises**

The Company continued to strengthen the guarantee of legal affairs management for operation, strictly implemented the prior legal review of relevant matters, facilitated the Company's lawand science-based decision-making, and prevented legal and compliance risks. In 2021, the Company reviewed 124 proposals, major investment matters, management systems and contracts, issued 228 written legal opinions, and drafted nine agreements. The submission rate According to Law of the Company's legal compliance indicators reached 100%.

Law-abiding and compliance system

Established compliance management systems such as Contract Management Measures, Management Measures for Legal Dispute Cases, and Management Measures for Legal Review of Maior Matters.

Compliance process

Contract review management



the Company reviewed

228

written legal opinions

drafted nine agreements

100

The submission rate of the Company's legal compliance indicators reached

Prior to signing a contract, the contract signing unit shall comprehensively review the contract and approve the contract at different levels. For major contracts and contracts that are difficult for business units to handle, the Legal Affairs Department shall complete the legal review. The Company conducts annual regular whole-process checks of contract management in terms of contract management organization, management system building, the special seal for contract, authorization and entrustment management, contract approval, signing and performance procedures, and customer credit.

Authorization and management of the special seal for contractual uses

The power of attorney of the person signing a contract with external parties must be examined by the legal affairs department, with opinions issued, before it is further handled. If the business competent unit needs the Company's special seal carved for contractual use, the Legal Affairs Department shall arrange the preparation of such a special seal after review and issue a document for use.

Legal review process of major events

When handling and making decisions on major matters, the Company conducts legal review and demonstration on the legality and compliance of the involved subjects, contents, authorities, and procedures.



On-site legal consultancy service activities provided in the plant area



© Legal affairs training for contract administrators

ESG Statement of the Board of Directors

As one of the largest steel manufacturers in China, Masteel is well aware of the importance of ESG matters to the Company's risk management and sustainable development.

The Board of Directors is the supreme leading body for ESG work. The Strategy Committee of the Board of Directors is responsible for the ESG work of the Company and puts forward relevant suggestions to the Board of Directors. The Board of Directors is committed to ensuring that the Company's ESG work meets the requirements of laws, regulations and standards, controlling the risks related to ESG, and ensuring the effectiveness of the Company's ESG objectives and implementation process.

The Board of Directors reviews the proposals related to ESG work and fully demonstrates the necessity and feasibility of the work; members of the Board of Directors visit the site for investigation and verify the effectiveness of the ESG work, to ensure the effective whole-process management of the Company's ESG work from planning, implementation to results. The Board of Directors reviews and confirms the important issues selected and determined by the ESG Working Group based on the standard substantive issue identification method, and discloses them to the outside world as the focus of the Company's ESG report.

The Board of Directors has set work objectives for ESG work such as safe production, energy, environmental protection and green development, intelligent manufacturing, employee development, and enterprise reform. In 2021, all ESG work objectives of the Company were completed as planned; in particular, the objective completion in the field of energy, environmental protection and green development far exceeded the expectations at the beginning of the year, thus laying a solid foundation for the Company to resolve the increasingly severe environmental supervision and market risks and achieve high-quality development.

This Report fully discloses the progress and results of the ESG work of Masteel in 2021. The Board of Directors and all directors guarantee that there are no false records, misleading statements or major omissions in the content of this Report, and they will bear individual and joint liabilities for the authenticity, accuracy and completeness of its content.



O The directors of the Company visit the site to inspect the progress of intelligent manufacturing

ESG Management

Masteel adheres to the social responsibility concept of "Integrity, Harmony, Greenness, and Development", and drives the integration of social responsibility into the enterprise development strategy and daily business activities. Drawing on the advanced ESG management experience at home and abroad, the Company has established and improved the Company's ESG management structure and formed an ESG management mechanism featuring vertical implementation at each level and horizontal full coverage. All departments and units of the Company make coordinated efforts to maintain close communication with stakeholders. strive to build an influential and sustainable responsible brand, and push the enterprise's sustainability to a new level.

ESG Management Structure





It provides professional support to the Strategy Committee of the Board of Directors and is the Company's ESG coordinating and implementing organization, and its main responsibilities include:

1. Formulate ESG specific policies and action plans in line with the Company's strategy and development objectives

3. Communicate with all departments and subsidiaries of the Company, coordinate and promote the implementation of ESG matters

and performance

ESG Management Improvement

Responsibility system and planning

The ESG issue management of the Company is reflected in various specialized management systems, covering safety, energy and environmental protection, scientific and technological innovation, human resources, anti-corruption, purchase and sales, reform and development, information protection and other aspects. In order to further standardize the Company's scope, responsibilities, processes and objectives of ESG management, the Company started the preparation of social responsibility (ESG) management system and management plan in 2021, and the relevant work is planned to be completed in 2022, so as to ensure the effective operation of the Company's ESG management system and the implementation of ESG objectives, and comprehensively improve the Company's capability for ESG responsibility performance.

Responsibility indicator system

Building of capacity for responsibility The Company guides the preparation of ESG reports by establishing a complete indicator system. In 2021, based on the original index system, the Company further benchmarked its report preparation to the regulators' policies, the focus points of capital market and the practice of excellent counterparts, upgraded the indicators in five dimensions: The preface to the report, responsibility management, market performance, social performance and environmental performance, and further standardized the Company's ESG management and ESG report preparation.

The Company adheres to a modest and enterprising attitude, constantly consolidates its ability to perform its responsibilities, and cultivates a responsible corporate culture. In 2021, the Company actively participated in the centralized release, publicity and implementation of ESG reports organized by the State-owned Assets Supervision and Administration Commission of the State Council, the Ministry of Industry and Information Technology, the Department of Economy and Information Technology of Anhui Province and China Baowu, and continued to learn from and align its practices to those excellent ones of advanced enterprises. The Company continued to invite experts from the Academy of Social Sciences and other third-

2. Manage ESG related risks in the daily operation of the Company

4. Collect, sort out and prepare the Company's public disclosure on ESG matters

party institutions to carry out systematic training on ESG theory and practice for the heads in charge of ESG work and ESG staff of various departments and subsidiaries of the Company. The Company actively participated in ESG special training organized by China Securities Regulatory Commission, China Association for Public Companies, China Social Responsibility 100 Forum and Hong Kong Stock Exchange.

In 2021, the Company was awarded the title of "Central Enterprise ESG- Pioneer 50" by the Stateowned Assets Supervision and Administration Commission of the State Council; Adhering to the People First and Harnessing the Yangtze River was selected as an excellent case of China Baowu's social responsibility and ESG Blue Book of Chinese Listed Central SOEs. Based on its outstanding performance in the three aspects of the environment, society and corporate governance, the Company's sustainable development performance has won Class-A rating of Hang Seng Index Co., Ltd. for three consecutive years and was selected as a component of Hang Seng A-share sustainable development enterprise benchmark index. Besides, the Company carries out the "Striving to Be the Best" selection every month to include social responsibility issues into the selection scope of the "Striving to Be the Best" award. The Chairman and management of the Company attended the award ceremony and presented awards to the winners, to lead and drive all employees of the Company to improve their ability to perform their duties by commending advanced employees.



© Experts from the Academy of Social Sciences were invited to conduct systematic training on ESG work

Communication with Stakeholders

The Company attaches great importance to communication with stakeholders, establishes an efficient stakeholder communication mechanism, and strives to effectively identify the expectations and demands of various stakeholders on the Company and make positive responses, so as to enhance the understanding and recognition of the Company by stakeholders and win the trust and support of stakeholders to the Company.



Table Demands of Stakeholders and Responses of Masteel

and Demands	Communication and Responses
ipline and law cording to law I development	Integrity and compliance management Active tax payment Provide jobs Respond to major policies
ders' rights and ests te governance risk control	Improve business performance Enhance information disclosure Raise internal control level
s and interests oyees yees grow between work life	Improve the level of salary and welfare Pay attention to the physical and mental health of employees Enhance the training and promotion mechanism Organize cultural and sports activities Strengthen employee communication
ervice innovation is and interests of omers mer satisfaction	Attach importance to scientific and technological innovation and management innovation Strengthen product quality and service management Adhere to integrity management
ment of the industry partnership ponsible purchase	Joint construction of the ecosystem Deepen cooperation between academia and industry Adhere to business ethics Build a responsible supply chain

Stakeholders	Expectations and Demands	Communication and Responses
Community	Actively integrate into the community Carry out voluntary activities Help people with urgent or special needs	Carry out public welfare projects Build a volunteer service team Boost rural revitalization
Environment	Energy conservation and emissions reduction Ecological protection Rational use of resources Response to climate change	Promote green manufacturing Develop new environmental protection products Develop green industry

Analysis of Substantive Topics

In order to present the ESG performance and work progress of Masteel in a complete and accurate way, the Company has established a standardized issue identification and evaluation process, fostered a substantive issue matrix, and clarified the focus points of relevant parties for various issues, so as to disclose important issues in detail in this Report.





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- **1.** Improve corporate governance
- 2. Deepen reform in an all-round way
- 3. Strengthen efforts on combating corruption and upholding integrity
- **4.** Strengthen information disclosure
- 5. Improve risk management
- **6.** Economic and financial performance
- 7. Information security protection
- **8.** Protect the interests of shareholders and investors
- 9. Upgrade the ESG management system

10. Improve the environmental management system

11. Conduct R&D and application of environmental protection technology

12. Build a green factory

24. Take the initiative to help employees in need

Substantive Topics Matrix

Importance to the development of the Company

- **13.** Respond to the commitment of carbon emissions peak and carbon neutrality
- 14. Protect biodiversity
- **15.** Strictly control pollutant discharge
- 16.Reduce energy and resource consump-
- **17.** Recycling of scrap steel
- 18. Develop green products
- 19.Pay attention to employees' occupation-
- 20. Optimize the salary and welfare system
- **21.** Cultivate a high-quality talent team
- **22.** Smooth career development
- 23. Balance the work and life of employees

- **25.** Promote intelligent manufacturing
- 26. Conduct whole-process control of product quality
- **27.** Protect the basic rights and interests of customers
- **28.** Optimize customer service experience
- **29.** Strengthen the industry-university-research cooperation
- **30.** Drive industry development and winwin results
- **31.** Build a responsible supply chain
- **32.** Manage conflict minerals
- **33.** Implement workplace safety
- **34.** Foster community participation and integration
- **35.** Public welfare and charity
- **36.** Promote common prosperity

01

Bravely Embrace Innovation and Forge a New Engine for Reform and Development

Innovation is the primary driving force for development. Masteel continues to improve its technological innovation system, accelerates product technology research and development, cultivates scientific and technological talents, strengthens the construction of innovation platforms, promotes cooperation between academia and industry, advances intelligent manufacturing, and strives to create a favorable environment for scientific and technological innovation, to forge a new engine for the Company's high-quality development through scientific and technological innovation.





Innovation Drives Development

Masteel has established and improved the management system of scientific and technological innovation, standardized the technological innovation work of enterprises, and successively developed and revised 25 management measures, including the *Management Measures for Professional Performance Evaluation of Scientific and Technological Innovation, Management Measures for Scientific Research Projects, Management Measures for New Product Development* and the *Management Measures for Scientific and Technological Achievements*, so as to establish an all-round document system encompassing human resources, material support and scientific and technological management, to promote scientific and technological innovation to a new level.

Product technology research and development

According to the development trend of steel use in various downstream industries, the Company has increased investment in technological innovation, continued to tackle key technologies, solved "bottleneck" issues, and achieved preemptive capture of products through leading technologies.

