

2018

Social Responsibility Report

H Share Code: 323

A Share Code: 600808



MA ANSHAN IRON & STEEL COMPANY LIMITED

IMPORTANT NOTES

The Board of Directors and all directors of the Company guarantee that the report is free from any misrepresentation, misleading statement or major omission and accept joint and several responsibility for the truthfulness, accuracy and completeness of the content herein.

The report has been prepared in accordance with the *Circular on Enforcement of Social Responsibility of Listed Companies and Release of Shanghai Stock Exchange Guidelines for Environmental Protection Information Disclosure of Listed Companies* issued by Shanghai Stock Exchange and *Appendix 27. Environmental, Social and Governance Reporting Guide of Listing Rules* promulgated by The Stock Exchange of Hong Kong Ltd, and is supposed to be read in conjunction with the Company's Annual Report 2018.

The report has been prepared in Chinese and English. Where there is any discrepancy between the Chinese version and the English version, the Chinese version shall prevail.

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SECTION I DEFINITIONS

All references to the words listed in the table below have the following meanings throughout the report unless otherwise specified:

The Company, Magang, Magang Company Ltd	Maanshan Iron & Steel Company Ltd
The Group, Magang Group	Magang (Group) Holding Company Ltd
Board of Directors	The Board of Directors of the Company
Directors	Directors of the Company
The Review Committee under the Board, the Review Committee	The Review (Audit) Committee under the Board of Directors of the Company
Board of Supervisors	The Board of Supervisors of the Company
Supervisors	Supervisors of the Company
HKEx	The Stock Exchange of Hong Kong Ltd
SSE	Shanghai Stock Exchange
PRC	The People's Republic of China
Yuan	Chinese Yuan
The Labor Law	The Labor Law of the People's Republic of China
The Law on Employment Contracts	The Law of the People's Republic of China on Employment Contracts
Reporting Period	From January 1 to December 31, 2018

SECTION II COMPANY PROFILE

I. BASIC FACTS

The Company was formerly known as Maanshan Iron Mill, which started up its business in 1953. Maanshan Iron & Steel Company then came into being in 1958 and was restructured as a joint-stock business in 1993. On September 1 in the same year, Maanshan Iron & Steel Company was demerged into Magang Head Office and Maanshan Iron & Steel Company Ltd. Magang Head Office, the controlling shareholder, was reorganized as Magang (Group) Holding Company Ltd in 1998.

II. OFFERING AND LISTING

The Company offered its H shares offshore between October 20 and 26, 1993, and was listed on the Stock Exchange of Hong Kong Ltd on November 3 in the same year; it then offered Renminbi common shares in mainland China between November 6 and December 25, 1993 and was listed on Shanghai Stock Exchange in three phases on January 6, April 4 and September 6 in the next year.

III. MAIN BUSINESS ACTIVITIES AND PRODUCTS

The Company is one of the largest iron & steel producers and distributors in the PRC. Its production activities include iron smelting, steel smelting and rolling. It mainly produces steel products, including plates, strips, and wheel shafts.

SECTION III SHARE CAPITAL AND SHAREHOLDERS

I. SHARE CAPITAL

There was no change in the Company's share capital in 2018 when compared with that in 2017.

Unit: share

	Before		Change During the Reporting Period (+, -)					After	
	Number of Shares	(%)	New Issue	Bonus Issue	Capital Surplus to Shares	Others	Sub-total	Number of Shares	(%)
I. Restricted shares	-	-	-	-	-	-	-	-	-
II. Non-restricted shares	7,700,681,186	100	-	-	-	-	-	7,700,681,186	100
1. RMB common shares	5,967,751,186	77.50	-	-	-	-	-	5,967,751,186	77.50
2. Mainland-listed foreign- invested shares	-	-	-	-	-	-	-	-	-
3. Overseas-listed foreign- invested shares	1,732,930,000	22.50	-	-	-	-	-	1,732,930,000	22.50
III. Total number of common shares	7,700,681,186	100	-	-	-	-	-	7,700,681,186	100

II. TOP 10 SHAREHOLDER AND ACTUAL CONTROLLER

1. Top 10 Shareholders as at the end of report period

Name of Shareholder	Number of shares held
Magang (Group) Holding Company Ltd.	3,506,467,456
Hong Kong Securities Clearing Company Ltd.	1,716,562,800
Central Huijin Asset Management Co., Ltd.	142,155,000
Agricultural Bank of China Ltd. – CSI 500 ETF	31,677,149
Beijing Haoqing Fortune Investment and Management Co., Ltd. – Steady Haoqing Value No. 8 Investment Fund	28,653,912
Li Xiaozhong	16,759,455
Sheng Jun	13,651,722
China Asset Management Co., Ltd. – Social Security Fund 422 Portfolio	9,521,500
China Construction Bank Corporation – Bosera Yufu CSI 300 Index Fund	8,752,330
Fang Wei	7,810,000

2. Controlling Shareholder and Actual Controller

The controlling shareholder and actual controller of the Company remained unchanged during the reporting period.

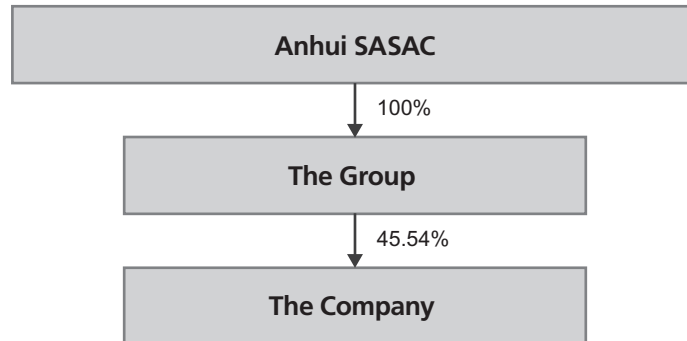
> Controlling Shareholder

Name	Magang (Group) Holding Company Ltd
Head or Legal Representative	Wei Yao
Date of Incorporation	September 1, 1993
Main Activities	Mining and ore dressing; construction contract; building materials, machinery manufacturing, servicing and design; foreign trade; domestic trade; distribution and warehousing of materials; property management; consulting; lease; agriculture and forestry
Controlling interest or minority interest held in any other Company listed in or outside the PRC during the reporting period	No controlling interest or minority interest held in any other Company listed in or outside the PRC during the reporting period

➤ **Actual Controller**

The actual controller of the Company is the State-owned Assets Supervision and Administration Commission of Anhui provincial government (Anhui SASAC).

➤ **Ownership and Control between the Company and the Actual Controller**



SECTION IV CORPORATE GOVERNANCE

I. CORPORATE GOVERNANCE FRAMEWORK

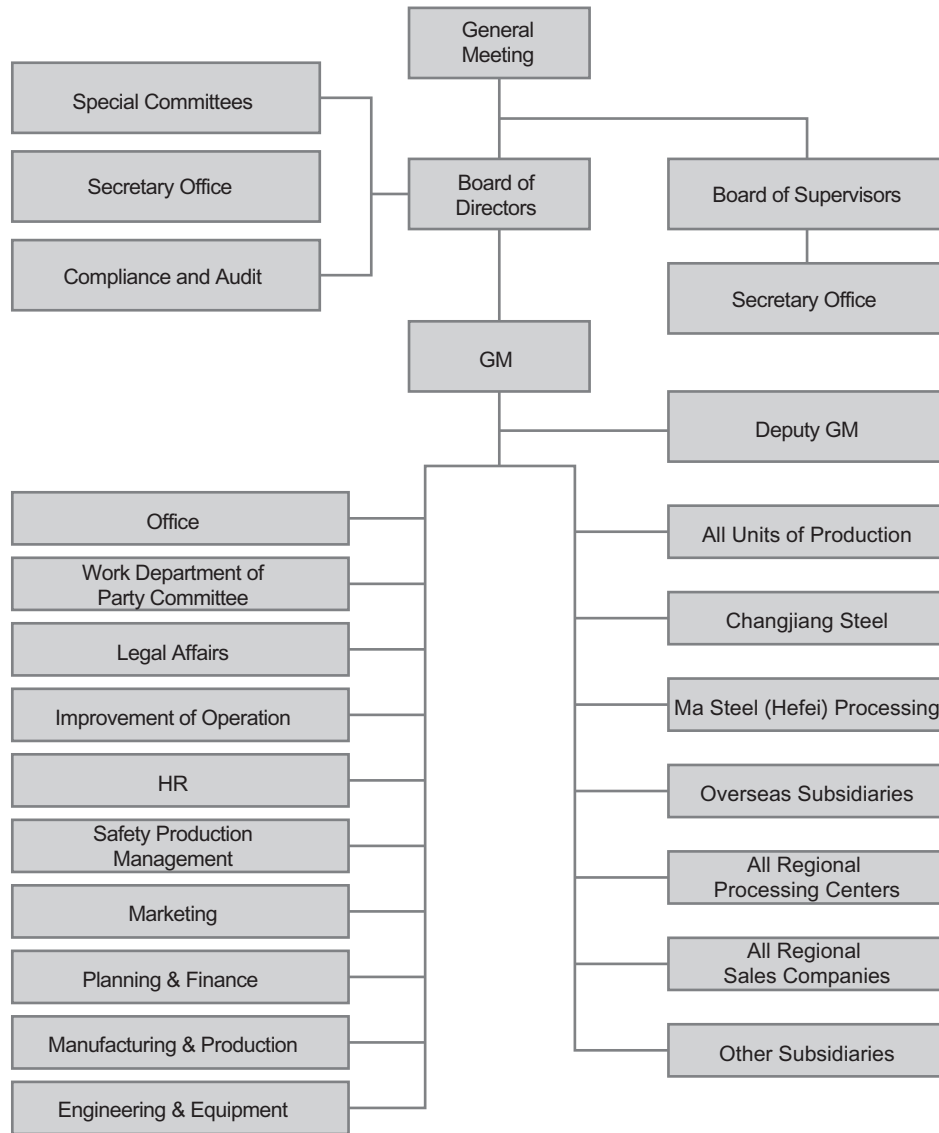
The Company has put in place a well-structured and balanced corporate governance framework, comprised of General Meeting, Board of Directors, Board of Supervisors and senior management, in accordance with the requirements of the applicable laws and regulations, and the posts and duties of each of the aforesaid functions have been clearly defined.