Table High-level scientific and technological progress awards won in 2021

One second prize of National Scientific and Technological Progress Award

• "Development and application of oxidation behavior control technology in steel hot rolling process"

Seven Anhui Scientific and Technological Progress Awards

- "Gki-33e railway signal full electronic computer interlocking system" won the first prize
- "Research and industrialization of key technologies of ultrahigh strength and high-toughness hot-forming steel" and "R&D and industrial application of key technologies and equipment for energy saving in high-energy consumption processes in iron and steel industry" won the second prize
- "Development and integration of key technologies for safe and efficient dust removal and automatic
 operation in coking process", "research and application of three-dimensional optimization and quality
 improvement technology of large sintering machine based on green ecological design", "research
 and application of key technologies of thin specification and high-quality silicon steel for variable
 frequency motors" and "research on the new methods and application technology of hydraulic multicylinder synchronous control" won the third prize

Five Metallurgical Science and Technology Awards of China Iron & Steel Association and the Chinese Society for Metals

- "Technology and platform for the intelligent control of the steelrolling process product quality" won the first prize
- "Research on key technologies and industrial application of intelligent bulk material processing, storage and distribution" won the second prize
- "Innovation and practice of new material research and development and efficient repair technology of CDQ coke oven body", "research and application of the optimization and quality improvement technology of large sintering machines" and "development and application of high-speed and heavy-duty axle products based on independent engineering integration" won the third prize

Innovation system building

From the perspectives of both the market and the site, encourage the Technology Center to conduct innovation with a focus on high efficiency and high benefit, give special support to the majority of technicians from the aspects of staffing, level matching and development channels, and formulate corresponding incentive policies.

Give play to the centralized advantage of the R&D force of the Technology Center

Carry out industry-universityinstitute cooperation with colleges and universities and scientific research institutes inside and outside the province, and make full use of social scientific and technological resources; actively participate in technical exchanges at home and abroad and introduce, digest, and absorb advanced technology for re-innovation.







CASE

Collaborative innovation helps achieve new results of "Matthew" effect

In November, 2021, 20,000 square meters of TJ17 stainless steel color-coated products, which were processed by Masteel and provided with stainless steel substrates by TISCO, rolled off the production line, realizing the first batch of supply to the largest single alumina project under construction in China. This is the latest achievement of innovation synergy between Masteel and TISCO in China Baowu ecological circle.

Previously, given the related requirements of the project for stainless steel color-coated plates, the low-cost construction steel team of TISCO actively communicated with Masteel to form a joint team of research, production and marketing to tackle key problems and explore ways to develop new products cooperatively. From mid-September to early October, a total of 60 tons of new stainless steel color-coated plate products were produced and delivered to users.



L This cooperation with TISCO has achieved a new speed in the development of new green manufacturing products through the R&D collaboration mechanism, strong cooperation and market expansion. Meanwhile, it has provided a new paradigm and growth driver for the innovation and synergy of more 'crossover' product solutions in China Baowu ecological circle. **99**

----Project leader of the Company

Innovation platform building

The Company strives to build a high-end technological innovation platform, promote the upgrading of standards and product guality, realize the full coverage from high-end, middle-end and ordinary products to key core products and green steel products, and advance the development of the steel industry to innovation-driven transformation. In 2021, the Company's "Anhui Technological Innovation Center for Key Rail Transit Parts" and "National Local Joint Engineering Research Center for Advanced Manufacturing Technology of Key Rail Transit Parts" were approved by the National Development and Reform Commission and Anhui Province respectively, and the "Anhui Rail Transit Axle Engineering Research Center" passed the acceptance of Anhui Development and Reform Commission. By the end of 2021, the Company has 10 provincial and ministerial scientific and technological innovation platforms.

Intellectual property management

Intellectual Property Management System

In combination with the Patent Law of the People's *Republic of China* and other intellectual property laws and regulations, the Company benchmarked Baosteel and other excellent enterprises, formulated and revised intellectual property management systems such as Patent Management Measures, Technical Secrets Management Measures, Trademark Management Measures, Computer Software Registration Management Measures, Scientific and Technological Achievements Management Measures, Intellectual Property Reward Standards and Scientific and Technological Achievements Reward Standards, and established a well-functioning intellectual property management system.

Intellectual property training activities CASE

In April 2021, to enhance the awareness of the general scientific and technological workers of intellectual property protection, continuously enrich the scientific and technological talent team, and promote the Company intellectual property protection work to a new level, the Company took World Intellectual Property Day as an opportunity to organize and carry out "Patent Search Skills, Analysis and Application and Practical Exercises", "Patent Information Retrieval and Analysis for High-Value Patents", "Intellectual Property Online Class" and "High-Ouality Intellectual Property Training and Communication Activities" to help scientific and technical personnel to improve their ability of patent declaration, patent retrieval and high-quality patent mining, laying a solid foundation for the implementation of the Company's intellectual property strategy.



Promote Intelligent Manufacturing

Masteel strengthens top-level planning and continuously deepens the connotation of intelligent manufacturing. The Company focuses on the strategic task of China Baowu's strategy of advancing digital and intelligent transformation, emphasizes the application of ecological platform and data interconnection, prepares the development plan hierarchically around the three fields of "Four Uniformlys", big data and network security system from the dimension of "point, line, and area", defines the objectives and measures, and supports the full implementation of the Company's 14th Five-Year Plan. In 2021, Masteel and Masteel Rail Transportation Equipment Company were recognized as "Benchmark Demonstration Enterprises for Intelligent Manufacturing with Special Contributions in Maanshan" and "The First Batch of Benchmark Demonstration Enterprises for Intelligent Manufacturing in Maanshan".



----Chen Derong, Party Secretary and Chairman of China Baowu

Key projects playing a leading role

The Company learned from the successful cases of China Baowu and the successful experience of key intelligent manufacturing projects, and implemented key breakthroughs per the requirements of "implementing one batch upon maturity" in terms of basic automation transformation and improvement, intelligent equipment application, and on-site information level improvement. In 2021, the Company focused on strengthening the integration of manufacturing scenarios and intelligent technologies, accelerating the application of advanced technologies such as industrial robots, intelligent equipment and equipment remote operation and maintenance, and implementing projects such as the intelligent transformation of coal coke line of coking plant, the transformation of automation system in front of No. 1 blast furnace in the south area of ironmaking plant and the intelligent reservoir area of cold rolling plant, so as to improve the automation level and labor efficiency and reduce workplace safety risks.

CASE

The intelligent manufacturing project of Masteel Rail Transportation Equipment Company

Through the transformation of an intelligent manufacturing project, Masteel Rail Transportation Equipment Company has achieved the objectives of shortening the product development cycle by 30%, enhancing the labor efficiency by 25%, raising the onetime qualification rate of processing by 5%, optimizing 52 posts in Phase I, reducing the intermediate inventory by 40%, lowering the production cycle by 14% and improving the product qualification rate by 0.2%.



The axle forging production line can realize the automatic transmission and data acquisition of the whole process of axle from billet heating, forging, straightening and slow cooling

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◎ Wheel detection line and AGV transport robot



◎ Wheel processing CNC machine tool production line

Promote the "Four Uniformlys"

The Company has actively implemented the objectives and requirements of China Baowu's "Four Uniformlys", comprehensively promoted the implementation of the Intelligent Manufacturing Action Plan of Masteel (2021-2023), taken intelligent upgrading as a powerful starting point to solve the bottleneck and pain points of high-guality development, adhered to the general requirements of intelligent upgrading of the whole process, all elements and full integration, and built an intelligent steel plant in an all-round way based on China Baowu Industrial Internet Platform.



Three-cross integration

"Three-cross integration" is the theme of intelligent manufacturing 2.0 blueprint. It aims to open up the upstream and downstream industrial chains, create a new model for multi-base management, break the barriers between man-man, man-machine and machine-machine interfaces, and optimize the efficiency of resource allocation. In 2021, the Company took rapid action by planning the key projects of "three-cross integration" to form a "three-cross integration" framework, which produced benefits and formed new competitive advantages.



Talent training for digital and intelligent transformation

In order to build a talent team that matches the intelligent era and help realize the large, strong, and new Masteel with "full stamina", the Company organized and participated in special competitions for intelligent manufacturing, mobilized the enthusiasm and initiative of employees to participate in the construction of intelligent manufacturing projects, encouraged them to strive for excellence and establish models, trained a number of compound talents of digital and intelligent technologies, and helped the digital and intelligent transformation and development of the Company.



🔘 "Magang 5G High-quality Industrial Intranet Construction and Application Project" won the first prize in the final of the Fourth "Blooming Technology.



and was honored as the "Best Intelligent Manufacturing Solution in Iron and Steel Industry in 2021".

Cup" 5G Application Solicitation Competition-MEC Edge Computing Thematic Competition hosted by the Ministry of Industry and Information



© The New Blueprint of Intelligent Factory of Masteel with "Intelligence" was released at the Digital Solution Summit of China's Iron and Steel Industry,

02

Give Priority to Environmental Protection and Establish a New Benchmark of Green Steel

In the process of development, Masteel has always adhered to ecological priority and green development. Adhering to the concept of "Lucid waters and lush mountains are invaluable assets", Masteel has expanded new green and low-carbon industries, developed new green and environmental protection technologies, promoted whole process cleaner production, green manufacturing, energy conservation, and emission reduction, and made great efforts to build a new model of "industry-city integration" of China's urban steel mills and a leader of "the Yangtze River Protection" initiative.





and Establish a New Benchmark

Strengthen Environmental Management

In line with the environmental protection policy of "beautiful environment, green development, and urban factory", Masteel has strengthened the whole process, whole link, and whole life cycle environmental management around the work theme of "identifying gaps through comprehensive benchmarking, creating a world-class enterprise", implemented the normalized management and control of environmental risks and environmental quality improvement project, and focused on "treatment of three wastes -- waste gas, wastewater and solid waste, and cleaning, greening, beautifying and civilizing", fully promoted the construction of green urban steel mills that are "better than environmental protection standards, more beautiful than downtown areas and integrated with the downtown life".

Environmental management system

In 2021, the Company prepared and issued rules and regulations such as the *Law of Environmental Cost Management, Management Measures for the Operation of Environmental Protection Equipment and Management Measures for Environmental Protection Compliance* to continuously improve the environmental management system and improve the environmental management ability.

Environmental monitoring management

The Company's environmental management system is a digital environmental management platform consisting of seven functional modules: environmental protection large screen, basic information, environmental monitoring, statistical analysis, comprehensive management, environmental protection operation management, and mobile application, which is centered on risk control and allows real-time understanding of the Company's overall environmental monitoring status.

Environmental impact assessment of new projects

The Company strictly abides by the environmental impact assessment of construction projects and the "Three Simultaneities" system. In 2021, the state successively issued a number of policy documents, such as the *Guiding Opinions on Strengthening the Prevention and Control of the Source of Ecological Environment of High Energy Consumption and High Emission Construction Projects*, to resolutely curb the blind development of high energy consumption and high emission projects. The Company took the initiative to connect with the competent government departments, carried out relevant work in accordance with laws and regulations, and successfully approved key projects such as the coke oven overhaul, A blast furnace overhaul, and new special steel.

Audit of clean production

The Company established a clean production office as a permanent institution to carry out clean production continuously and effectively, and continuously promoted energy conservation, consumption reduction, pollution reduction and efficiency increase; the Company carried out clean production audit and preparation of audit report. In February 2021, the Company's clean production audit report successfully passed the audit of Maanshan Ecological Environment Bureau.

Environmental risk prevention and control

The Company regularly sorts out the environmental protection risks it faces, forms a risk prevention and control briefing mechanism, and reports to the Board of Directors on a quarterly basis. The Company extracts the key monitoring indicators that may cause environmental risks from many environmental protection indicators, sets target values, tracks and verifies them on a quarterly basis, and accurately controls all kinds of environmental risks. Meanwhile, the Company has established an environmental risk early warning model, carried out environmental risk investigation, determined the early warning level of environmental protection, and formulated risk response measures.