The Company complied with all code provisions set out in Appendix 14 Code on *Corporate Governance Practices, Listing Rules* of the HKEx in 2018.



II. ORGANIZATION CHART

The Company's organization chart as of the end of the reporting period is depicted as follows:



III. GENERAL MEETING

The Company held two general meetings, that is, 2017 Annual General Meeting and 2018 Second Extraordinary General Meeting, during the reporting period. It took place in Magang's office building situated at No. 8 Jiuhua Xi Road, Maanshan, Anhui province on June 28, 2018 and November 21, 2018. Ding Yi, Chairman of the Board, were present and chaired the meetings. The resolutions passed at the meetings were published on the websites of SSE and the HKEx, as well as on *Shanghai Securities News*.

Notes on the First Extraordinary General Meeting: the first extraordinary general meeting, the first A-share class general meeting and the first H-share class general meeting was originally scheduled on August 28, 2018. Due to the working arrangements, the Company decided to postpone the meeting. However, the Company failed to fix a time for holding the general meeting by September 18, 2018. According to the provisions of Company bylaws, even if the general meeting is postponed, the date of record remains unchanged. As a result, taking into account any impact on shareholder interests that might be caused by the long delay of the general meeting, and combined with the Company's practical situation, for the purpose of safeguarding the rights and interests of shareholders, the board of directors called a meeting and agreed to cancel the first extraordinary general meeting, the first A-share class general meeting and the first H-share class general meeting in 2018.

IV. BOARD OF DIRECTORS AND SPECIAL COMMITTEES

1. Board of Directors

The ninth Board of Directors of the Company has seven members, including, three executive directors and four non-executive directors, of which three are independent directors, representing three-seventh of the headcount. Among them, two directors are female, representing two-seventh of the headcount.

These independent directors of the ninth Board of Directors are fully competent for evaluating internal control and reviewing financial statements. The mix of the Board is fully compliant with the requirements of the applicable domestic and foreign laws, regulations and normative documents.

As acknowledged by all directors in writing, all directors satisfied the requirements set out in Appendix 10 *Model Code for Securities Transactions* by Directors of Listed Issuers, *Listing Rules* of the HKEx during the reporting period.





2. Special Committees

Four special committees report to the Board of Directors, namely, Strategic Development Committee, Review (Auditing) Committee, Nomination Committee and Remuneration Committee.

➤ **Strategic Development Committee**

The Strategic Development Committee under the ninth Board of Directors is comprised of Mr. Ding Yi, Chairman of the Board and Ms. Zhang Chunxia, Ms. Zhu Shaofang, Mr. Wang Xianzhu, Independent Directors. Mr. Ding Yi is Chairman of the Committee.

➤ **Review (Auditing) Committee**

The Review Committee under the ninth Board of Directors is comprised of Ms. Zhu Shaofang, Ms. Zhang Chunxia, Mr. Wang Xianzhu, Independent Directors. Ms. Zhu Shaofang is Chairman of the Committee.

➤ **Nomination Committee**

The Nomination Committee under the ninth Board of Directors is comprised of Ms. Zhang Chunxia, Ms. Zhu Shaofang, Mr. Wang Xianzhu, Independent Directors, Mr. Ding Yi, Chairman of the Board. Ms. Zhang Chunxia is Chairman of the Committee.

➤ **Remuneration Committee**

The Remuneration Committee under the ninth Board of Directors is comprised of Mr. Wang Xianzhu, Ms. Zhang Chunxia and Ms. Zhu Shaofang, Independent Directors, Mr. Ren Tianbao, Non-executive Director. Mr. Wang Xianzhu is Chairman of the Committee.

V. BOARD OF SUPERVISORS

The ninth Board of Supervisors of the Company has five members, including two supervisors representing the staff and three external supervisors, of which two are independent supervisors, representing two-fifth of the headcount. The mix of the Board is fully compliant with the requirements of the applicable domestic and foreign laws, regulations and normative documents.

VI. INTERNAL CONTROLS

1. The ninth Board of Directors considered and passed Internal Control Assessment Report (2018) on March 21, 2019, confirming effectiveness of internal controls implemented by the Company in 2018.
2. Ernst&Young Huaming Certified Public Accountants (LLP) audited the effectiveness of internal controls outlined in the Company's financial report as at December 31, 2018 and issued an unqualified auditor's report on internal controls.

SECTION V EMPLOYEES

I. WORK ENVIRONMENT

1. Policies and Execution

1.1 *Remuneration*

The Company implements the total salary package, highlights post value, and reinforces performance orientation. Based on the characteristics of subordinate secondary units and branches/subsidiaries, the Company conducts classified appraisal, with the total salary linked with core indicators, i.e. if performance improves, the total salary will increase synchronously; if performance declines, the total salary will decrease synchronously, biased toward units of greater value contributions. Performance-based salary is linked with personal post performance, biased toward key posts, front-line posts and high-level skilled talents. "More pay for more work, less pay for less work, and no pay for no work". In 2018, the Company optimized its employee salary structure, and raised the guaranteed salary.

1.2 *Employment Contract*

The Company strictly abides by the Labor Law, the Law on Employment Contracts and other applicable laws and regulations and inks employment contracts with all employees, specifying compensation, working hours, break time, holidays and leaves, occupational safety and health, insurance and benefits, among other matters. The Labor Law and the Law on Employment Contracts also apply to rescission or termination of employment contracts.





1.3 Recruitment

Recruitment of new employees of the Company is in strict accordance with the *Labor Law*, *Labor Contract Law* and other laws and regulations, and *Measures for the Management of Recruitment of New Employees* and other documents of the Company. According to the replenishment plan of the Company on new employees, it introduces new employees via campus recruitment, online recruitment, social recruiting, talent introduction and other means, to supplement to key production lines and key posts, improve the age, knowledge and skill structure of staff, enhance talents reserve and strengthen enterprise competitiveness. There were 450 new employees for the Company in 2018, among which, 110 are for the technical service posts and 340 for the operation & maintenance posts.

1.4 Promotion

The performance-based pay system is applied Company-wide and *Universal Performance-based Pay Measures* have been formulated. The key performance indicators are defined by post. The cycle of performance assessment follows the sequence of Management, Technician, and Operation and Maintenance, the three major posts. The assessment is conducted monthly, quarterly and annually. The results of monthly and quarterly performance assessment are fully linked to bonus distribution, while the results of annual performance assessment determine remuneration, best performer selection, training opportunity and promotion.

1.5 Working Hours, Holidays and Leaves

The Company has mapped out *Employee Attendance* and *Leave Management Rules* by combining its reality with compliance with the applicable laws, regulations and policies and applies the standard of 40 working hours per week, to keep business running properly, manage working hours and leaves and protect the legitimate rights and interests of the staff.

Non-working days: weekends, public holidays, annual leave, family leave, sickness leave, leave for personal affairs, leave for injury from work, leave for marriage or funeral, maternity leave and other vacations as prescribed by the authorities in the laws and regulations.

The Company has formulated *Employee Paid Annual Leave Implementation Measures* in accordance with *Employee Paid Annual Leave Regulations* unveiled by the State Council and *Employee Paid Annual Leave Implementation Measures* released by the Ministry of Human Resources and Social Security. Any employee who has been in service for one full year but less than ten years shall enjoy five days' paid annual leave; those who have been in service for ten full years but less than twenty years shall enjoy ten days' paid annual leave; and those who have been in service for 20 full years or longer shall enjoy fifteen days' paid annual leave. Those who choose to give up their right to paid annual leave must submit a written application.

1.6 *Social Security and Benefits*

As required by the central, provincial and municipal government, the Company pays a whole package of social security contributions in full and in a timely manner. Contributions made in 2018 totaled 651,938,000 yuan.

The enterprise annuity system is implemented, and the annuity fee is mutually paid by the Company and individual employees. Individuals are charged 1% of the payment wage base, whereas the Company pays a total 5% of the payment wage base, to their personal annuity account on monthly basis.

An employee housing provident fund is provided. Every employee has a housing provident fund personal account, and both employees and the Company contribute about 12% out of the payment wage base. Subsidizing to those employers who did not own the benefits of monetization on the housing allotment, and the subsidy standard is 7% of payment wage base.

A supplementary medical insurance cover and a major disease relief system are provided. In addition, all employees are insured against major diseases, accidental injuries and household property commercial insurance.

Employees enjoy one meal for free on working days.

To protect health of the staff, the Company organizes Company-wise physical examination on a biennial basis.

We conduct staff satisfaction surveys every year to understand the needs of employees and protect the legitimate rights and interests of the staff.



2. Key Performance Indicators

> Employee Mix by Age

Age Range	Headcount in 2018	Headcount in 2017
35 and below	3,415	3,588
36 to 40	2,399	2,730
41 to 50	11,945	13,145
51 to 60	5,536	5,634
Total	23,295	25,097

> Turnover Rate by Age

Age Range	Turnover Rate in 2018	Turnover Rate in 2017
below 30	0.32%	0.22%
30 to 40	0.06%	0.07%
40 to 50	0.04%	0.04%
Above 50	0.01%	0.01%
Total	0.42%	0.34%

> Turnover Rate by Region

Region	Turnover Rate in 2018	Turnover Rate in 2017
Within the Province	0.27%	0.27%
Outside the Province	0.15%	0.07%
Total	0.42%	0.34%

II. HEALTH AND SAFETY

1. Policies and Execution

The Company strictly abides by the *Law of the People's Republic of China on Work Safety* and other laws, regulations, standards and requirements on work safety, conscientiously implements the instructions, decisions and deployments made by the national, provincial or municipal governments on work safety, deeply pushes forward the action for overcoming work safety challenges and the action for investigation and control of major work safety risks, promptly identifies and acquires work safety laws, regulations and requirements, strengthens the publicity and training of laws and regulations, and integrates the laws, regulations and requirements into the corporate system for specific implementation. In 2018, the Company identified a total of 305 and updated a total of 14 laws and regulations on work safety.

2. Key Performance Indicators

- 2.1 In 2018, the Company had no employee death accidents, down by 1 person than 2017; had no major injury accidents, down by 1 person than 2017; and had minor injury accidents with 14 persons, down by 6 persons than 2017; with a 0.57% injury rate per thousand persons.
- 2.2 In 2018, the Company had no occurrence of occupational diseases.
- 2.3 Occupational health & safety measures and implementation
 - Action for overcoming work safety challenges. According to requirements of government departments, the Company has made the Plan for the Implementation of Action for Overcoming Work Safety Risks of Maanshan Iron & Steel Co., Ltd., with a focus on the examination of working environments exposed to bigger risks, such as hazardous chemicals, explosive dust, limited space and gas operation.





- Thoroughly carry out the action for investigation and control of major work safety risks. According to requirements of the relevant government departments, the Company has made the *Plan for the Implementation of Action for Investigation and Control of Major Work Safety Risks of Maanshan Iron & Steel Co., Ltd.*, with great efforts to organize the investigation and control of major work safety risks and the general inspection on safety, establish a ledger for any major risks identified and any outdated capacity, process or equipment to be eliminated, make careful rectification, and fully realize “five implementations” for the rectification of risks; conduct such specific inspection on work safety as inspection on damage and corrosion of steel structures of factory buildings, gas and gas facilities, individuals from external organizations, project construction, electric cables fire-fighting in summer, seasonal fire check, so as to avoid any major and extraordinarily serious accidents, reinforce the repair & maintenance and construction safety management, and strengthen the safety supervision over key projects.
- Lay emphasis on work safety during key hours, and make good preparation and response to disastrous weather. In early 2018, as our province suffered the large-scale lasting extreme weather of rain, snow and ice, the Company made a plan for work safety under the weather of rain, snow and ice, set up a leading group, clarified the duties of relevant departments and organizations, and put forward specific requirements for each organization to cope with the extreme weather, to ensure the smooth execution of safe production and operation within the Company. In July and August, the Company withstood the severe test of several typhoons by taking active precautions to guarantee the safe operation of production logistics and electrical equipment. The Company did a good job in summer cooling by issuing the Notice on Summer Cooling in 2018 and releasing the first cost plan for summer cooling. Based on the Company’s institutional reform of administrative system, adjustment of some production lines, and human resource optimization, the Company promptly issued the *Notice on Releasing the Second Cost Plan for Summer Cooling*, with an expectation to ensure the orderly progress of summer cooling. Each organization, combined with its specific situation, made its own plan for summer cooling, and made detailed arrangements for the repair & maintenance of equipment and facilities and the distribution of beverage and drugs for summer cooling.

- Organize the national “Work Safety Month” activity. During the 17th national “Work Safety Month” activity, themed by “Life First, Safe Development”, the Company organized employees to watch the warning education film, and carried out thematic essay solicitation activities. The Company organized more than 8,860 employees to participate in the online “Work Safety Month” emergency response and safety knowledge contest, and held the national “Work Safety Consulting Day” event; conducted the publicity of laws and regulations on work safety; organized employees to take part in the “Work Safety Month” art performance and speech contest held by the city; and organized employees to take part in the safety knowledge contest on “Three Posts” held by the city and win the first prize as a team for the second time.
- Implementation of occupational health monitoring. The Company conducted assessment on the control effect of occupational hazard prevention facilities in connection with the No. 4 blast furnace and No. 3 sintering machine projects of the No. 2 iron-making factory, and pre-assessment on occupational hazards of the No. 7 coke oven FGDD projects and the new silo project (south zone) of the coking works, with an aim to eliminate or minimize occupational hazards; completed the employee health check as scheduled; evaluated the compliance with basic requirements of occupational hygiene by each organization and controlled joint venture of the Company, in the hope of solidifying the foundation for occupational hygiene, finding out the problems existing, and improving the level of occupational hygiene management; and effectively strengthened the supervision over key posts and key persons of occupational hygiene, established the concept that “There will be a hidden danger if the concentration (intensity) of occupational-disease-inductive factors exceed the standard”, and included the analysis and control of occupational-disease-inductive factors into the dual prevention mechanism of graded risk control and risk investigation & control.





- Roll out various safety education and training programs. At the beginning of the year, the Company prepared and issued the *2018 Plan for Safety Training*, and according to this plan, the Company organized the qualification and reexamination training for special operation persons, special equipment operators and managers; and held training sessions for safety qualifications with respect to persons in charge and safety managers of hazardous chemical organizations, metal smelting organizations and ordinary production organizations. In 2018, the Company provided reexamination training for more than 3,080 special operation persons, qualification training for 330 safety managers, and qualification training for more than 480 special operation persons; provided training for more than 60 special equipment managers, and reexamination training for more than 540 special equipment operators; and provided qualification training for 190 special equipment operators. The Company invited experts to deliver lectures on standards for work safety management, with participation of more than 140 safety managers from all levels.
- Formulate and sort out safety management rules and standards. On March 1, the Company issued the *Measures for the Administration of Middle Management's Responsibility for Work Safety Accidents*, which represented the Company's first measures for the administration of middle managers with respect to safety management, and also the strictest and severest administrative measures so far, designed to deeply implement the work safety responsibility system, reinforce the work safety constraint mechanism, enhance the middle management's sense of safety responsibility, facilitate the implementation of work safety, and prevent any safety accidents. To guarantee the investment of work safety funds, the Company formulated the *Measures for the Administration of Safety Expenses*, and revised the *Measures for the Administration of Technical Measures for Occupational Health and Safety*. Due to the Company's institutional reform of administrative system and department function adjustment, the work safety management is fully sorting out the Company's work safety management system with Baosteel's work safety management system as a benchmark.
- Guarantee the work safety investment. The Company seriously implemented the state's requirements on work safety investment, and actually invested RMB70.92 million for work safety in 2018, higher than that required by the state.

III. DEVELOPMENT AND TRAINING

1. Policies and Execution

In 2018, in line with the development strategy of “13th Five-Year Plan”, the Company persists in improving the classification and training system. According to the needs of promoting key tasks of the Company, based on problem orientation, facing the site and the market, the Company organized leadership training to implement middle-level management and improved business management capabilities, and implemented a series of trainings on section-level management, skills upgrading and operational qualification. Based on knowledge updating and ability improvement, strengthen the cultivation of various types of professionals and use international business development as a guide to deepen vocational international talents’ training and development of urgently needed talents of the Company; provide talent support for Company transformation, product upgrading and brand building.

2. Training Statistics

2018

Indicator	Management	Technician	Operation and Maintenance
Percentage of trained employees (%)	84.2	90.85	95.69
Training hours per capita per year (hour)	24.8	70	25

2017

Indicator	Management	Technician	Operation and Maintenance
Percentage of trained employees (%)	83.5	91.21	98.75
Training hours per capita per year (hour)	25.22	69	24





IV. CODE OF CONDUCT

1. Policies and Execution

The recruitment of new employees strictly follows the relevant laws and regulations such as Labor Law, Labor Contract Law and other relevant documents such as the *Measures for the Management of Recruitment of New Employees*, prohibiting the recruitment of minors under the age of 18 and forced labor.

2. Key Performance Indicators

The Company keeps records of all recruits accurately and only hires adults aged above 18. No child labor is used in any form. Employment Contract is signed with every employee, specifying working hours, break time, holidays and leaves clearly. There is no forced labor in any form or by any means.