In order to implement the environmental protection responsibility, the Company broke down the environmental control objectives and indicators to each unit and department in the form of signing the objective responsibility letter at the beginning of the year. Meanwhile, to strengthen the on-site environmental risk control, the Company strongly promoted selfinspection and self-correction, carried out "white + black" environmental protection special supervision, and found and solved problems in time. For units with poor performance control, the Company seriously dealt with them in the form of dual assessment of monthly economic punishment and quarterly evaluation deduction.

Environmental protection early warning and emergency mechanism

Make plans

In order to deal with environmental emergencies in the Company's daily production and operation activities in a guick, orderly and effective way and minimize or eliminate the damage caused by environmental pollution to the surrounding environment, personnel and property, the Company revised and improved the Emergency Plan for Environmental Emergencies and completed the filing with the local competent environmental department.

In 2021, all units of the Company carried out emergency drills as required, including emergency plan drills such as waste oil leakage, ammonia leakage, pickling acid pipeline leakage, and hazardous waste accidents. In December 2021, the Company and Maanshan City jointly carried out a radiation accident emergency drill, which is the first large-scale radiation source emergency drill held in Maanshan.

Emergency drills

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Emergency response

In 2021, the Company revised and issued the Emergency Plan for Heavily *Polluted Weather* to implement the emergency response for heavily polluted weather in strict accordance with the requirements of Maanshan municipal government. At the beginning of 2021, the Company launched an emergency response to heavy air pollution. During the start-up period, the Company achieved good emergency emission reduction effects through measures such as reducing production, limiting production and adjusting maintenance plans in time, which was affirmed by Maanshan municipal government.

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Environmental protection training and education

The Company carries out a series of environmental protection special training online and offline. In 2021, the Company organized 20 special training sessions on various ecological and environmental protection, including environmental governance of the protection of the Yangtze River, technical specifications for ultra-low emission assessment, double carbon policy, compliance management of solid and hazardous wastes, online monitoring technology, etc. There were more than 13,000 participants, and the training hours per capita reached 5.1 hours.

Energy saving and environmental protection technology

In 2021, the Company focused on ecological priority and green development, actively carried out the R&D, promotion and application of low-carbon metallurgical process technology, and organized and implemented key projects around energy efficiency improvement, waste heat and residual energy resource recovery, green energy and other links. The Company gave full play to the role of the energy-saving and environmental protection technology management Promotion Committee, tracked the development of energy-saving technology, promoted new energy-saving technology and excellent management experience, and carried out energysaving technology scheme review to ensure the effective implementation of the Company's energy-saving projects.

Environmental protection publicity and implementation

Prepared the environmental protection publicity leaflet of Masteel Makes Green Steel More Vital, and distributed it to all units and teams of the Company; on the "June 5th" environment day, the Company launched the publicity of WeChat official account, and each unit carried out various activities such as online answering, essay solicitation, and special discussions.

Case selection

Actively participated in the selection of China Baowu green and low-carbon excellent cases, and seven achievements such as "2130 acid regeneration, environmental protection upgrading, acid mist emission reduction and eliminating white pollution" won the title of "green and low-carbon excellent case" of China Baowu.

Save Energy and Resources

Masteel continues to promote the construction of energy management systems, implements the key work of energy conservation, vigorously develops circular economy, promotes green design, strengthens the supply of green and lowcarbon products, and contributes to the realization of the goal of "double carbon".

Energy management system

In 2021, focusing on the new version of the energy system standard (ISO50001:2018), the Company organized and carried out an energy system review, determined energy objectives, indicators and main energy use, formulated corresponding control measures, and implemented process supervision and evaluation to ensure the continuous and effective operation of the energy management system and effectively improve energy use efficiency. Meanwhile, the Company continued to improve its energy management system, and formulated and revised system documents such as Management Measures for Energy Performance Monitoring and Measurement, Management Procedures for Energy Conservation and Consumption Reduction, and Management Measures for Water Conservation.

Table Main energy use objectives and completion in 2021

Indicator	Objective	Performance
Comprehensive energy consumption per ton of steel (kg standard coal)	≦ 560	552.71
Fresh water consumption per ton of steel (M3)	≦ 2.8	2.26
Energy consumption per CNY 10,000 output value (ton of standard coal)	1.72	1.48

CASE

In the past, the high-temperature flue gas of the Company's electric furnace needed to be cooled to 200°C through water-cooled flue cooling and spray tower spraying, and then sent to the dust removal system. Not only a large amount of latent heat of flue gas cannot be recycled, but energy needs to be consumed in the process to cool the flue gas. In 2021, the Company built a "full waste heat recovery system" to integrate the two systems of "electric furnace production" and "waste heat recovery", steadily improved the steam recovery while continuously releasing the production capacity of the electric furnace, and the steam recovery per ton of steel reached more than 200kg, which is at the leading level in the industry.



Electric furnace waste heat recovery helps improve system efficiency

O Recycling of electric furnace waste heat

and Establish a New Benchmark

Water conservation

The Company took a series of measures to reduce water consumption, including effectively controlling the operation of tubular generator units and reducing the use of cooling water; accelerated the completion of water-saving projects such as the advanced treatment of Liufen River wastewater treatment station, diversion of rain and sewage, transformation of domestic water pipe network; in line with the water quota of the iron and steel industry of the Ministry of Water Resources of the People's Republic of China, the Company issued the process water consumption index, strengthened the dual control of total water consumption and intensity, and promoted the implementation of water-saving work. In 2021, the Company's new water consumption per ton of steel was 2.26 cubic meters per ton, significantly lower than 2.69 cubic meters per ton in 2020. Besides, through the domestic water pipe network reconstruction project, the Company shut down the old water supply network and controlled the leakage of the network, to reduce the domestic water supply by 1,100 cubic meters per hour in 2021.

Develop circular economy

The Company actively expanded the new path of comprehensive utilization of various solid waste resources, leveraged its R&D capability and technical strength, and cooperated with Anhui University of Technology and other units in the way of "industry-academia-research-application" to carry out the R&D and project implementation of new technologies and products such as Preparation of Highperformance Rubber Functional Filling Material from Steel Slag, Preparation and Application of Material of Steel Slag for Ecological Shore Protection Project and Application of Steel Slag Powder for Mine Filling to improve the efficiency of comprehensive utilization of resources and vigorously develop circular economy.

CASE

Preparation of high-performance rubber functional fillers from steel slag

Steel slag accounts for about 10% - 15% of the steel output, with low added value. while carbon black and other fillers are widely used in the rubber industry. If the steel slag powder partially replaces the carbon black with high energy consumption and high carbon emission, it can expand the utilization ways of high added value of steel slag and reduce the production cost and carbon emission of rubber. By implementing the modification project of steel slag powder, the Company used steel slag filler to replace 30% carbon black raw materials to make rubber conveyor belt cover glue, and its performance meets the requirements of national standards. The project has produced two invention patents and one association standard of China Iron and Steel Association.



O Preparation of high-performance rubber functional fillers from steel slag

Green product design

The Company insists on the concept of green product design in the process of product development, actively carries out the whole life cycle assessment (LCA) and carbon footprint inventory, builds a collaborative research and development mechanism of high-quality processing and manufacturing and clean production in the whole process from design and manufacturing to packaging and transportation, and has a great influence in the industry in the green design, research and development and production of H-beams and wheels for railway vehicles. The Company presided over the development of Green Design Product Evaluation Technical Specification - Hot Rolled H-beam (YB/T4900-2021), Green Design Product Evaluation Technical Specification - Wheels for Railway Vehicles (YB/T4901-2021) and other standards to promote the green, circular and lowcarbon development of the steel industry.



CASE

Give priority to clean raw materials and propel clean production from the source. The Company uses colorcoated plates and reusable plastics to replace the repainted products originally produced with cold-rolled raw materials, so as to reduce the use of materials and the emission of volatile organic compounds.

Improve production process and equipment to minimize resource and energy consumption. In multiple areas

of the steel coil packaging operation site, the Company adds steel strapping shear buckle and installs integrated machine equipment and rust-proof paper shear equipment, which can effectively reduce the waste of steel strapping and rust-proof paper according to the actual needs of steel coil packaging.



Promote green packaging and become a green enterprise

and Establish a New Benchmark

Green and clean transportation

In the process of promoting energy conservation, environmental protection and green development, the Company actively explores new models of logistics and transportation. The Company prepared the Special Plan for Clean Transportation, formulated the clean logistics improvement plan, and continued to improve the proportion of green transportation by means of "replacing automobile transportation with railway transportation", replacing blast furnace slag with belt transportation in the North District, setting up special logistics channels, and promoting the information-based management and control of clean transportation. In 2021, the Company's total proportion of clean transportation plus electric heavy haul transportation reached 80.98%.

Reduce Pollutant Emissions

Masteel earnestly implements the requirements of the latest environmental protection laws and regulations such as the Yangtze River Protection Law of the People's Republic of China and the National List of Hazardous Wastes (2021 edition), continues to promote the "Three Harnessing" efforts, strictly controls the "Three Wastes" emission in the production process, implements noise pollution prevention and control actions, firmly guards the lucid waters and lush mountains, and takes practical actions to help build a beautiful China with blue sky, clean water and green land.

Waste gas ultra-low emission

Table Waste gas emission objective and performance in 2021

Index	Objective	Performance
Total sulfur dioxide emission (ton)	≤ 6,585	5,175
Total particulate emissions (ton)	≤ 10,000	9,285
Total NOx emission (ton)	≦ 13,087	9,362

In 2021, the Company continued to vigorously promote the ultra-low emission transformation. The headquarters of the Company invested about CNY 1.15 billion and started the implementation of 29 ultra-low emission transformation projects. Changjiang Steel invested CNY 200 million to implement six ultra-low emission transformation projects. In 2021, the headquarters of the Company realized the transformation task of more than 92% of steel production capacity, and completed a large number of projects such as organized bid raising, sealing of material storage yard and sealing of belt corridor.





Zero discharge of wastewater

Table Wastewater discharge objective and performance in 2021

Index

Total COD discharge



the Company invested

the Company's wastewater discharge decreased by

In 2021, the Company strengthened the operation control of wastewater treatment facilities to ensure the efficient, stable and continuous operation of facilities; carried out the construction of an intelligent system for comprehensive management of water and drainage, strengthened the management of water quality to promote water recycling, effectively controlled all kinds of sewage outlets into rivers, and guaranteed stable discharge up to standard; continuously promoted all units to carry out self-inspection and self-correction of water and drainage, and improved the ability to find and solve problems; strengthened the "three-level inspection" and Company-level inspection, paid close attention to supervision and reform, established a long-term mechanism for problem rectification, and effectively solved the prominent drainage problems. Meanwhile, the Company invested CNY 673 million to implement zero discharge transformation projects such as advanced treatment and comprehensive utilization of wastewater in the North District, standard raising and zero discharge of biochemical wastewater in the North District and diversion of rain and sewage in the North District. In 2021, the Company's wastewater discharge decreased by 30.17% compared with the previous year.

ton) 416 367		Objective	Performance
	(ton)	416	367



O Liufen River sewage treatment system



Solid waste does not leave the factory



According to the Three-Year Plan for "Solid Waste Does Not Leave the Factory" (2020-2022), in 2021, the Company issued the Full Quantitative Disposal Plan for "Solid Waste Does Not Leave the Factory" and the Improvement Plan for Production and Utilization of Masteel, so as to solidly promote the reduction of solid waste at the source, the minimization of solid waste leaving the factory, the productization of resource regeneration, the standardization of storage and the intellectualization of management, and realize the effective management of the whole process of solid waste disposal.

Promote intelligent solid waste management

The Company's production and marketing integrated resource comprehensive utilization system was put into operation in July 2021. It mainly realizes the formulation of annual and monthly resource plans for solid waste, the formulation and implementation tracking of operation plans such as recovery, disposal, and delivery. The successful application of the system realizes the whole process management of solid waste from generation, transportation, disposal, storage, and return to production.

Objective	Performance
99.5	99.96
25.15	26.33
98	99.22
99	99.46

Hazardous substance management

The Company strictly implements the *Measures* for the Management of Hazardous Waste and requires special vehicles for the transportation of hazardous waste. It is strictly prohibited to scatter, lose and leak in the transportation process. The hazardous waste storage shall comply with the *Pollution Control Standard* for Hazardous Waste Storage. Outsourcing disposal requires that the transport vehicles be vehicles with dangerous goods transportation gualification, and the whole process of disposal be tracked.

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and Establish a New Benchmark

CASE

Construction of Changjiang Steel's annual treatment of 600,000 tons of steel slag project

Changjiang Steel used to adopt hot splashing and cold discarding plants to dispose of steel slag, which features simple process, low efficiency, extensive process, large floor area, and dust pollution in open-air operation. Given the problems in steel slag treatment, Changjiang Steel actively implemented the technical transformation of the converter and electric furnace steel slag treatment process. After the implementation of the project, the steel slag can be hot stuffed and processed, and the obtained slag steel can be returned to steelmaking, and magnetic separation powder can be returned to sintering.



() The annual treatment of 600,000 tons of steel slag project of Changjiang Steel

Reduce noise pollution

The Company strictly implements the requirements of the noise pollution prevention and control law and takes comprehensive measures such as sound insulation, sound absorption, shock absorption and low-noise equipment to prevent and control noise pollution according to the problems of equipment mechanical operation and aerodynamic noise in the production process. In 2021, the Company further invested more than CNY five million to carry out systematic noise control, effectively improve the living environment of surrounding communities and reduce the occupational injury of noise pollution to employees.

CASE

Properly handle noise pollution and win the trust of the public

In January 2021, some residents in the community complained about the noise disturbing residents in the operation of No. AB sintering machine and desulfurization and denitration system of No. 1 sintering machine in the general ironmaking plant of the Company. After receiving the complaint, the Company attached great importance to it and took many measures at the same time. On one hand, the general ironmaking plant and the general contractor of desulfurization and denitration project were required to analyze the causes of noise and formulate reasonable rectification plans; on the other hand, it actively communicated with the Ecological Environment Bureau of Maanshan City and the representatives of complaining residents, expressed sincere apology to the residents in the form of coordination meeting, and informed the progress of noise control in time, to obtain an understanding of the residents to the greatest extent. Meanwhile, the Company took the initiative to invite representatives of complaining residents to visit the Company's plant to feel the Company's investment and effectiveness in environmental protection in recent years.

Practice Green Operation

activities, conveys the concept of environmental protection to the public, and advocates a green and healthy lifestyle.

Green office

The Company actively promotes the application of China Baowu intelligent platform, and processes various administrative documents, Party Committee documents and contact letters through the platform to promote paperless office. On July 1, 2021, the Company fully launched and popularized the "Travel Secretary" App, simplified the transaction work such as expense reporting and bill processing, supported the whole process online services including travel application, pre/post approval, travel activity reservation, and paperless expense reporting, and provided a one-stop travel service platform for employees. The Company is equipped with multiple video conference rooms, and all meetings capable of being remote are required to be remote. The application of video conference and "Travel Secretary" improves the management efficiency of the Company, further popularizes the concept of green office among employees and improves the green office level of the Company.

Environmental protection and public welfare

The Company actively carries out environmental protection public welfare activities, shares green and low-carbon development experience with all sectors of society, gives full play to its knowledge and talent reserve in green environmental protection, drives more people to participate in environmental protection and creates a social atmosphere advocating environmental protection. The Company actively organized and carried out the opening activities of the plant environmental public day in 2021, and invited Maanshan mine community residents near the ironmaking plant and representatives of retired employees of the Company to visit the exhibition hall, production line and smart parks, so as to deeply feel the achievements and charm of the Company in green development and other fields. During the "June 5th" World Environment Day, the Company carried out publicity activities with the theme of "Harmonious Coexistence Between Man and Nature", and organized environmental protection professionals to visit surrounding primary schools to popularize environmental protection related knowledge.



Masteel encourages employees to practice strict economy and strives to create a green office environment. Meanwhile, Masteel devotes to environmental protection and public welfare, actively carries out various environmental protection

Organizing public day opening activities and inviting surrounding residents to visit the plant

03

Care for Employees and Build a Warm and Harmonious New Harbor

Employees are an invaluable asset for the high-quality development of enterprises. Masteel adheres to putting people first, pays attention to safeguarding the basic rights and interests of employees, ensures the physical and mental health of employees, builds a fair growth platform and promotion channel for employees, strengthens the safe production environment, promotes the harmonious interaction between enterprise development and employee career development, and strives to achieve a win-win situation between employees and enterprises.





and Build a Warm and Harmonious New Harbor

Safeguard the Rights and Interests of Employees

Equal employment

The Company adheres to the principle of equal employment, strictly abides by *the Labor Law* of the People's Republic Of China, Labor Contract Law of the People's Republic of China and other laws and regulations, respects human rights, pursues equality, treats employees of different nationalities, races, genders, religious beliefs and cultural backgrounds fairly, and comprehensively guarantees employees' salary and welfare, rest, vacation, promotion, training, privacy protection and other legitimate rights and interests, and actively builds harmonious and stable labor relations.

To standardize the employee recruitment management process, implement the whole process of "Sunshine Recruitment" and avoid the use of child labor, forced labor and gender discrimination, the Company has formulated the *Employee Recruitment Management Measures*, set a publicity period in the recruitment process, and published the supervision telephone and correspondence address of the discipline inspection department at the same time. If there is any objection to the publicity, the Discipline Inspection Commission of the Company shall organize the investigation and verification. If the problems reflected do not exist after investigation and verification, the admission procedures shall be handled according to the process; those with problems will not be admitted.

Remuneration and benefits

In 2021, the Company revised the *Payroll Management Measures* to give full play to the role of market orientation and salary incentive, so that employees can share the achievements of enterprise development; revised the *Employee Performance Management Measures* to link the employee's performance evaluation results with salary distribution, job change, training development and career planning, to fully reflect the post value. The Company carries out flexible medium and long-term incentives, promotes the implementation of equity incentive plans of listed companies, and encourages and retains core talents; explores and implements the profit-sharing plan for the transformation of scientific and technological achievements, and mobilizes the enthusiasm and initiative of the majority of technicians for continuous innovation.

The Company focuses on optimizing the employee security system and gives full play to the joint efforts of multiple security lines such as urban basic medical insurance, enterprise supplementary medical insurance, employee commercial health group insurance, employee mutual assistance and poverty relief, employee security plan and so on. In 2021, the Company optimized and upgraded the accident insurance scheme for employees, greatly increased the compensation amount for various accidental injuries, and effectively solved the worries of employees.

Democratic management

The Company gives full play to the positive role of democratic management of employees and enhances their sense of ownership. In 2021, the Company strengthened the construction of the enterprise democratic management system in the form of workers' congress, held the second session of the ninth workers' congress and joint meeting, and fully guaranteed the employees' right to know, participation, voting and supervision; carried out the proposal work of the workers' congress, guided the employees' representatives to make suggestions and proposals around promoting the reform and development of the Company, the construction of production and operation, the improvement of employees' working conditions and other topics, and effectively stimulated the initiative and enthusiasm of employees to participate in democratic management; carried out various forms of democratic management activities such as "Employee Representatives Understanding Baowu" to implement the democratic rights of employees; promoted collective negotiation and carried out a new round of renewal of Collective Contract to better protect the labor rights and interests of employees; gave full play to the democratic supervision role of employee supervisors, actively integrated into the enterprise decision-making mechanism and management system, advanced the reform and development of enterprises, improved corporate governance, and earnestly safeguarded the rights and interests of employees.

Privacy protection

The Company attaches importance to employee information security protection. In 2021, the Company further implemented the management requirements of "centralized and consistent system" of human resources, standardized the information maintenance operation of e-HR employees, and centralized the authority of decentralized management of original units to the dispatched office of human resources department; the adjustment and change of employee information shall be sealed by the unit and maintained by a specially assigned person after being reviewed and approved by the human resources department; relevant report data of employees shall be kept by special personnel.





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Collective negotia



"Employee Representatives Understanding Baowu" activity

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Pay Attention to Occupational Health

Masteel attaches great importance to the occupational health of employees, continuously strengthens the prevention and control of occupational diseases, improves the occupational health management system and industrial accident prevention system, pays attention to the mental health of employees, and protects the physical and mental health of employees in an all-round way.

Guard employees' health

The Company seriously complies with the requirements of the Law on the Prevention and Control of Occupational Diseases, formulates rules and regulations such as the Administrative Measures for Occupational Health and the Administrative Measures for Work-related Injury of Employees, implements the main responsibility for the prevention and control of occupational diseases, identifies and controls toxic and harmful factors endangering occupational health at the worksite, and effectively prevents and controls occupational hazards.





Formulate and orderly carry out the on-site detection plan for occupational hazard factors

Completed the detection of occupational hazard factors in 791 posts and 2845 points, and conducted the second round of monitoring for on-site posts exceeding the standard and key posts of occupational disease control.

Carry out occupational health status evaluation

Evaluated the professional management ability of occupational health in labor units, and promoted the independent management ability of labor units.

Organize comprehensive physical examination of employees

The Company signed a service agreement with Maanshan General Hospital of Ranger-Duree Healthcare to organize and carry out the annual physical examination of employees, covering all employees of the Company, with a total expenditure of about CNY 10.54 million.

Carry out the theme activity of "striving to be a healthy person"

In combination with the 19th national publicity week of occupational disease prevention and control law, the Company carried out training activities themed on "creating a healthy China and sharing occupational health" at all levels.

Care for employees' mental health

The Company pays close attention to the mental health of employees, strengthens the humanistic care and psychological counseling of employees, and ensures they work happily and decently and live a healthy life. In 2021, the Company's employee psychological counseling room organized 780 employees to participate in the psychological test of employees in Maanshan and provided "one-on-one" psychological counseling services for 37 employees. On the eve of the college entrance examination, the Company also organized employees to participate in the online special lecture on stress management and counseling for parents before the college entrance examination, and about 220 people attended the lecture.

Strengthen Workplace Safety

Safety is the premise of development and development is the purpose of safety. Adhering to the safety production policy of "put people first and drive harmonious development with society", Masteel takes the annual work plan for workplace safety as the main line, strengthens safety production management, implements safety production training, improves the emergency management system, and constructs a solid safety defense line for the high-quality development of the Company.

Table Completion of safety production objectives in 2021

Index	Objective	Performance
Injury rate per thousand persons (%)	≤0.7	0.405
New occupational disease (person)	0	0
Major life insurance accidents (cases)	0	0
Fire accidents with direct economic loss ≥ CNY five million (cases)	0	0
"Three Simultaneities" qualification rate of safety and occupational health of "new, renovation and expansion" construction projects (%)	100	100
Qualified rate of safety education for on-duty employees (including personnel of related parties) (%)	100	98
Qualification rate of occupational hazard factors (%)	≥95	90
Primary qualification rate of special equipment inspection and detection (%)	≥95	98
Primary inspection qualification rate of fire-fighting facilities (%)	≥95	98
Qualification rate of safety standardization operation area (%)	100	100

Workplace safety management

In 2021, the Company made great efforts to promote the construction of safety responsibility system and carried out comprehensive sorting and revision of the system. The safety management department issued 22 safety management systems such as Workplace Safety Management Measures and Safety Accident Management Measures, and formulated the list of safety management performance of the Company's leaders; meanwhile, the maintenance and construction business departments formulated the Management Measures for Maintenance Cooperation and Management Measures for Safety Standardization of Engineering Projects, so as to further consolidate the foundation of safety production management.

Workplace safety training

employees participating in the competitions

The Company actively carries out workplace safety training in various fields to improve the safety production awareness and ability of all employees of the Company. In 2021, the Company organized training for 279 persons in charge and safety management personnel of all units, held 5 sessions of training for 394 operators, and carried out occupational health and safety management system standard training, safety information training, occupational health management personnel training and safety standardization training for 341 persons, as well as training for 895 special equipment management personnel and special operation personnel.