SECTION VI ENVIRONMENTAL PROTECTION

I. GUIDING PRINCIPLE, ANNUAL TARGETS AND ACHIEVEMENTS IN ENVIRONMENTAL PROTECTION

1. Guiding Principle

Beautiful environment, green development, urban factory

2. 2018 Annual Environmental Protection Targets

- The discharge amount of major pollutants meets the discharge permit requirements;
- Pollutant discharge meets the national standards and internal control standards;
- Construction project EIA & acceptance rate 100%.
- Safe disposal rate of hazardous waste is 100%;
- Occurrence rate of all kinds of pollution accidents is zero;

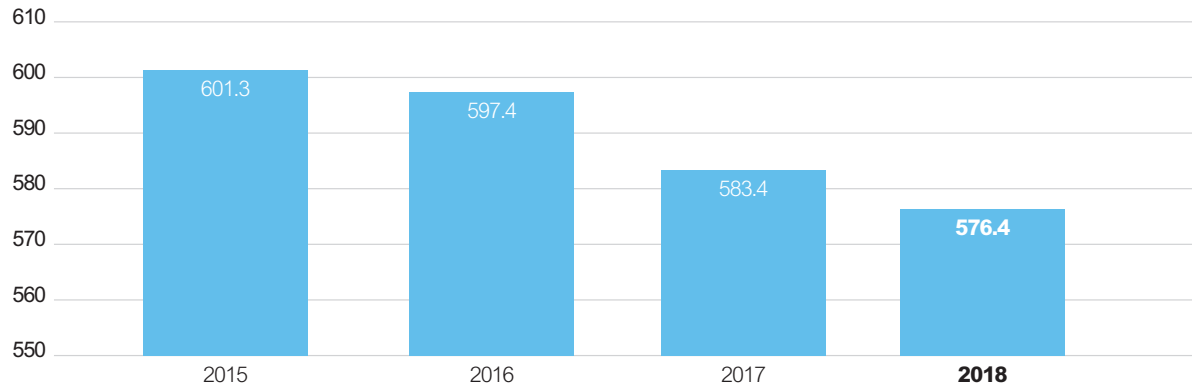
3. Achievements

- An “Environmental Integrity” enterprise with the highest rank in the provincial environmental credit evaluation;
- Major performance indicators continued to improve;
- Smoothly passed the “Looking Back” by the central environmental supervision group;
- Completed the application for pollutant discharge license, and realized legal pollutant discharge with license.
- Safe disposal rate of hazardous waste was 100%;
- Occurrence rate of contamination accident throughout the year was zero;
- Fresh water consumption per ton was 3.29m³/t;
- The comprehensive energy consumption per ton steel hit the best record in history;

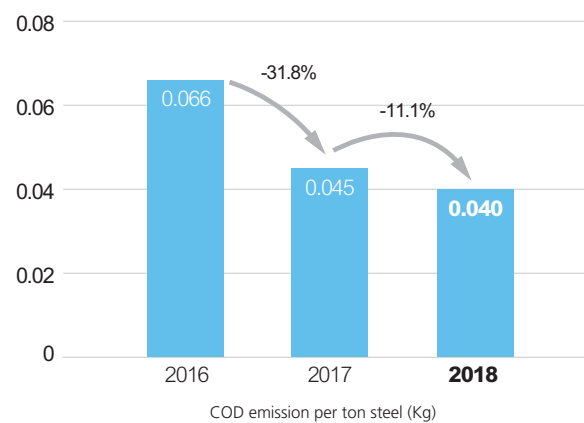
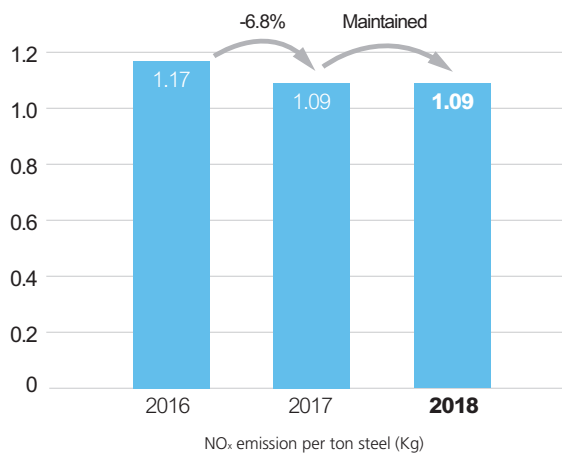
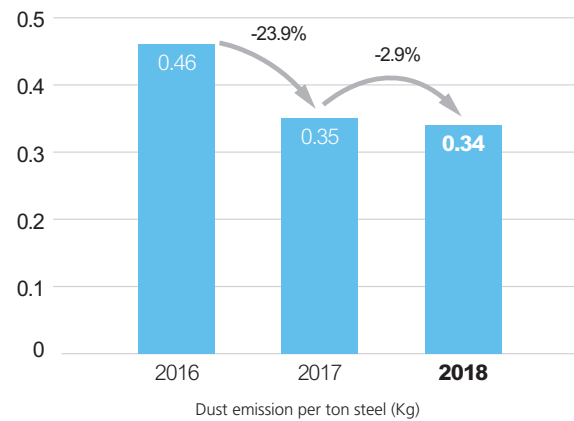
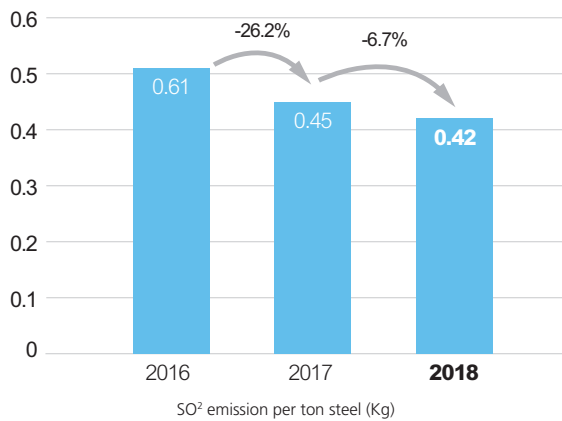


COMPREHENSIVE ENERGY CONSUMPTION OF PER TON STEEL OF THE COMPANY

Unit : kgce/t



MAJOR ENVIRONMENTAL INDEXES HAVE RISEN SHARPLY



II. EMISSIONS

The Company's main pollutants are waste water, waste gases and solid waste. Exhaust gases are mainly pollutants such as smoke powder, nitrogen oxides, SO₂ and other pollutants produced in the process of material transfer and sintering, iron making, steel making, steel rolling, thermal power plants and other production processes. The pollutants in the exhaust gas are removed by dedusting, desulfurization and denitrification, and discharged into the atmosphere by chimney stacks; waste water mainly contains SS, COD, oil, ammonia and other pollutants and is discharged into the tributaries of the Yangtze River after reaching standards; solid waste mainly includes iron dust, iron oxide scale, metallurgical slag and others. Solid waste is almost comprehensively used.



1. Policies and Execution

In 2018, the state introduced a number of environmental policies, and successively revised the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution*, *Law of the People's Republic of China on the Prevention and Control of Water Pollution*, *Law of the People's Republic of China on the Prevention and Control of Soil Pollution*, and *Law of the People's Republic of China on the Prevention and Control of Environmental Noise Pollution*. The State Council issued such important documents as the *Three-Year Action Plan to Win the Battle for the Blue Sky*, *Opinion on Comprehensively Strengthening the Ecological Environmental Protection and Resolutely Fighting an Uphill Battle against Pollution*, etc. Throughout the year, the Company updated and identified a total of more than 30 applicable laws, regulations and other requirements; revised 14 system documents according to changes in laws and regulations, and added one administrative measure; carried out the construction project EIA and acceptance work in accordance with laws and regulations, with a project EIA rate of 100%; tried best to adapt to new changes in such policies as the *Regulations on Environmental Protection for Construction Projects*, *Interim Measures for the Acceptance of Environmental Protection for the Completion of Construction Projects*, etc., and pursuant to the *Technical Guide for the Acceptance of Environmental Protection for the Completion of Construction Projects*, formulated the measures for the administration of the independent acceptance by the enterprise to accelerate the acceptance of environmental protection for projects; and pursuant to the *Technical Specifications for the Application and Issuance of Pollutant Discharge Permits*, fully completed the application for pollutant discharge permits, and obtained pollutant discharge permits for the thermal power industry, coking industry and steel industry successively.

2. Compliance with and Major Breaches of Relevant Standards, Rules and Regulations

- According to the requirements of the *Work Plan for the Ultra-low Emission Transformation of Steel Enterprises (Draft for Comment)* made by the Ministry of Ecology and Environment and the *Opinion of the State Council on Comprehensively Strengthening the Ecological Environmental Protection and Resolutely Fighting an Uphill Battle against Pollution*, the Company carried out in-depth investigation on key pollution sources, and following the principle of addressing both symptoms and root causes, developed the *Three-Year Work Plan to Win the Battle for the Blue Sky, Clear Water and Pure Land*, scheduled to implement nearly 200 environmental improvement projects in 2018-2020.
- The Company strictly monitored the pollutant discharge. At the beginning of the year, the Company made a self-monitoring plan, and filed it with the environmental authority as required by the state, wherein, monitoring consisted of automatic monitoring and manual monitoring. The Company strictly implemented the monitoring plan, conducted weekly analysis and reporting of monitoring data, and rectified any exception in a timely manner.
- In 2018, both the density of environmental supervision and the severity of punishment from the government were unprecedented. Although the Company put great effort to environmental protection, irregularities existed at some sites, and four secondary units were punished by the municipal environmental protection bureau due to atmospheric pollution and wastewater discharge issues. There were five punishments imposed, and all units concerned completed rectification immediately.

3. Key Performance Indicators

3.1 Classification and Emission

No.	Index	Unit	Increase or decrease		
			Year of 2018	Year of 2017	(±)
1	Comprehensive energy consumption	kgce/t	576.4	583.4	-7
2	Fresh water consumption per ton steel	m ³ /t	3.29	3.47	-0.18
3	Emission of sulfur dioxide	kg/t	0.42	0.45	-0.03
4	Emission of NOx	kg/t	1.09	1.09	0
5	COD emission per ton steel	kg/t	0.04	0.045	-0.005
6	Emission of particles	kg/t	0.34	0.35	-0.01
7	Emission of ammonia nitrogen	kg/t	0.0022	0.0023	-0.0001
8	Comprehensive utilization of solid waste	%	99.83	99.69	0.14

Total energy consumption

Energy categories	Year of 2018	Year of 2017	Increase or decrease (±)
Raw coal (ten thousand tons)	314	308	6
Cleaned coal (ten thousand tons)	641	647	-6
Coke (ten thousand tons)	152	147	5
Electricity (TWh)	36	35	1
Diesel (tons)	4,003	4,794	-791
Gasoline (tons)	171	278	-107
Natural gas (10 ⁴ m ³)	1,310	2,134	-824

3.2 Total Emission of Hazardous Wastes and Density

In 2018, the Company produced 35,269 tons of hazardous wastes, and recycled and disposed of 35,269 tons. The safe disposal rate has continued to maintain at the 100% level.

3.3 Total Emission of Non-hazardous Wastes and Density

In 2018, the Company produced 7,900,000 tons of solid wastes, and recycled 7,890,000 tons. Compared with 2017, the amounts of solid wastes produced and utilized have all seen a slight decrease. The 99.83% of utilization rate is higher than the 99.5% target value.

3.4 Emission Reduction Measures and Achievements

- Pollution prevention from source. For new projects, ultra-low steel emission standards are applied; for equipment procurement, priority is given to purchasing environmental label products with less impact on the environment. The production process follows the “high quality material policy”, by using imported high-grade low sulfur ores, and purchasing low sulfur coal, so as to prevent pollution from source.





- Keep advancing the efficient operation of the system. According to the system standards, periodically carry out such activities as full life cycle environmental factor identification and control, compliance evaluation, internal audit, etc., to continuously improve the mechanism and promote the environmental performance.
- Reinforce the control of environmental protection facilities, and improve the operation level. The Company now has 74 wastewater treatment facilities, 248 waste gas & dust treatment facilities, 36 solid waste treatment facilities, and 232 online monitoring facilities for pollution sources. The Company has strengthened its control over environmental protection facilities and specified corresponding responsibilities, by implementing synchronized operation and maintenance of the environmental protection and major facilities and conducting emergency maintenance in abnormal or breakdown events. Meanwhile, the operation of some environmental protection facilities has been designated to third parties.



- Strengthen the control of environmental risks. Make examination plans by week, strengthen inspection at night, and promptly solve any problem found; further reinforce the online management on pollution sources, and continue to implement the hourly meter system; and use the environmental information system for full and 24/7 monitoring over key furnaces and transfer stations.
- In 2018, the Company's smoke powder and SO₂ emission per ton of steel was 0.34 kg and 0.42 kg respectively, down by 0.01 kg and 0.03 kg respectively than those of 2017; NO_x emission per ton of steel was flat from last year that stood at 1.09 kg. COD emission per ton of steel was 0.04 kg, down by 0.005 kg than 2017; and ammonia nitrogen per ton of steel was 0.002 kg, basically flat with last year.

3.5 *Disposal of Non-hazardous Wastes, Reduction Measures and Achievements*

According to the national solid hazardous waste management policies, the Company has formulated the Measures for the Administration of Hazardous Wastes, designed to fully control the category, generation, disposal and transfer of solid hazardous wastes.

- Intensify the reduction of industrial solid hazardous wastes at source and classified collection. The Company formulates the quantitative index of bulk hazardous waste reduction, optimizes the setting of varieties and indicators, and strengthens the evaluation and assessment.
- Expand the disposal channels of solid hazardous waste. Based on the internal disposal rule, the Company organizes relevant units to make survey, demonstration and technical breakthroughs, to increase internal utilization. In view of the present shortage capacity to accommodate external disposal, the Company seeks qualified external disposal channels, and effectively reduces the cost of external disposal.

3.6 *Hazardous wastes are managed strictly*

The Company has developed Hazardous Waste Management Measures in accordance with the national policy for hazardous wastes to maintain control over the classification, generation, processing and transfer of hazardous wastes. In 2018, the pass rate of proper management of hazardous wastes per unit and the safe disposal rate of hazardous wastes continued to maintain at 100%.





III. UTILIZATION OF RESOURCES

1. Policies and Execution

1.1 Energy

According to the energy development plan, the Company has formulated key indicators and parameters to achieve the goal of mid-and-long term energy and environment control and issued the *Energy Management Work Plan* at the beginning of each year. Moreover, the Company formulated and issued monthly plans for energy economy performance indicators, held regular energy work meetings, key energy project promotion meetings and regional energy economy operation site exchange meetings on a monthly basis, supervised each manufacturing unit to make specific work plans and measures based on the actual situation, and built a guarantee system to thoroughly promote lean energy operation, in order to complete the target of comprehensive energy consumption per ton of steel in 2018. In addition, the Company revised and improved the management procedures and methods to provide institutional guarantee for the Company's energy management work in a standard, orderly and efficient manner. The Company implemented energy policy, supported the Company's transformation, deeply advanced the lean energy management, and continuously pushed forward the energy project construction and the effective implementation of energy saving and consumption reduction measures. The structural energy saving has been realized through adjusting production process structure, product structure, energy consumption structure, furnace material structure, and optimizing production process; the energy consumption has been reduced through large-scale energy-saving technology upgrading and comprehensive utilization of surplus heat and energy. Currently, the major applications are TRT technology, CDQ, coal moisture control technology, gas-steam combined cycle, comprehensive utilization of H₂ produced by coke oven gas, recovery of waste heat from heating furnace, new thermal insulation materials, and green lighting.

1.2 Water Resources

By strengthening the basic management and analysis of water use, the Company adopted super-consumption assessment measures, and carried out water-saving renovation projects to further improve the efficiency of water use. In terms of management, combined with the national water resource policies, the Company further revised the *Measures for the Administration of Water Saving*, issued monthly water consumption plans for production lines, and conducted strict assessment. In terms of technology, at the time of No. 1 blast furnace overhaul, the No. 2 iron-making factory improved the process of water use and transformed to the fully dry cloth-bag dust removal from the wet dust removal, cancelled the original use of gas washing water, and used the soft water cooling system to reduce the amount of circulating water from 16,000 m³/h to 8,000 m³/h or around. The No. 3 iron-making factory renovated the pelletized sewage system to realize sewage recycling and use part of them for the flue gas desulphurization system to reduce external drainage, so as to reduce consumption of industrial clean water; on the basis of the main coal washing pipe, the factory added a new one to the granulating basin, as a water replenishing pipe, with monthly average water saving of about 100,000 m³. In May 2018, the energy center renovated the circulating water system for high brand public and auxiliary projects by removing the original valveless filter and using a shallow filter, with an obvious water-saving effect. In 2018, the fresh water consumption per ton of steel was 3.29 m³/t, and the industrial water reuse rate was 98.04%.

1.3 Solid waste resources

As a factory located in the metropolitan area, the Company attaches great importance to the compressive utilization and development of metallurgical solid waste resource. By science and technology innovation, and with the help of corporate level investment and policy support, the Company continuously promotes the utilization of metallurgical solid waste resources. Through years of exploration and implementation, the comprehensive utilization of Magang metallurgical solid waste resources has made great progress, and metallurgical solid waste such as blast furnace slag, converter steel slag, iron dust, fly ash, etc. have been properly utilized and disposed. In 2018, the Company produced 7.9 million tons of solid waste, with a utilization of 7.89 million tons and thus a remarkable 99.83% comprehensive utilization rate.



2. Key Performance Indicators:

2.1 Total Energy Consumption

Refer to Classification and Emission data in section 3.1.

2.2 Total Water Consumption and Density

In 2018, the industrial water reuse rate was 98.04%, up to the standard of Class I clean production.

Indicator	Unit	2018	2017
Total fresh water consumption	0,000t	5,033	5,337



2.3 Energy Efficiency Plan and Achievements

According to the requirements of the Three-Year Action Plan to Win the Battle for the Blue Sky (G 2018 No. 22) formulated by the State Council, for the purpose of improving the Company's high-quality development level, and controlling both the total energy consumption and intensity, the Company included key indicators and parameters into the "13th Five-Year Plan for Energy Saving and Environmental Protection", such as comprehensive energy consumption per ton of steel, new water consumption per ton of steel, COD emissions, SO₂ emissions, formulated medium and long-term energy and environmental protection target control plans, linked the supervisor's performance directly with the target, entered into a Statement of Responsibility for the Energy and Environmental Protection Target with each main responsible unit at the beginning of each year. Meanwhile, the statement optimized the corporate structure and management responsibilities, reinforced the energy measurement management and energy indicator management, and strengthened the energy-saving management in respect of system, production organization, the plan of energy use, staff quality improvement, process control, etc. In 2018, the Company's comprehensive energy consumption per ton of steel was 576.4 kgce/t, down by 7 kgce/t on a YoY basis.

2.4 Access to Suitable Water Supply, Water Efficiency Improvement Plan and Achievements

According to the national water resource policies, the Company further revised the Measures for the Administration of Water Saving, issued monthly water consumption plans for production lines, and conducted strict assessment; carried out the whole system water balance test, clarified the current situation of water use, tapped the water-saving potential, developed feasible water-saving measures, and improved the utilization of water resources. In addition, the Company implemented water-saving projects to reduce waste water discharge, including: blast furnace soft water closed cycle, recycling project of waste water from iron factories, steel rolling mill billet cooling circulating water renovation project; explored new circulating water cooling process and water saving technology; launched a special campaign to treat water pollution, and built new sewage treatment stations and waste water reuse facilities to reduce the total amount of water collected. In 2018, the Company's fresh water consumption per ton of steel was 3.29 m³/t, down by 0.18 m³/t on a YoY basis.