In 2021, the Company carried out a video collection activity of "emphasizing procedures, risks and measures" for all employees, and collected 1,056 video works; held a series of "safety and health" online competitions, with a total of 7,976 employees participating in the competitions; participated in the final of "Shangang Cup" national safety knowledge network competition and won the first prize of the group, which is the best achievement of the Company in the national steel industry competition in recent years.

and Build a Warm and Harmonious New Harbor

Emergency management system

The Company formulated the Management Measures for Major Emergencies, defined the organization and working procedures of management of major emergencies, and improved the emergency management processes such as prediction and early warning, emergency disposal, aftermath disposal and investigation and evaluation, information release, emergency guarantee, supervision and management, special emergency plan and regional emergency plan. The Company formulated Emergency Plan Management Measures to put forward specific requirements for the process management of the preparation, review, release, exercise and evaluation of the emergency plan. The Company also organized and implemented four emergency plan system training sessions. Meanwhile, to comprehensively improve the Company's emergency rescue capacity, all units of the Company actively carried out practical emergency drills, including more than 40 emergency drills for company-level gas leakage accidents, fire extinguishing, and emergency evacuation.



◎ Special training course for emergency command

CASE Actively participate in the emergency management competition

In 2021, the Fourth Anhui Hazardous Chemicals Rescue Technology Competition was held in the Company, and 10 teams from all over Anhui Province participated in the competition. After full preparation and hard training in the early stage, the provincial metal smelting emergency rescue Masteel team from Maanshan City won the first place in two collective individual items: Rapid plugging under pressure and initial fire disposal of chemical plant, the third place in group award, the first place in individual allround award, the second and fifth place in individual comprehensive physical fitness and the honor of excellent organization unit. Among them, team member Zhang Chao won the first place in the individual all-round, which is the most valuable item in this competition and the biggest breakthrough made by the Company since participating in many competitions.



Facilitate Employee Development

and promotes the common enhancement of enterprise value and talent value.

Promotion channels

In 2021, to further strengthen the construction of post system, the Company divided posts into three post sequence development channels: Management post, technical business post, and operation and maintenance post according to different work contents and nature. Based on post division, the Company strives to establish and improve the post promotion mechanism, offer multi-channel promotion opportunities, create a fair competition environment, stimulate the innovation and efficiency vitality of all employees, and provide a strong human resources guarantee for the realization of a large and strong Masteel.



and won the best score in history





and Build a Warm and Harmonious New Harbor

Masteel attaches importance to and respects talents. By optimizing career promotion channels, improving employee training system, and organizing labor competitions, Masteel provides employees with broad career development space


Training system

To further strengthen the training of all kinds of talents and continuously improve the quality and ability of employees, in 2021, the Company established the concept of full staff training, adhered to the demand and problem orientation, advocated "learn from what you did, make up for what you lack, and strengthen what you are weak in", stimulated employees' endogenous motivation for learning, and paid close attention to the education and training of three teams of management, technology and skills, and provided talent guarantee for the high-quality development of the Company. In 2021, the Company uniformly implemented 166 training sessions, including 44 in management, 71 in technology, and 51 in skills.

Labor competition





"Striving to Be the Best" awards



In 2021, the Company conscientiously implemented the management theme of "identifying gaps through comprehensive benchmarking, creating a world-class enterprise" of China Baowu, inherited and carried forward the fine tradition of "a flower blossoming in the South of the Yangtze River", carried out the labor competition themed on "driving lean and efficient management, striving to be the best, and creating a world-class enterprise", and continued to optimize the organizational system, assessment, evaluation and incentive measures in line with the competition requirements of "surpassing ourselves, winning the market, pursuing excellence and taking the lead in the world" to help build a large and strong Masteel. In 2021, the Company issued 68 times of "Striving to Be the Best" awards, with a total reward amount of CNY 15.49 million. The labor competition activities got guick results: in 2021, the Company refreshed 60 times of key business indicators, making outstanding contributions to the Company's top position in China.





© "Striving to Be the Best" award ceremony

Create a Happy Home

takes the initiative to help employees with life difficulties, and strives to create a dynamic and warm working and living environment for employees and create a happy workplace.

Help employees in need

The Company has continuously improved the employee assistance system, built a dynamic threelevel management network following the principle of "classified filing and one file for each household", to achieve full coverage of the management of employees in need. Meanwhile, the Company continues to deepen the "sending warmth in four seasons" brand assistance work of "expressing sympathy in spring, sending coolness in summer, giving financial aid to students in autumn, and sending warmth in winter". In 2021, the Company organized the distribution of CNY 5.735 million of assistance funds, more than CNY two million of high-temperature subsidy funds, CNY 1.9346 million of relief funds to 177 employees (family members), and CNY 88,000 of financial aid to 23 employees' children.



CNY 5.735 million assistance funds distributed



CNY **1.9346** million relief funds





Strike a balance between work and life

The Company actively responds to China Baowu's "Three Haves" life and work philosophy of "having money, time and fun" and sharing development fruits with employees, continues to carry out rich and colorful employee care activities, enriches employees' cultural life, strikes a balance between work and life, effectively improves employees' happiness and sense of belonging, and enhances the centripetal force and cohesion of the enterprise.

and Build a Warm and Harmonious New Harbor

Masteel fully respects and cares for employees, actively carries out recreational and sports activities in various forms,

CASE

Make employees the pride of their families

On December 23, 2021, which is "Company Day", over 40 representative employees and their families were welcomed to the factory to see the wonderful transformation that took place in the company in the past year. Visitors were delighted and excited to see the immaculate roads, beautiful factories, and lush vegetation. They expressed their relief at seeing their family members working in such a pleasant setting with considerate corporate care. They said they would continue to support their work by attending to family matters as a contribution to the enterprise.



BAOWU中国宝武马钢集团







◎ Painting & calligraphy and photography exhibition



O Brisk walking activity

and Build a Warm and Harmonious New Harbor

Singing competition



◎ Party-themed music class



O Poetry Festival

04

Go Hand in Hand to Create a New Situation for the Development of the Industry

Based on the value concept of joint construction and sharing and working together with stakeholders, Masteel adheres to testing its own success with the success of partners, creating excellent services with high-quality products, promoting the construction of a responsible supply chain, working with customers and suppliers to create a new situation of industry development with mutual benefit and win-win cooperation, and jointly build a high-quality steel ecosystem.





Create Excellent Services

Masteel is committed to creating excellent services. By building a complete product quality management system and customer service management system, Masteel continues to improve product quality, strives to create greater value for customers, consolidates the core competitiveness of enterprises, and sets an industry benchmark.

Product guality management

Quality management system

The Company strictly abides by the Product Quality Law of the People's Republic of China, formulates the *Quality Manual*, improves the quality management system, promotes product quality certification, and continuously improves the product quality and service guality of the Company. In 2021, the Company's products obtained more than 20 guality certifications, including EU CE certification, Singapore BC1 certification, BV factory approval of Bureau Veritas, etc.

Quality appraisal and product recovery

Quality appraisal process

The Company has designed and adjusted KPI assessment indicators against the benchmark of Baosteel to effectively improve the detection cycle and accuracy of key inspection items; carried out lean management, continuously improved the testing level and testing ability, done a good job in production inspection guarantee, and supported the fulfillment of orders; carried out process discipline inspection; in 2021, it carried out 216 times of inspection.



Product recycling procedure

The Company effectively identifies, controls and manages nonconforming products in strict accordance with the Nonconforming Product Control and Management Procedure to ensure that safe and high-quality products are delivered to customers. If it is found that the Company's delivery products still have potential safety hazards, the Company will immediately take recall measures to ensure the safety of customers' lives and property.

Customer service management

Service management system

The Company practices the service concept of "customer-centered" and "customer demandoriented", creates an "intimate service" mode, and brings customers a timely, efficient, and personalized service experience. The Company takes the "five in one" customer service team built by customer representatives, customer managers, technical managers, R&D engineers and application engineers as the working interface, responds to client needs and feedback in a timely, fast and efficient manner, and wholeheartedly solves customer problems.

Protect the rights and interests of customers

Compliance publicity

The Company strictly abides by the Law of the people's Republic of China on the Protection of Consumers' Rights and Interests, the Advertising Law of the People's Republic of China, the Trademark Law of the People's Republic of China and other laws and regulations, truthfully provides product information to customers, never carries out false publicity, and effectively protects the legitimate rights and interests of customers.

Knowledge popularization

The Company actively carries out all kinds of product exchange and promotion meetings to promote products, exchange technology and share improvements with customers, so as to strengthen customers' understanding of product performance and use. At the same time, it actively communicates with customers about the dynamics and development trends of different industries, explores the entry point of new product development, and provides customers with more applicable and better products.

Fair trade

The Company attaches importance to the principle of fair transaction and advocates equal enjoyment of rights and obligations with customers. The Company applies the principles of equality and free will, compensation for equal value, fairness and good faith in every cooperation with customers, and strives to create a partnership based on equality, transparency, and mutual respect.

Privacy protection

The Company has formulated and issued the Measures for the Management of Technical Agreements on Iron and Steel Products, which clearly stipulates that, to avoid the risk of infringement and disclosure of customers' property such as customers' patents, technical secrets, intellectual property rights and personal information, customer related materials can only be circulated within the minimum scope of the Company according to work needs and shall not be provided to third parties. Over the years, no accidents of customer privacy disclosure have ever happened in the Company.



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After-sales service system

○ Active user service

Adhering to the "user's standard is the standard of Masteel", the Company comprehensively promotes the supplier's early intervention (EVI) mode, widely carries out technical exchanges and technical cooperation with customers, moves forward the identification of customer needs, and makes full use of the integrated production and marketing information platform to realize customers' inquiry first and order later, to meet customers' use requirements. At the same time, it has established a client-side performance evaluation mechanism to track and improve the client-side performance and quality stability, and conducted regular internal communication to ensure effective solution to the client-side problems and enhance the client-side satisfaction.

CASE Actively serve customers to win customer trust

In March 2021, when a customer used the Company's EA1N billet to produce BVV axles for export to Germany, because it was the first time to use continuous casting instead of die casting to produce axles, the one-time pass rate of sound transmission test of finished products was less than 20%, leading to a deadlock of production. The special steel technical service team of the Company took the initiative to work alongside the customer to compare the differences between die casting and continuous casting billets and figured out the solution to process optimization in just 10 days. Facing travel restrictions during the epidemic period, the Company's service team employed the Internet platform and video conference to modify the user's heat treatment process many times in line with the characteristics of the user's equipment and raw materials, to ensure non-stop technical support during the epidemic. Four months later, the sound transmission performance of the finished products was thoroughly improved, and the one-time pass rate reached more than 90%. Up to now, the customer has exported EA1N continuous casting billets in batches to three major subway manufacturers in Europe and China, becoming a loyal user of the Company.

Respond to customer complaints



Following the primary principle of reducing customer losses and avoiding negative impacts on customer production, the Company has established a response and management process for product objection to solve various problems encountered by customers during their use of materials. At the same time, the Company has established a network of regional resident customer representatives to handle customer complaints nearby, improve the efficiency of response to customer complaints, and avoid more customer complaints due to untimely response.

CASE

Actively respond to user complaints to gain customer recognition

In September 2021, a customer filed a complaint concerning the depth of the hot-rolled large H-beams supplied by the Company exceeding the standard and the grinding parts not going through a smooth transition. Upon receiving the complaint, the Customer Service team of the Company immediately arrived at the customer's production site and investigated the concerned batch of materials overnight. The customer service personnel inspected and tested each piece of steel in strict accordance with the standards, leaving no detail unattended. They completed the reinspection of more than 120 pieces of materials in stock in just two days. The customer service personnel truthfully reported to the customer the causes of defects in detail and provided subsequent rectification measures, and sincerely put forward the suggestion of selected use of materials to the customer's satisfaction. The customer, deeply touched by the professionalism and sense of responsibility of the customer service personnel in dealing with the problem, finally agreed to use this batch of materials, which fully met the customer's use requirements and won the recognition of the customer.