IV. CONSTRUCTION AND OPERATION OF ENVIRONMENTAL PROTECTION FACILITIES

The Company owns completed pollution control facilities, with feasible technology and normal operation. Environmental protection facilities currently in operation include: 74 wastewater treatment facilities, 248 waste gas & dust treatment facilities, and 36 solid waste treatment facilities, wherein, the main discharge outlet of waste water and gas has been installed with online monitoring facilities, and realizes networking according to the government requirements. All such industrial solid waste disposal facilities as blast furnace slag, converter slag, electric furnace slag and iron-bearing dust are in place. Each production process has been equipped with noise elimination, noise reduction and sound insulation facilities to effectively control environmental noise.





V. INVESTMENT IN ENVIRONMENTAL PROTECTION AND DEVELOPMENT OF ENVIRONMENTAL PROTECTION TECHNOLOGIES

- In 2018, the Company arranged the implementation of ultra-low emission renovation projects for environmental protection as follows: 24 organized emission control projects, 32 spontaneous emission control projects, 10 water treatment and utilization projects, 2 solid waste disposal projects, and 1 green transport project, part of which needed to be implemented across the year. As at the end of the year, the Company completed 21 projects, with investment of RMB229.53 million; and there were 15 projects under construction.
- Make thorough progress in tackling key pollution control technologies. The Company set up an APQP project team for environmental governance to support the Company's concept "Environmental Operation, Green Development" and improve the Company's core competitiveness. The APQP project team has done a lot of work in building channels, self-tapping, developing new approaches to solid waste disposal, etc.. In 2018, the project team completed the internal disposal of MASCOMETAL waste acid, research on the application of the technology for extracting potassium chloride from sintering machine head ash, and the technology for internal utilization of electric furnace dust removal ash. For current key technical issues, the Company now is tackling internal disposal of acid-base sludge, reduction of industrial waste water, etc.

VI. THE ENVIRONMENT AND NATURAL RESOURCES

The Company thoroughly implements the concept of ecological civilization construction, and the spirit of the central conference on ecological and environmental protection, works hard to prevent and control pollution, and practices the idea "Lucid waters and lush mountains are invaluable assets"; meanwhile. Guided by the theme "Speeding up enhancing the innovative competitiveness" and the corporate development strategy and the "13th Five-Year Plan" for energy saving and environmental protection, the Company continuously pushes forward the innovation of environmental protection concept, management and technology, reinforces the effective operation of the environmental management system, and improves the level of lean management, so as to greatly reduce the impact of business operation on the environment and natural resources.

1 Environmental protection management

- Environmental protection is the core competency of enterprises. According to the requirements of essential environmental protection, the Company makes real practice and solid work, and takes on greater social responsibility, with an expectation to build a green modern urban factory, and promote industrial-urban integration and ecological harmony.

- Improve organizational structure. The Company attaches great importance to environmental protection, and has set up an energy saving and emission reduction management committee, while each secondary unit has set up an energy & environmental protection office, appointed dedicated energy saving and environmental protection managers, and formed a complete energy saving and environmental protection management network. In 2018, after an institutional reform, the energy control center undertook the environmental protection function.
- Improve the institutional system. In 2006, the Company already started the ISO14001 environmental management system certification, created a system manual, developed 40 management rules, including the Pollutant Control Procedures, Measures for the Administration of Environmental Protection of Construction Projects, Solid Waste Management Procedures, etc., formed a responsibility system, institutional system, indicator system and evaluation system, and carried out work on pollution prevention, process control, analysis & evaluation and continuous improvement, so as to keep pushing forward the environmental management in an efficient manner.
- Fulfill environmental protection targets. According to the situation and tasks of environmental protection, the Company enters into a target responsibility statement with each secondary unit every year, breaks down indicators, clarifies responsibilities, and implements monthly evaluation, quarterly evaluation and annual evaluation.
- Advance the whole-process clean production. The Company adheres to the principle of combining source control with end control, implements structural adjustment and improves equipment capacity; insists on reducing emissions at source, advocates green procurement, promotes green manufacturing, and carries out clean production audits. The Company adopts energy saving, emission reduction and pollution control measures throughout the process.
- Strengthen lean environmental management and improve the ability to prevent and control pollution. According to the requirements of essential environmental protection, the Company has constantly strengthened the lean management for environmental protection, and relied on information technology for real-time monitoring over the dynamic operation of pollution; deepened the control of non-point source pollution, and carried out the comprehensive improvement of the factory environment. In addition, the Company has also reinforced the on-site inspection, normalized the on-site environmental control; actively turned waste into treasure, and effectively utilized solid waste resources. Moreover, the Company has implemented the custody and centralized control of environmental protection facilities to ensure their efficient operation, and given full play to the technical support for continuous innovation.





2 Energy management

- Carry out effective operation and management of the energy management system. With a specified energy management policy, the Company has established an energy management process integrating the energy plan designing, process control, analysis and evaluation, and implementation and improvement, and realized the meticulous management of energy indicators. The Company has developed the energy benchmarking program and various benchmarks for the indicators like comprehensive energy consumption per ton of steel and process energy consumption. The manufacturing units have strengthened their intensity of benchmarking and made significant progress. The Company has held centralized training courses for internal auditors on energy system. Through the in-depth study on the certification requirements for steel enterprises of the energy management system, energy assessment methods and main steps, the Company has continuously improved the skills of energy managers, and supported the effective internal audit on energy system of the Company. In 2018, the Company made historic breakthroughs in the national key large-scale energy-consuming steel production equipment energy-saving competition, wherein, the A sintering machine from the No. 3 iron-making factory was honored as “Champion Furnace” among 300m² (or above) sintering machines, while the #4 blast furnace from the No. 2 iron-making factory, the B blast furnace from the No. 3 iron factory and the #2 converter from the No. 4 steel-making factory were honored as “Excellent Furnace” respectively.
- Make all efforts to push forward the construction of key energy projects, with remarkable results achieved. In 2018, the Company implemented 30 key energy projects, including the special steel furnace flue gas waste heat recovery, cold rolling works 2,130 continuous annealing waste heat recovery, No. 4 steel works 1,580 flue gas waste heat recovery, and completed 18 of them, with the annual profit totaling RMB50.5 million, and annual saving of about 42,000 tons of standard coal.

- The Company has further improved the water resource management system, and according to the national water resource policies, further revised the *Measures for the Administration of Water Saving*, issued monthly water consumption plans for production lines, and conducted strict assessment; controlled the use of new water consumption per ton of steel as a main energy at the Company level; quantified the water consumption and energy consumption indicators for secondary units, established a monthly analysis, evaluation and assessment system, and formed an assessment and incentive mechanism for saving water and reducing consumption; and took cascade utilization measures such as “separate water supply, graded treatment, new for clean, clean for turbid”, which effectively improved the water recycling. Considering that the Company’s water intake permit is valid until October 31, 2019, in 2018H2, the Company started to contact with the Downstream Resources Survey Bureau of Hydrological Office, Yangtze Water Resources Committee, and entrusted them to carry out the water balance test for the Company. At present, the work is under smooth execution. The Company will, according to the water balance test results, successively implement water-saving transformation projects, and continue water intake projects for steel production and supporting projects of the Company, and carry out water resources demonstration work, so as to improve the utilization efficiency of water resources.

VII. SPECIFIC POLICY OF THE ENVIRONMENTAL PROTECTION TAX AND ITS IMPACT ON THE COMPANY

The *Environmental Protection Tax Law* was officially put into implementation on January 1, 2018. After the “fee-to-tax” reform, the collection department and the mode of charging have changed significantly. The environmental protection tax is mandatory, gratuitous and fixed, forcing enterprises to “control pollution and reduce emissions” and “make industrial transformation and upgrading”.

Pursuant to the environmental protection tax law, the amount of tax on atmospheric pollutants shall be RMB1.2-12 per pollution equivalent, and the amount of tax on water pollutants shall be RMB1.4-14 per pollution equivalent. According to the standard currently implemented in Anhui Province, the price per equivalent of smoke powder, oxynitride, suspended solids and petroleum all doubled, as a result of which, the Company’s environmental protection tax payment in 2018 increased by 42% compared with the pollution discharge fee in 2017. Pursuant to the environmental protection tax law, no environmental protection tax would be levied on any storage or disposal of solid waste in line with national and local environmental protection standards. If the emission concentration is 30% lower than the national and local standards, environmental protection tax would be levied by 75%; if 50% lower than the national and local standards, environmental protection tax would be levied by 50%.

In 2018, the Company paid environmental tax of RMB57.906 million, and realized tax reduction or exemption of approximately RMB4.375 million.





SECTION VII SUPPLIER MANAGEMENT

I. POLICIES AND EXECUTION

Under the work guide of “continuously create a competitive supply chain”, the Company pays attention to protect the rights and interests of all stakeholders, build a good interaction between the enterprise and the upstream and downstream supply chain, actively promote all parties in the supply chain to fulfill their social responsibilities, and create a good external environment for the sustainable development of the enterprise.

Driven by product demand and based on customer requirements as the standard, the Company has revised such documents as *Supplier Management Procedures*, *Procurement Management Procedures*, *Measures for the Administration of the Approval for Purchase and Use of Raw Materials*, etc., with an expectation to standardize the procurement process, optimize supply channels, and perform scientific management on suppliers, ensuring all the purchased products conform to the requirements of quality, environment, energy, occupational health & safety, and measurement management systems.

In line with the principle of equality, mutual trust and win-win, continuously consolidate and improve supply chain cooperation, especially the strategic partnership with key suppliers. Annual supplier conferences and symposiums are held, high-level visits are paid from time to time, while technical, quality and business meetings are held frequently, so as to build a good information exchange platform between the Company and suppliers.