Mobilize Partners to Fulfill Their Responsibilities

With attention paid to the benign interaction with suppliers, Masteel makes every effort to improve supplier management, build a responsible image, and mobilize ecosystem partners to jointly perform relevant responsibilities and create a responsible supply chain.

Supplier employment management



Requiring the quality conformance rate to be not lower than

Employment principles

The Company has developed management standards including *Supplier Management Procedure, Purchase Management Procedure, Management Measures for Supplier Certification* and *Management Measures for Dynamic Evaluation of Suppliers* and implemented the whole-process quality monitoring and management of suppliers, including source control, incoming control, process control, and finalstage evaluation. Under the source control requirements, suppliers shall have excellent performance in supplying large steel, the key varieties must pass the 9000 quality standard, and the factory must provide a warranty of meeting the technical standard; incoming control is implemented aligned to the warranty and incoming inspection; process control focuses on use evaluation, second-party audit and third-party inspection of the supplier quality system; the final-stage evaluation emphasizes the dynamic evaluation of suppliers based on objective performance data, requiring the quality conformance rate to be not lower than the red line 75%.

The Company has established management systems such as the *Management Measures for Collaborative Businesses* to include the safety, energy and environmental protection of collaborative suppliers into the unified management of the Company, conducts real-name management for collaborative personnel, and requires collaborative personnel to receive three-level safety education and "safety training for collaborative personnel in the metallurgical (high-risk) industry" before entering the site for operation. At the same time, the Company has strengthened the training of

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collaborative suppliers and collaborative personnel, including workplace safety risk control, laws and regulations, management systems, and accident warning.

The Company pays attention to ensuring the equal rights and interests of small-scale suppliers. In terms of system design, the scale of suppliers is only one of the entry thresholds for some varieties, and the requirements for the scale of suppliers are based on the expected purchase quantity. After the access is approved, the management and evaluation of suppliers will exclude the enterprise scale as the evaluation factor, but take the contract fulfillment rate, supply quality, response and collaboration, and the existence of dishonest behaviors as the main factors.

Good faith management

○ Exercise strict control of entry

The signing of the Agreement on Standardizing Business Behavior was taken as the prior procedure for supplier entry.

Implement the system of banned entry list

According to the Measures for the Implementation of Banned Entry Management, the Company conducted a screening of the registered suppliers, disqualified those on the list of banned entry in time, and handled the open contracts properly.

© Establish a blacklist and warning directory

Through strict control of the "Blacklist" and "Warning Directory" of suppliers, no new cases occurred in 2021.

Fair competition



The Company prepared and issued the *Bidding* Management Measures, independently developed the online whole-process bidding system, and established a science-based system of bidding purchase management and supervision. The bidding announcement was released simultaneously on the Company's bidding portal, Anhui bidding information network and other official websites to ensure that the whole process was open, fair and just.



The Company adopted the purchase platform of Obei to vigorously promote sunshine transparent purchase. In 2021, the Company significantly increased the online purchase rate by increasing the bidding ratio and carrying out bid negotiation through price comparison, with the online purchase rate of all categories maintained at 100%.



Build a responsible supply chain

Supplier's social responsibility policy

The Company pays attention to the performance of suppliers in terms of the environmental management system and workplace safety, informs relevant parties of their social responsibilities through contracts, letters of notification to suppliers, supplier conferences and other approaches, and requires suppliers to ensure safe production and multi-purpose environmental protection products and services.

Supply chain social responsibility review

The Company continued to identify the environmental and social risks in each link of the supply chain by conducting pre-introduction inspections of suppliers and implementing the restriction and elimination mechanism. During the pre-introduction inspection of suppliers, the Company organized relevant departments to conduct on-site inspections and make a comprehensive evaluation of the supplier's quality assurance system, environmental and occupational health and safety system and standards, forming an inspection report. During the implementation of the restriction and elimination mechanism, if a supplier violated laws and disciplines in the performance process, it would be listed in the warning directory, which would restrict its business scope from expansion during the observation period; if a supplier's products were found to have a significant adverse impact on the environment, occupational health and safety, the supplier's qualification would be canceled.

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05

Give Back to Society and Share a Better Life in the New Era

While steadily conducting its own business operation, Masteel takes the initiative to undertake social responsibility, actively serves the "Rural Revitalization Strategy", drives the economic and social development of the operation location, participates in social public welfare undertakings, carries out volunteer service activities, and wholeheartedly serves and contributes to the society, to share the development achievements with all sectors of society and build a better life.







Serve Rural Revitalization

The year 2021 is the beginning year of comprehensively pushing forward rural revitalization. Following the work requirements of effectively connecting the efforts to consolidate and expand poverty alleviation achievements with rural revitalization, the Company, with a focus on achieving effective results in the policy transition period, strives to advance industrial development and rural revitalization in a mutually promoting way, comprehensively activate the new growth driver of rural revitalization and enhance the new vitality of rural revitalization.

Strengthen organizational guarantee

The Company adjusted the assistance organization, established a leading group for rural revitalization, adhered to the principle of "top leaders" personally supervising the implementation of assistance programs, and established an efficient and coordinated assistance mechanism for efficient linkage and collaboration between leaders in charge, functional departments, implementation units and village resident cadres. The Party Committee of the Company listened to the work report on rural revitalization assistance efforts on a quarterly basis, regularly summarized and studied the assistance matters, and put forward specific requirements. The Rural Revitalization Office of the Company organized village resident cadres to hold a special meeting to jointly discuss assistance measures and implement the rural revitalization in a solid way.

Push forward project implementation

The Company actively carried out on-site investigations to push forward the implementation of assistance projects. The Company's principal leaders personally led the team to visit Longtai Village in Hanshan County and Liji Village in Funan County four times. The principal leaders, along with the team, listened to the report on the assistance work, conducted a field inspection of the industrial project base, visited and comforted the poverty-stricken households, learned about the life of local people, and provided suggestions for the revitalization and development of the village. In 2021, the Company decided to implement the Liji Village Road Repair project, the Flower-planting Dividendsharing Industry project, the Longtai Village Road Construction project, and the Seedling Base Construction project. The funds invested into the two village assistance projects were about CNY 1.2828 million, which has been allocated and provided.



© Ding Yi, Secretary of the Party Committee and Chairman of the Board, along with his team, inspected the seedling industry project in Longtai Village, Hanshan county



Implement consumption assistance

The Company started the consumption assistance work in 2021 in time, and actively organized all units to purchase agricultural and sideline products in Counterpart Assistance areas. In 2021, the Company purchased and helped sell nearly CNY 13.71 million of agricultural and sideline products, including nearly CNY 3.58 million of agricultural products of Funan County, nearly CNY 3.58 million of agricultural products of Hanshan County, and more than CNY 6.55 million of agricultural products of Baowu County. In addition, the employees of the Company showed their care by "purchasing instead of donating", and purchased 17,768 kg of yellow peaches from main enterprises driving poverty alleviation in Xianzou Town, Hanshan County, totaling CNY 109,000, to help farmers reduce the losses caused by the epidemic and typhoon.

Implement educational assistance

Participate in epidemic prevention and flood fighting

Fully capitalizing on the advantages of vocational education, the Company carried out educational assistance based on the training needs of Liji Village and Longtai Village, provided financial aid to the children of households to be rid of poverty, those prone to fall back into poverty and those on the brink of poverty, and strengthened the assistance given to the groups in difficulties. Through a thorough investigation of the school situation of the children in the two villages, the Company determined that 42 students met the conditions for financial aid and issued assistantships at the standard of CNY 2,000 per person, to solve some difficulties for these families and contribute to rural revitalization through talent training.

Facing the COVID-19 pandemic and the flood situation in Huaihe River Basin, the Company's village resident cadres actively participated in the epidemic prevention and control and flood fighting and prevention efforts. A special meeting on epidemic prevention and control was held with the two committees of the village. In strict accordance with the requirements of the higher authority, the Company conducted isolation guidance and health monitoring for the returning persons from medium and high-risk areas. At the same time, the Company carried out the COVID-19 vaccination for the appropriate-aged group . At the beginning of July 2021, heavy rain struck Funan County, leading to a severe flood control situation. The Company's village-based assistance team rushed to the front line, inspected the rain and flood situation with the town and village cadres, and visited the elderly living alone, the households enjoying minimum living allowances and five guarantees. After learning about the situation of in-house water leakage and poor drainage, the team resolutely used excavators, pumps, and other mechanical equipment to drain the waterlogging in ditches and ponds, which eliminated potential hazards and protected the local people from harm.

© Liu Guowang, Deputy Secretary of the Party Committee, along with his team, visited Longshan Village for investigation and discussions

Drive Community Development

In the development course spanning more than 60 years, both the Maanshan Municipal Party Committee and government and the ordinary people in Maanshan have always cherished deep feelings and earnest expectations for Masteel. Bearing firmly in mind the philosophy of "fostering integrated development of the steel industry and the city", the Company, while boosting the economic and social development of Maanshan through its quality development, actively implements the employee localization policy, drives the development of local industries, and strives to make positive contributions to the modernization of Maanshan.

Employee localization

Facing the increasing employment pressure, the Company continues to deepen university-enterprise cooperation and actively help college graduates in Maanshan solve their employment problems. In 2021, the Company organized the new employee recruitment for fresh graduates of Maanshan colleges and universities such as Anhui Metallurgical Technology Vocational College, Anhui Maanshan Iron and Steel Technician College and Anhui University of Technology (East Campus), recruiting a total of 223 new employees. At the same time, based on the new employee supplement needs of all units in 2022, the Company developed the new employee supplement plan for the next year, actively organized and carried out on-campus recruitment, and made every effort to attract excellent students from colleges and universities in surrounding areas to join the big family of Masteel.



© On November 2, 2021, the Company held an on-campus recruitment advertising in Anhui University of Technology (located in Yushan District, Maanshan City)



On November 2, 2021, the Company held an on-campus recruitment advertising in Anhui University of Technology (located in Yushan District, Maanshan City)

Localized purchase

In 2021, due to the still-raging COVID-19 pandemic, traffic control was frequently implemented everywhere, which produced a huge impact on the Company's production. The timber required for packaging of the Company has always been in low inventory operation, requiring the purchase cycle to be short. After an order is placed, the goods must arrive at the site within two days. After the outbreak of the epidemic, due to road control and epidemic prevention measures, the Company's original timber supplier, based in Wuhu, couldn't deliver the timber to the plant area at any time to meet production requirements In response to the emergency, the Company found the local supplier Lantu Wood Industry as a substitute supplier during the epidemic period. The Company inspected the supplier based on the supplier entry procedures, including supply qualification and goods quality examination. After review, Lantu Wood Industry was evaluated as a qualified supplier of wood products for the Company and started to supply goods from the second half of 2020. In 2021, in the bidding purchase process, Lantu Wood Industry won the bid at a price significantly lower than that of other suppliers, thus providing sufficient guarantee for the Company's wood supply with a shorter purchase cycle, smaller batches and more timely delivery services. Localized purchase provides strong support for the stability of the Company's supply chain, minimizes the adverse impact caused by road transportation interruption, and strengthens the Company's confidence in active and win-win cooperation with local suppliers in Maanshan city.

Be Actively Involved in Public Welfare and Charity Undertakings

Philanthropy is a noble cause that benefits the society, the country and the people. Masteel. always lays equal emphasis on economic development and social benefits, actively involves itself in social welfare, increases the investment in donation funds, and takes concrete actions to practice the responsibility of "donating to charity out of kindness" and "contributing to the public welfare for the public good".

Carry out "One-day Charity Donation" activities Carry forward the philanthropic spirit and pass down Chinese civilization. Since 2006, the Company has donated funds to Maanshan Charity Federation every year through the "Oneday Charity Donation" activity, fostering trickle-down benefits of public welfare donation. In 2021, Masteel donated CNY 20,0000 and worked alongside caring people from all walks of life to build a bridge leading to a happy life for groups in difficulties with kindness and kindle the hope of striving for groups in difficulties with love.

Show respect for the elderly and practice humanistic care

Strengthen humanistic care efforts, implement the measures of caring for and giving preferential treatment to the elderly. The Company actively helped to create a social atmosphere of loving and helping the elderly. In 2021, Hefei Company carried out the project of helping poverty-stricken households and those on the brink of poverty in Hefei and donating to the nursing home in Qiaotou Town, Feidong County, with a total donation of CNY 80,000; Changjiang Steel developed a donation plan and gave away a total of CNY one million through the quarterly payment of allowances to land-lost elderly people in Changjiang Village and the visit paid to the elderly enjoying "five guarantees" in Changjiang nursing homes during the Spring Festival and Mid-autumn Festival.

Be actively engaged in volunteer actions

Carry forward the volunteering spirit of "dedication, fraternity, mutual assistance and progress". The Company encouraged employees to participate in volunteer services, organized volunteer service teams, carried out volunteer service activities in communities, practiced the philosophy of volunteer service with practical actions, transmitted the strength of kindness, and fostered the good moral trend of "one for all, all for one". In 2021, the Company cooperated with Maanshan Central Blood Station to mobilize employees to donate blood 1,558 times, with a blood donation volume of 435,000 ml. At the same time, two employees of the Company successfully donated hematopoietic stem cells. In addition, the Company actively organized flower exhibitions, participated in the 30th Maanshan Golden Autumn Flower Exhibition, beautified the city appearance and helped build Maanshan into an ecological garden city.

CASE



CASE Donate hematopoietic stem cells and create the miracle of "regenerating life"

Hematopoietic stem cell donation is a humanitarian charity that benefits society and saves lives. It is a vivid embodiment of the degree of social civilization and ethical trends. Over the years, Masteel employees have made important contributions to the cause of hematopoietic stem cell donation. By the end of 2021, the number of donations from Masteel employees had accounted for one-sixth of the total in Maanshan city. Masteel employees, with their loving hearts, created a miracle of "regenerating life", showing the social responsibility and mission of the enterprise.



On the morning of July 8, 2021, Wang Jun, the 11th hematopoietic stem cell donor of Masteel, an employee from the Cold Rolling General Works, embarked on a donation trip to Hefei, continuing the fine tradition of love relay of Masteel. Previously, the Maanshan workstation of the Chinese Marrow Donor Program contacted Wang Jun, who was found to be the only fully matched volunteer to save a critically ill young patient from another province who applied for HLA matching retrieval.



Female volunteers offer love at the Mother's Day Charity Bazaar

In May 2021, more than 50 female employees of the Company organized a love motorcade to join the "Loveloaded Trunk" Mother's Day Charity Bazaar organized by Maanshan Women's Federation. Every volunteer filled their trunks with idle electrical appliances, green plants, books and toys, and sold them on the spot. A total of CNY 2,100 was raised, all of which was donated to povertystricken mothers through the activity organizing committee.



Prospect .

The road ahead is arduous and fraught with difficulties and doubled efforts are required. The 14th Five-Year Plan period is critical for Masteel's second-time entrepreneurship, transformation and upgrading. The Company will maintain its strategic focus, ground its work in this new stage of development, apply the new development philosophy, foster a new development paradigm, bravely assume mission and responsibilities, serve national strategy, improve its capability for value creation, and focus on stronger technology, greater efficiency, larger scale, and global leadership. We integrate and empower resources, press ahead in the favorable situation, strive to double the operating income, profit, per capita steel output, and per capita income, help China Baowu become a global leader in the steel industry and a world-class enterprise with global competitiveness, and contribute to the building of a modern and beautiful Anhui Province with a strong economy, rich people, and beautiful environment in the new period!

Appendix

Key Performance Indicators (KPI)

Indicator	Unit	2021	2020	2019
Operating income	CNY100 million	1138.5	816.14	782.63
Compound growth rate of operating income	%	11.58	-0.21	-4.50
Total profit	CNY100 million	70.16	30.81	22.98
Net profit	CNY100 million	59.93	25.78	17.14
Operating profit margin	%	6.47	3.51	2.34
Liquidity ratio	_	0.92	0.87	0.93
Total market value	CNY100 million	260.58	189.95	232.26
Total tax payment	CNY100 million	37.5	18.5	29.12
Number of directors	Person	5	7	7
Number of independent directors	Person	3	3	3
Proportion of female directors	%	40	28.57	28.57
The number of days between the notice date and the convening date of the annual general meeting of shareholders	Day	49	47	45
Employee ownership of equity incentive as a percentage of total capital	%	0	0	0
Number of employee corruption lawsuits	/	0	0	0
Number of directors participating in anti-corruption related training	Person	5	8	7
Director coverage of anti-corruption related training	%	100	100	100
Duration of anti-corruption related training per director	Hour	45	32	28
Number of employees participating in anti-corruption related training	Person	8,498	6,036	2,030
Number of employees punished or dismissed for violating the anti- corruption policy	Person	3	5	5
Costs of fines, penalties or settlements related to corruption	CNY10,000	0	0	0
R&D investment	CNY100 million	45.06	18.13	8.46
Proportion of R&D expenditure in operating income	%	3.96	2.22	1.08
Year-on-year growth rate of R&D expenses	%	148.5	114.20	5.65
Total number of patents filed throughout the year	Piece	592	576	350
Number of invention patents filed throughout the year	Piece	378	344	200
Total number of newly authorized patents throughout the year	Piece	456	331	228
Number of newly authorized invention patents throughout the year	Piece	165	100	109
Total number of customers	Person	1,859	1,429	1,254
Total number of customers in East China	Person	1,258	852	763
Total number of customers in South China	Person	158	213	203
Total number of customers in North China	Person	152	101	60
Total number of customers in Southwest China	Person	166	113	91
Total number of overseas customers	Person	125	138	137
Qualified rate of product inspection	%	100	100	100
Recovery rate of products sold or shipped due to safety and health reasons	%	0	0	0
Number of customer complaints accepted	/	1,713	1,393	1,387
Customer complaint resolution rate	%	93.46	86.59	-
Customer satisfaction	%	88.03	89.2	87.9
Number of registered suppliers	/	2,644	3,150	1,659

Indicator	Unit	2021	2020	2019
Number of domestic suppliers	/	2,628	3,065	1,619
Number of foreign suppliers	/	16	85	40
Number of suppliers reviewed by a second party during the reporting period	/	24	39	17
Total number of employees	Person	18,730	23,457	26,219
Total number of male employees	Person	17,167	21,375	23,888
Total number of female employees	Person	1,563	2,082	2,331
Total number of full-time employees	Person	18,730	23,457	26,219
Total number of part-time employees	Person	0	0	0
Number of employees aged 35 and below	Person	4,692	4,865	4,780
Number of employees aged 36 to 40	Person	1,739	2,069	2,428
Number of employees aged 41 to 50	Person	8,250	10,648	12,308
Number of employees aged 51to 60	Person	5,270	5,875	6,703
Number of registered residence employees in the province	Person	19,640	22,645	25,618
Number of registered residence employees outside the province	Person	312	812	601
Number of new jobs added in the reporting period	Person	292	142	7
Labor contract signing rate	%	100	100	100
Proportion of female managers	%	4.92	7.38	7.06
Paid vacation days per capita per year	Day	11.76	12.47	12.6
Management remuneration /total employee remuneration	%	12.66	14.09	13.29
Total social insurance contributions	CNY10,000	67,912.64	68,774.62	80,257
Employee social insurance coverage	%	100	100	100
Total investment in employee training	CNY10,000	2,117.90	1,338.20	1,667.40
Proportion of employees trained	%	95.1	94.9	-
Number of male employees trained	Person	17,867	-	-
Proportion of male employees trained	%	97.7	-	-
Training hours per male employee	Hour	102.4	-	-
Number of female employees trained	Person	1,538	-	-
Proportion of female employees trained	%	92.5	-	-
Training hours per female employee	Hour	81.3	-	-
Number of management employees trained	Person	1,448	1,812	1,696
Proportion of management employees trained	%	96.34	97.42	85.4
Per capita training hours of management employees	Hour	174.4	189.67	27.9
Number of technical and business employees trained	Person	3,939	2,749	-
Proportion of technical and business employees trained	%	92.86	97.64	95.1
Per capita training hours of technical and busness employees	Hour	158.3	166.5	86.4
Number of operation and maintenance employees trained	Person	17,360	14,069	-
Training proportion of operation and maintenance employees	%	93.36	94.25	97.03
Per capita training hours of operation and maintenance employees	Hour	83.8	65.96	39.5
Employee satisfaction	%	89.59	89.54	89.39
Employee turnover rate	%	0.44	0.36	0.24
Turnover rate of male employees	%	0.43	0.28	-
Turnover rate of female employees	%	0.01	0.08	-
Turnover rate of employees under 30	%	0.14	0.16	0.18
Turnover rate of employees aged 30 to 40	%	0.17	0.08	0.04
Turnover rate of employees aged 41 to 50	%	0.05	0.08	0.01

Indicator	Unit	2021	2020	2019
Turnover rate of employees above 50	%	0.08	0.03	0.01
Turnover rate of registered residence employees in the province	%	0.41	0.32	0.18
Turnover rate of registered residence employees outside the province	%	0.03	0.03	0.06
Coverage of employee health examination	%	100	100	100
Workplace safety investment	CNY100mn	1.37	1.38	1.06
Number of workplace safety training sessions	Number of sessions	136	175	209
Number of participants in workplace safety training	Person	37,049	39,516	42,743
Total duration of workplace safety training	Hour	430,000	470,000	510,000
Coverage of workplace safety training	%	100	100	100
Employment rate of special operation personnel with certificates	%	100	100	100
OHSAS18001/ISO45001 certification coverage ratio	%	100	100	100
Occurrence of occupational diseases	Time	0	0	0
Number of work-related deaths	/	2	0	0
Number of severe injury accidents of employees	/	0	0	1
Number of employees with severe injuries	Person	0	0	1
Number of employees with minor injuries	Person	4	7	7
Injury rate per thousand people	%0	0.41	0.26	0.36
Number of work-related death accidents of related parties	/	3	3	2
Number of work-related deaths of related parties	Person	3	3	2
Number of working days lost due to work-related injuries	Day	12,405	645	1,445
Death rate of workers due to work-related injuries	%	0	0	0
Total external donations	CNY10,000	256.7	237.3	0
Number of employee volunteers	Person	3,337	4,266	1,050
Total duration of annual voluntary activities	Hour	8,097	7,738.04	9,137.60
Number of participants in voluntary activities	Person	4,379	5,065	8,593
Total investment in environmental protection	CNY100mn	20.62	30.11	3.78
Number of environmental protection training sessions	Number of sessions	20	23	6
Number of participants in environmental protection training sessions	Person	13,400	16,600	160
Duration of environmental protection training	Hour	84,078	92,061	13,400
Number of pollution accidents throughout the year	/	0	0	0
Project EIA rate	%	100	100	100
Carbon dioxide emissions	Ton	38,190,416	39,264,441	37,658,364
Carbon dioxide emissions (range I)1	Ton	34,833,015	35,445,774	34,386,221
Total carbon dioxide emissions (range II)2	Ton	3,357,401	3,818,667	3,272,143
Carbon dioxide emissions per ton of steel	Ton	1.82	1.87	1.9
Carbon dioxide emissions per ton of steel (range I)	Ton	1.66	1.69	1.73
Carbon dioxide emissions per ton of steel (range II)	Ton	0.16	0.18	0.17
Total sulfur dioxide emissions	Ton	5,175	7,992	8,371.90
Sulfur dioxide emissions per ton of steel	Kilogram	0.25	0.38	0.42
Total nitrogen oxide emissions	Ton	9,362	18,430	20,343.56
Nitrogen oxide emissions per ton of steel	Kilogram	0.45	0.88	1.026
Total particulate emissions	Ton	9,285	22,372	6,495.68
Particulate matter emissions per ton of steel	Kilogram	0.44	1.07	0.327
Total emissions of volatile organic compounds	Ton	2,804	_	-