II. KEY PERFORMANCE INDICATORS

Adhering to the concept of “Opening the door and raising the standard”, and through the public “Supplier Access Information Platform”, the Company makes a wide selection of suppliers, has provides better quality products and has better brand reputation. At the same time, establish and optimize a dynamic evaluation and hierarchical management mechanism for suppliers to conduct all-round and comprehensive objective evaluation from multiple dimensions and multiple layers, on the basis of openness, justness and fairness, and conduct monthly and quarterly follow-up evaluation on key material suppliers. The Company maintains or increases market share, improves procurement concentration and consolidates cooperative relations with high-quality suppliers with leading industry strength and good social reputation, who pay attention to the responsibility of environmental protection. Establish a blacklist and warning catalogue system, and resolutely eliminate suppliers with risk factors in terms of product quality, business integrity and other risks. In 2018, the Company registered a total of 2,022 qualified suppliers (including 47 foreign suppliers) and cancelled 253 suppliers.

In addition, through the “second party audit” on the new admitted suppliers and the registered key suppliers, strengthen the effective supervision over the suppliers’ management process and production process, so that the suppliers can not only continuously and stably provide products to meet the needs of MA Steel, but also have the ability to better fulfill their social responsibilities. In 2018, the Company conducted the second party audit on a total of 26 suppliers.

The Company manages the environmental and social risks of the supply chain from respects of resource allocation, regional distribution, logistics, environment, financial condition, national policy, etc., and formulates the *Measures for the Administration of Non-conformance and Risk Control*, and timely starts the emergency plan to ensure the safety of supply. Through integration of high-quality resources in the supply chain, the intermediate cost can be reduced to achieve a win-win situation between the supply and demand. The Company strictly controls the risk of integrity, and takes the integrity clause as the standard clause signed with suppliers to jointly create an open, fair and harmonious purchasing environment.

SECTION VIII PRODUCT MANUFACTURING

I. POLICIES AND EXECUTION

Based on its own circumstances the Company has prepared a Quality Manual abiding to the requirements of ISO9001 quality management system. The Quality Manual serves as a guiding book for quality management of the Company. Product Quality Advanced Planning and Scheduling Procedures and Production Process Control Procedures, among other procedures the Company has mapped out based on the Quality Manual, are designed to plan for and schedule product quality in advance, control and manage the planning and scheduling process and keep under control all sorts of factors existing in production and service rendering that have an impact on product quality. These procedures are functional and adequate to assure compliance of the Company’s products with the needs of customers and legal requirements and enable the Company to offer satisfactory products and services to its customers.





II. KEY PERFORMANCE INDICATORS

1. Maintained zero recall of sold or delivered products because of safety or health reasons

2. Complaints about products and services and countermeasures

In 2018, the customer service system of the Company received a total of 1,327 complaints from customers, representing an 8.21% or 109 complaints drop, compared with 1,436 complaints in 2017. The Company has taken actions as follows to address these complaints:

- a) Responsive processing. Further improve the customer service system construction, strengthen the “five-in-one” group service mode, optimize and adjust the customer service team and members, and make reasonable allocation of customer service resources, to achieve full coverage of key customers.
- b) Reinforced management. Standardize the process of handling customer complaints and the management of problem rectification. Monitor daily new quality objections and supervise the handling of quality objections; conduct monthly evaluation and retroactive assessment of product quality objection management.
- c) Systematic arrangement. Continue to promote the “Three-No” principle for quality, strengthen the process control and ex-factory check, strictly implement the Quality Inspection Procedures for Plate-Strip Products and Receiving Standards for Coil Materials, reinforce the quality acceptance between working processes, and perform inter-factory quality arbitration, confirmation, return, and production suspension due to quality issues. Strengthen the quality supervision, and production process quality control.

3. Best practices relating to maintenance and protection of intellectual properties

- Centering around the idea of “Innovation-driven, technology first”, the Company has made continuous progress in increasing investment in technological innovation, product development and technological progress. At the same time, strengthen the management of intellectual property rights, protect technological innovations and enhance core competitiveness. In 2018, the Company had 220 patents authorized, including 50 patents for inventions, and 170 patents for utility models. In 2018, the Company built several patent pools to protect its technology and markets, wherein, there were 21 patents authorized for the field of wheel and axle, and 19 patents authorized for the field of environmental protection. In terms of international patent applications, three international patent applications for bainitic wheels will enter Australia, the United States, Germany, Brazil and other countries, so as to obtain the competitive advantage in the target market. As at December 31, 2018, the Company owned 1,169 valid patents, and 4,110 know-hows (non-patented technology).

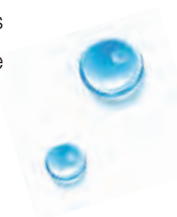
- The Company respects intellectual property rights, and uses patents to reduce the research & development cost, and infringement risks. Centering on the Company's product structure, actively push forward the patent analysis and early warning of key products and key markets. For wheels that Zhuzhou Locomotive Company would display at an exhibition in Germany, patent infringement early warning analysis had been conducted before the exhibition, so as to avoid any damage to the Company's international image and marketing caused by being searched, detained and removed due to infringement upon any intellectual property rights.
- Further improve the intellectual property protection system, strengthen the protection of technology confidentiality, patents and other intellectual property rights in the outsourcing activities of engineering, equipment, and establish an intellectual property protection mechanism in the joint venture process of technical renovation and commissioned processing projects, so as to prevent the loss of intangible assets of the Company.

4. Quality test and product recall

- Continuously improve the inspection and testing capability: With advanced enterprises as a benchmark, further improve the degree of inspection automation, and revise the *Measures for the Administration of Inspection* to standardize the inspection process.
- Effectively identify, control and manage non-conforming products: Strictly follow the Control and Management Procedures for *Non-conforming Products*, strengthen the disposal of nonconforming products, and reduce the loss due to quality issues. Through regular quality inspection and various audits, check the standardization and effectiveness of non-conforming product and quality accident management of each manufacturing unit.
- Promote a three-tiered quality inspection system: Continue to carry out quality inspection on the quality management activities of each manufacturing unit on a regular basis, improve the implementation effect of three-level process discipline inspection through special inspection, and perform special supervision in coordination with professional departments.

5. Customer data and privacy policy, execution and supervision

The office network and business network are physically separated to protect the information from leaking. The Company implements a sales manager responsibility system, making sure that each customer is handled by only one account manager. The information of this customer is only available to the account manager and the department head. The Company also provides services before, during and after sale to prevent the leaking of customer data and privacy due to too many contacts with the customer.





SECTION IX CUSTOMER

I. POLICIES AND EXECUTION

In accordance with the product positioning and market strategy of the Company, customers in the same market segment are classified into Strategic Customer (Class AAAAA), Key Customer (Class AAAA) and General Customer (Class AAA) and managed and served differently. In terms of the nature of the customer, the customers are divided into direct-supply terminal customers, three-way direct-supply terminal customers and dealers. The Company organizes unified evaluation and sets the customer's grading standards. Based on the results, the Company drafts next year's sales and service policies and submits to the board for approval. In the event of a major quality issue or customer complaint, the Company will promptly take action to minimize the negative impact. According to the customer needs, the Company's sales and service teams will provide personalized services for different customers to meet their different expectations.

II. KEY PERFORMANCE INDICATORS

1. Number of customers by region: In 2018, the Company had a total of 1,152 customers, including 733 in eastern China, 163 in southern China, 45 in northern China, 76 in southwestern China and 135 outside China.
2. Conventions governing the choice of customers: It is required to concentrate on the surrounding market and scale down the coverage of product sales; the emerging markets in central and southwestern China may be developed reasonably by taking advantage of the Yangtze River; river and ocean transport may be combined to set foot in the southern China market. An effort should be made to increase the number of key customers who are influential within China and look for terminals abroad. The Company will try to increase the total number of end users to more than 1,000 by "boosting foreign trade" and "diversifying domestic trade".

Following the Company's development strategy, the Company will acknowledge the customer, after considering overall conditions and pre-sales record of the customer. It is required to concentrate on the surrounding market and scale down the coverage of product sales; the emerging markets in central and southwestern China may be developed reasonably by taking advantage of the Yangtze River; river and ocean transport may be combined to set foot in the southern China market. An effort should be made to increase the number of key customers who are influential within China and look for terminals abroad. The Company will try to increase the total number of end users to more than 1,000 by "boosting foreign trade" and "diversifying domestic trade". Within a sales year, one customer can only choose one sales policy. The Company will provide personalized services for customers at different levels in terms of resource arrangement, production organization, quality control, shipment, price strategy and sales method.

3. Customer satisfaction:

Appraised by China Association for Quality, the customer satisfaction rate was 87.5% in 2018.

SECTION X ANTI-CORRUPTION

I. ENFORCEMENT OF THE CPC DISCIPLINES AND INTERNAL RULES OF THE COMPANY

1. Respect the CPC rules and disciplines: Several Rules for Inner-Party Politics Under New Circumstances, Anti-corruption Self-discipline Code of Conduct of the Community Party of China, Disciplinary Sanction Provisions of the CPC, Accountability Provisions of the CPC, Internal Supervision Provisions of the CPC, Working Rules for Tour Inspections of CPC, Supervision and Discipline Enforcement Rules for Discipline Inspection Authorities of the CPC (For Trial Implementation), Implementation Rules of Case Investigation Provisions for Discipline Inspection Authorities of the CPC and Anticorruption Provisions for Performance of Duties by Heads of State-owned Enterprises.
2. Company rules and regulations implemented: General Rules for Reward and Punishment of Ma Steel Employees (trial implementation), Suggestions on Implementation of Party Committee's Subject Responsibility and Discipline Committee's Supervision Responsibility Regarding Construction of An Uncorrupted Party and the methods and responsibility list for assessment of the implementation of Party Committee's subject responsibility and Discipline Committee's supervision responsibility regarding the construction of an uncorrupted party, responsibility and integrity report, and overview acceptance, summoning, and responsibility investigation, Regulations on Prohibition of "Unregistered Funds", Measures for Implementing CPC Accountability Rules by Party Committee of Ma Steel Group, Rules for Implementation of Party Conduct and Anti-Corruption Responsibility System by Ma Steel Group, Suggestions on Comprehensive Implementation of Integrity Risk Control and Management, Rules for Public Integrity Commitment by Officers and Management of Ma Steel Group, Measures for Efficiency Supervision and Management, Measures for Project Approval Efficiency Supervision, Measures for Bidding Supervision Management, Measures for Implementation of Petition Supervision by Discipline Committee (Audit and Supervision Department), and Regulations on Anti-Fraud of Ma Steel.





II. KEY PERFORMANCE INDICATORS

1. During the reporting period, one corruption case occurred in a subordinate unit of the Company. An employee of the No. 2 iron-making factory committed corruption, and the court made a final ruling over the case in September 2018, i.e. the court upheld the original sentence of first instance, sentenced the employee to two years in prison and fined RMB300,000. The employee has been expelled from the Party and the Company has terminated his labor contract.

Preventive Measures: First, strengthen the Party's political construction, strictly enforce political discipline and rules, build a clean and upright political environment, and create a favorable environment for officials and entrepreneurs. Second, make solid progress in the "Stay true to the mission" themed education, "Loyalty, discipline and political integrity" warning education and "Three examinations and three questions" to focus on the special campaign against formalism and bureaucratism and raise our ideological awareness and political standing. Third, exercise strict discipline in accordance with the law and discipline in advance of the law, highlight a small number of key areas, make good and flexible use of "four forms", pay attention to education, reminder and criticism, and reinforce the thinking of Party members and cadres on the bottom line and their sense of discipline. Fourth, deeply reflect on typical cases, focus on key groups and positions, strengthen risk control, prevent job-related crimes, and guard against power rent-seeking. Fifth, step up the pursuit of accountability, ensure strict, standardized and precise accountability, and strengthen discipline and deterrence.

2. Whistle Blowing Procedures

While the petition overview office of the Company's Audit and Supervision Department is responsible for handling various violation reports, the supervisory teams of the second level units are responsible for dealing with the whistle blowing from their own units. The Company's mailing address for whistle blowing is as follows: Audit and Supervision Department, Ma Steel, No.8 Jiuhuaxi Road, Maanshan City, Anhui Province. The Company's telephone for whistle blowing is 0555-2876363 (also for fax), which is available for the public during working hours. Room 1513 in the main building of Ma Steel's administrative office building is designated as the place for whistle blowing visitors during working hours. The Company also set up an online whistle blowing module on Ma Steel's discipline and supervision website at <http://www.jwjcb.mg>.

Whistle blowing steps: read letters, receive visitors, answer calls or gather information reported online→register→submit for approval→investigate→wind up→reply or visit→statistics and analysis→archiving.

Supervision Method: The Company's supervision and audit department establish a working mechanism of mutual coordination and mutual restriction on the supervision, inspection, investigation, management and hearing of cases. First, supervision: fulfill the supervision responsibility, classify the problems detected, and supervise the rectification. Second, tip handling: strengthen the centralized management of tips about any problem, classified disposal and regular clearing. Third, sit-down talks and written inquiry: timely hold talks to make Party members and cadres as well as the targets of supervision to enhance the Party's sense of discipline and awareness. Fourth, preliminary verification: use solid efforts to carry out preliminary verification, collect objective evidence and ensure the authenticity and accuracy of clues about possible disciplinary or job-related crimes. Fifth, investigation: after preliminary verification, Party members and cadres, as well as those under supervision who are suspected of violating discipline or violating duty or committing crimes related to duty, shall be investigated for their disciplinary or legal liability. Sixth, hearing: examine and check suspected disciplinary or illegal criminal cases strictly according to rules and regulations, put forward opinions on disciplinary treatment or punishment, and ensure clear facts, conclusive evidence, accurate treatment, proper procedures, complete procedures and compliance. Seventh, management: and supervision earnestly fulfill the main responsibility of self-construction, strict education, management, supervision, strict implementation of the avoidance system, confidentiality system and work discipline; any dereliction of duty or negligence in maintaining the discipline of supervision and enforcement shall be held seriously accountable.

SECTION XI COMMUNITY INVOLVEMENT AND POVERTY RELIEF

I. POLICIES AND EXECUTION

With respect to poverty relief and education, the Company honors its social responsibilities and pays back the society. It has been unanimously well recognized by the government and local community for its generous contribution to stable and harmonious public relations in 2018. The Company won the award for contribution to the performance of social responsibility as a listed Company in Anhui Province.





II. KEY PERFORMANCE INDICATORS

1. Targeted Poverty Relief

1.1 Overview

The Company attaches great importance to poverty alleviation, and closely around the national poverty alleviation strategy, under the support of the group Company (a vice president member of Maanshan Charity Association) and the guidance of directors of Anhui Red Cross Society and the group member, performs targeted poverty alleviation in Malou Village, Wangyan Town, Funan County, and Liji Village, Dicheng Town, and has set up a working group for poverty alleviation. During the reporting period, leaders of the Company, including the Chairman, have visited poverty-stricken villages to learn about their actual needs, and, based on which, the Company sent out necessities and provided suitable business opportunities. A When tenure ended for the sixth group of selected cadres, the seventh group of selected cadres continues to be stationed in villages for poverty alleviation. During the 5th “National Day for Poverty Alleviation” and the 26th “International Day for the Eradication of Poverty”, the Company organized fund-raising activities and raised a total of RMB0.75 million.

In 2018, the Company implemented 1 assistance projects, with a total investment of more than RMB600,000. The Liji Village agricultural collective shareholding and dividend payment project increased income of RMB60,000 in total for the village. The Malou Village shareholding and dividend payment in Funan Zhongben Agricultural Technology Co., Ltd. project is under way. The renovation of primary school staff quarters and the hardening of the basketball court at Malou Village improved teacher benefits and teaching conditions. The “Grants” program has been effectively implemented as a long-term mechanism before the decoupling of the national poverty alleviation policy. The implementation of Liji Village’s road lighting project has provided strong support for the construction of a beautiful countryside after poverty alleviation. Some managers were organized to visit poor families and provide medical subsidies and farming funds according to the principle of “one household, one case”.

The Company carries out its poverty alleviation work by not only giving away materials goods, but also providing methods in eye for sustainable results. This is just as blood transfusion and hematopoiesis at the same time. And this could not be achieved without careful research and study, as well the project assignment. Centering on industrial poverty alleviation to improve the collective economy of villages and the income of poor households, the Company provided industrial poverty alleviation funds of RMB600,000 to Liji Village and Malou village committees respectively for shareholding in enterprises of outstanding performance to receive dividend payment, so as to increase the collective income of villages. For educational poverty alleviation, the Company started with increase of investment in education hardware by providing funds of RMB180,000 to build staff quarters and basketball courts and improve teaching conditions for the Primary School of Malou Village; continued to push forward the 2017 Liji Village agricultural machinery cooperative project, and on the basis of ensuring the smooth implementation of the poverty alleviation project, ensured the project would obtain returns.





1.2 Statistics of targeted poverty relief

Unit: Ten thousand yuan

Indicator	Statistics and Summary
1. General information	
Wherein:	
1.1 Funding	63.00
1.2 Material equivalence	3.00
1.3 Number of registered impoverished people lifted from poverty (person)	20
2. Input by item	
2.1. Poverty relief by industry development	
Wherein:	
2.1.1 Category of industrial poverty relief projects	✓ Relief projects on agriculture and forestry industry
2.1.2 Number of industrial poverty relief projects	1
2.1.3 Investment of industrial poverty relief projects	60
2.1.4 Number of registered impoverished people lifted from poverty (person)	20
2.2 Break-even security	
Wherein:	
2.2.1 Investment of impoverished disabled relief projects	3.0
2.2.2 Number of impoverished disabled relieved from poverty (person)	8
3. Awards (details and influence)	Award for contribution to the performance of social responsibility as a listed Company in Anhui Province.

2. In 2018, the Company took in interns from an array of universities, including University of Science and Technology Beijing, Southeast University, Wuhan University of Science and Technology, Anhui University of Technology and Taiyuan University of Technology.
3. In 2018, the Company's employees participated in voluntary blood donation, and a number of institutions under the Company were awarded as "Advanced Units of Voluntary Blood Donation" in the city.
4. In 2018, on the occasion of the 60th anniversary of the founding of MA Steel, the Company held a series of activities, including an evening party themed by "Commemorating the 60th Anniversary of Chairman Mao's Visit to MA Steel & the 60th Anniversary of the Founding of MA Steel", the "Forge Ahead in the New Era" staff art performance, the "Glory Days Dance in MA Steel" female staff square dancing competition, the "Cantabile Years Music in MA Steel" staff singer competition, effectively stimulating employees' sense of honor; and steadily promoted the upgrading and renovation of cultural and sports centers, with an aim to provide more functional and comfortable venues for cultural and sports activities of employees.

5. **Volunteer services**

The Company's volunteers provide free services on every "March 5" Volunteer Service Day, cares for the disadvantaged people, conducts "Partner Assistance" to finance students from poverty-stricken families and help them finish school. The volunteers also regularly visit Sunshine Villages and orphanages and carry out "Charity Day" events. Young volunteers were also involved in activities such as blood donation and factory cleaning.

SECTION XI CONTACT US

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