Indicator
Total raw coal consumption
Total cleaned coal consumption
Total coke consumption
Total power consumption
Total diesel consumption
Total gasoline consumption
Total natural gas consumption
Renewable energy use
Comprehensive energy consumption
Comprehensive energy consumption per ton of steel
Total amount of hazardous waste generated
Generation density of hazardous waste
Qualified rate of standardized management of hazardous wastes
Amount of hazardous waste utilized and disposed of
Safe disposal rate of hazardous waste
Total amount of harmless waste
Generation density of harmless waste
Total amount of hazardous waste
Generation density of hazardous waste
Total amount of solid waste generated
Total amount of solid waste utilized
Utilization rate of solid waste
Total amount of recyclable waste generated
Total amount of non recyclable waste generated
Total water intake
Total water discharge
Total wastewater discharge
Total annual new water consumption
Total amount of water saved
New water consumption per ton of steel
Total amount of industrial water reuse
Reuse rate of industrial water
Total chemical oxygen demand emissions
Chemical oxygen demand emission per ton of steel
Total ammonia nitrogen emissions
Ammonia nitrogen emissions per ton of steel
Total consumption of packaging materials
Consumption density of packaging materials
Environmental management system (ISO14001) certification coverage

Note: 1.Carbon emission verification was carried out based on the *Guidelines for the Greenhouse Gas Emission Accounting Methods and Reporting of China Steel Manufacturers (for Trial Implementation)*, Range 1 covers direct greenhouse gas emissions from sources owned or controlled by the Company; 2.Range 2 covers indirect greenhouse gas emissions for or bained) of electricity, heat, refrigeration and steam

Unit	2021	2020	2019
10,000 tons	361.12	340.17	317.95
10,000 tons	644.85	658.92	696.49
10,000 tons	369.76	374.01	345.09
100 million kwh	63.66	55.29	54.03
Ton	257.5	7,280.32	8,516.51
Ton	6,181	277.68	185.68
10,000 cubic meters	5,802.64	7,186.22	4,832.92
100 million kwh	0.21	0.05	_
10,000 tons of standard coal (equivalent value)	1,158.87	1,175.76	1,129.91
Kilogram of standard coal equivalent	552.71	560.76	569.36
Ton	53,655.51	314,068.09	289,917.72
Kilogram /ton	2.56	14.98	14.61
%	100	100	100
Ton	48,696.09	285,086.00	263,037.45
%	100	100	100
10,000 tons	1,261.05	1,220.98	1,036.74
Kilogram /ton	601.44	746.2	677.74
Ton	53,655.51	314,068.09	289,917.72
Kilogram /ton	2.56	14.98	14.61
10,000 tons	1,261.05	1,220.98	1,036.74
10,000 tons	1,260.57	1,219.4	1,099.61
%	99.96	99.87	99.99
10,000 tons	1,261.05	1,220.98	1,036.74
Ton	3,195	9,302.82	335.14
10,000 tons	18,875.39	-	-
10,000 tons	2,511	3,607.87	4,048.52
10,000 tons	2,511	3,607.87	4,048.52
10,000 tons	4,742.30	5,645.61	5,303.45
10,000 tons	71.29	62.9	59.5
Cubic meter	2.26	2.69	2.67
10,000 cubic meters	265,766.92	312,122.65	287,302.44
%	98.22	97.77	98.64
Ton	367	564.97	539.72
Gram	17.50	26.94	27.26
Ton	16	34	24.80
Gram	0.76	1.62	1.25
Ton	56,263	72,195	73,345
Kilogram /ton	2.68	3.44	3.72
%	100	100	100

Index of Indicators

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First-level Title	Second-level Title	Guidelines for Corporate Social Responsibility Report in China (CASS-CSR4.0)	Environmental, Social and Governance Reporting Guide of Hong Kong Stock Exchange	Report Location
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System Certification

System Category	System Name	Certified Unit
	GB/T 19001-2016/ISO9001:2015	Masteel, Changjiang Iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Quality management system	IATF16949:2016	Masteel, Hefei Company
	ISO/TS22163:2017	Masteel
Environmental management system	GB/T 24001-2016/ISO14001:2015	Masteel, Changjiang Iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Energy management system	GB/T23331-2020/ISO50001:2018 RB/T103-2013	Masteel, Changjiang iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Occupational health and safety management system	GB/T 45001-2020/ISO 45001:2018	Masteel, Changjiang iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Measurement management system	GB/T19022-2003/ISO10012:2003	Masteel, Changjiang Iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Equipment management system	ISO41001:2018 T/CAPE10001-2017	Masteel

Rating Report



Rating Report of "The 2021 Environment, Society and Governance Report of Maanshan Iron & Steel Company Limited"

Upon the request of Maanshan Iron & Steel Company Limited, the Chinese Expert Committee on CSR Report Rating invited experts to form a rating team to rate The 2021 Environment. Society and Governance Report of Maanshan Iron & Steel Company Limited (hereinafter referred to as "the Report").

I. Rating Basis

Guidelines on China's Corporate Social Responsibility Reports (CASS-CSR 4.0) by Chinese Academy of Social Sciences, and Rating Standards on China's Corporate Social Responsibility Reports (2020) by China Expert Committee on CSR Report Rating.

II. Rating Process

1. The Rating Panel reviews and confirms CSR Report Process Materials Confirmation and supporting documents submitted by the CSR Report Compiling Group;

2. The Rating Panel assesses the preparation process and contents of CSR Report, and drafts the Rating Report;

3. Vice Chairman of China Expert Committee on CSR Report Rating, the Leader and experts of the Rating Panel jointly review and sign the Rating Report.

III. Rating Conclusion Process ($\star \star \star \star \star \star$)

The Company sets up a strategy committee of the board of directors, with the secretary of the party committee and the chairman of the board of directors as the chairman of the committee, who shall control the overall direction and key links of the Report and be responsible for the final review of the Report. The secretary office under the board of directors took the lead in setting up the report preparation working group and coordinates the specific preparation work; positioning the Report as an important tool for compliantly disclosing the responsibility performance information, improving the social responsibility management level, strengthening stakeholder communication, and responding to the demands of the capital market, with clear functional value positioning; identifying the substantive issues based on the national macro policies, the domestic and international social responsibility standards, industry benchmarking, corporate strategy, stakeholder surveys, expert opinions; planning to hold a special press conference to release the Report and present the Report in the form of electronic version, printed version, Chinese and English version and traditional Chinese version, with leading performance in process.

Substantiality $(\star \star \star \star \star \star)$

The Report systematically disclosed the key industrial issues such as implementation of macro policies, product quality management, product innovation, responsible procurement, occupational health management, safe production, R&D and application of the environmental protection technology and equipment, saving of energy resources, development of circular economy and surrounding environment governance, with detailed and full narration and excellent substantiality performance.

Integrity ($\star \star \star \star \star \star$

The main body of the Report systematically disclosed 88.76% of the core industrial indicators from the perspectives of "having the courage to bring forth new ideas and forging the new engine for reform and development", "taking environmental protection as the priority and establish new standards for green steel", "taking care of the staff and building a warm and harmonious new harbor", "going hand in hand and creating a new industrial development situation" and "giving back to the society and sharing a better life and new

age", with leading integrity performance.

Balance $(\star \star \star \star \star \star)$

The Report disclosed negative data information including "annual number of pollution accidents", "number of staff corruption cases", "number of accepted customer complaints", "employee turnover", "times of occurrence of occupational diseases" and "rate of injuries among every one thousand employees" and carefully described the processes and results of actively handling the customer and residents complaints, with excellent balance performance.

Comparability ($\star \star \star \star \star$)

The Report disclosed the comparative data of 143 key indicators such as "total market value", "total tax payment", " input for safe production", "total foreign donation", "comprehensive energy consumption" and "carbon dioxide emission" for three consecutive years. It also makes a horizontal comparison by "ranking 139th in the Fortune China 500 List", with excellent comparability performance.

Readability ($\star \star \star \star \star$

The Report adopted the stakeholder framework structure to elaborate on the annual responsibility performance practice and effectiveness of the enterprises to the customers, environment, employees, partners, society and other relevant parties, with clear framework structure and prominent key issues. The cover design adopted the illustration style, extended the corporate logo, integrated the element of the main business, outlined the beautiful life scene, and enhanced the identification of the Report. The "knowledge extension" column was set to interpret the content of the Report and enhance the readability of the Report, with leading readability performance.

Innovativeness ($\star \star \star \star \star \star$

At the beginning, the Report set the focus on the two responsibilities of "transforming bonsai into landscape and building a green city steel plant" and "helping to achieve peak carbon dioxide emission and carbon neutrality through high standing and high standards", systematically showing the strong actions of the enterprise in protecting ecological civilization and achieve peak carbon dioxide emission and carbon neutrality, and highlighting the responsibilities of enterprise. The enterprise actively responded to the United Nations Sustainable Development Goals (SDGs), showing the Company's global vision and value pursuit. The enterprise participated in the report rating for the first time and enhance the standardization of disclosure of the social responsibility information, with leading innovativeness performance.

Overall Ranking $(\star \star \star \star \star \star)$

The 2021 Environment, Society and Governance Report of Maanshan Iron & Steel Company Limited was rated as four and a half stars by the rating team. It is a leading corporate social responsibility report.

IV. Suggestions for Improvement

Increase the disclosure of industrial core indicators, and further increase the report integrity.

Vice Chairman of China Expert Committee on CSR Report Rating



Panel Expert

Date of Issuance: March 17, 2022



Scan the OR code to view the corporate rating files

Feedback

Dear readers:

Hello! Thank you very much for reading the 2021 Social Responsibility Report of Maanshan Iron and Steel Co., Ltd.! In order to continuously improve the management of social responsibility report, we particularly hope to hear your comments and suggestions. Please help to complete relevant questions in the feedback table and feed it back through the following ways:

Secretary Office, Boa	ard of Directors of M	aanshan Iron and
No. 8, Jiuhua West Road	, Maanshan City,	Tel.: 86-55
Anhui Province, China	Postal code:243003	Fax: 86-55

Your information

Name:	Tel.:
Work unit:	Email:

Choice questions (please tick " $\sqrt{}$ " in appropriate box)

1. Please evaluate the degree to which the Report reflects the significant impact of Masteel on the economy, society and environment: □ Very good □ Relatively good □ General □ Relatively bad □ Very bad 2. Please evaluate the response and disclosure of the Report to stakeholders' concerns: □ Very good □ Relatively good □ General □ Relatively bad □ Very bad 3.Please evaluate the clarity, accuracy and completeness of the information, indicators and data disclosure in this Report: □ Very good □ Relatively good □ General □ Relatively bad □ Very bad 4. Please evaluate the readability of this Report: □ Very good □ Relatively good □ General □ Relatively bad □ Very bad 5. Please make a comprehensive evaluation of the 2021 ESG Report of Masteel: □ Very good □ Relatively good □ General □ Relatively bad □ Very bad

Open questions

1. What suggestions do you have for the ESG work of Masteel?

3. What do you think the Report has provided you with valuable information about social responsibility?

Steel Co., Ltd.	
55-2888158/2875251	Email: mggf@baowugroup.com
55-2887284	Website: http://www.magang.com.cn

2. What do you think are the shortcomings of the Report?

4. What other social responsibility information do you think shall be disclosed in the Report?



Maanshan Iron and Steel Co., Ltd.

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