2017 Social Responsibility Report

新超

H Share Code: 323 A Share Code: 600808



查制措

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 2017.

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.

CONTENTS

Section I	Definitions	2
Section II	Company Profile	3
Section III	Share Capital and Shareholders	3
Section IV	Corporate Governance	5
Section V	Employees	9
Section VI	Environmental Protection	16
Section VII	Supplier Management	29
Section VIII	Product Manufacturing	31
Section IX	Customer	34
Section X	Anti-corruption	35
Section XI	Community Involvement and Poverty Relief	36
Section XII	Contact Us	40

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, 2017

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 2017 when compared with that in 2016.

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	(%)
Restricted shares Non-restricted shares 1. RMB common shares 2. Mainland-listed foreign- invested shares	- 7,700,681,186 5,967,751,186	100 77.50	- -	-	- -		- -	7,700,681,186 5,967,751,186	100 77.50
 Overseas-listed foreign- invested shares Total number of common 	1,732,930,000	22.50	-	-	_	-	-	1,732,930,000	22.50 100
	 RMB common shares RMB common shares Mainland-listed foreign- invested shares Overseas-listed foreign- invested shares 	Number of Shares Restricted shares - Non-restricted shares 7,700,681,186 1. RMB common shares 5,967,751,186 2. Mainland-listed foreign- invested shares - 3. Overseas-listed foreign- invested shares 1,732,930,000 Total number of common 1,732,930,000	Number of Shares (%) Restricted shares - - Non-restricted shares 7,700,681,186 100 1. RMB common shares 5,967,751,186 77.50 2. Mainland-listed foreign- invested shares - - 3. Overseas-listed foreign- invested shares 1,732,930,000 22.50 Total number of common - -	Number of SharesNew IssueRestricted sharesNon-restricted shares7,700,681,1861001.RMB common shares5,967,751,18677.502.Mainland-listed foreign- invested shares3.Overseas-listed foreign- invested shares1,732,930,00022.50-Total number of common	Beforethe RepNumber of SharesNew (%)Bonus IssueRestricted sharesNon-restricted shares7,700,681,1861001. RMB common shares5,967,751,18677.502. Mainland-listed foreign- invested shares3. Overseas-listed foreign- invested shares1,732,930,00022.507otal number of common	Before the Reporting Period Number New Bonus Surplus of Shares (%) Issue Issue to Shares Restricted shares - - - - Non-restricted shares 7,700,681,186 100 - - 1. RMB common shares 5,967,751,186 77.50 - - 2. Mainland-listed foreign- invested shares - - - - 3. Overseas-listed foreign- invested shares 1,732,930,000 22.50 - - - Total number of common - - - - -	Beforethe Reporting Period (+, -)Number of SharesNew (%)Bonus IssueSurplus to SharesRestricted shares7,700,681,1861001. RMB common shares5,967,751,18677.50-2. Mainland-listed foreign- invested shares3. Overseas-listed foreign- invested shares1,732,930,00022.50Total number of common1,732,930,00022.50	Beforethe Reporting Period (+, -)Number of SharesNew (%)Bonus IssueSurplus to SharesRestricted shares7,700,681,1861001. RMB common shares5,967,751,18677.502. Mainland-listed foreign- invested shares3. Overseas-listed foreign- invested shares1,732,930,00022.50Total number of common	Beforethe Reporting Period (+, -)AfterNumber of SharesNew (%)Bonus IssueSurplus to SharesNumber of SharesNumber of SharesRestricted sharesNon-restricted shares7,700,681,1861001. RMB common shares5,967,751,18677.505,967,751,1862. Mainland-listed foreign- invested shares3. Overseas-listed foreign- invested shares1,732,930,00022.501,732,930,000Total number of common1,732,930,00022.501,732,930,000

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	1,710,814,900
Central Huijin Asset Management Co., Ltd.	142,155,000
Haitong Securities Co., Ltd.	35,027,700
Beijing Haoqing Fortune Investment and Management Co., Ltd	
Steady Haoqing Value No. 8 Investment Fund	33,756,512
China Life Insurance Company Limited-Dividend-Personal	
Dividend-005L-FH002 SH	20,766,599
Li Xiaozhong	16,464,955
Jinzheng Trade Co., Ltd.	15,701,600
China International Capital Corporation Limited	13,166,000
China Resources SZITIC Trust Co., Ltd RZX 50th Collective	
Fund Trust Plan	12,897,000

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 reportir period	Henan Jinma Energy Company Limited, a holding subsidiary of our company, was listed in the Stock Exchange of Hong Kong on October 10, 2017

> 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 roles 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 2017.

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, 2016 Annual General Meeting and 2017 First Extraordinary General Meeting, during the reporting period. It took place in Magang's office building situated at 8 West Jiuhua Road, Maanshan, Anhui province on June 12, 2017 and November 30, 2017. Ding Yi, Chairman of the Board, was present and chaired the meeting. The resolution passed at the meeting was published on the websites of SSE and the HKEx, as well as on *Shanghai Securities News*.

IV. BOARD OF DIRECTORS AND SPECIAL COMMITTEES

1. Board of Directors

The eighth Board of Directors of the Company has seven members, including, two executive directors and five non-executive directors, of which three are independent directors, representing three-seventh of the headcount.

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

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, Review Committee, Strategic Development Committee, Remuneration Committee and Nomination Committee.

Review Committee

The Review Committee under the eighth Board of Directors is comprised of Qin Tongzhou, Yang Yada, Liu Fangduan, Independent Director and Qin Tongzhou, Chairman of the Committee.

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

Strategic Development Committee

The Strategic Development Committee under the eight Board of Directors is comprised of Ding Yi, Chairman of the Board and Qin Tongzhou, Yang Yada, Liu Fangduan, Independent Director, and Ding Yi, Chairman of the Committee.

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

Nomination Committee

The Nomination Committee under the eighth Board of Directors is comprised of Yang Yada, Qin Tongzhou, Liu Fangduan, Independent Director, Ding Yi, Chairman of the Board and Yang Yada, Chairman of the Committee.

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

> Remuneration Committee

The Remuneration Committee under the eighth Board of Directors is comprised of Liu Fangduan, Qin Tongzhou and Yang Yada, Independent Director, and Liu Fangduan is the Chairman of the Committee.

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

V. BOARD OF SUPERVISORS

The eighth 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.

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

- The ninth Board of Directors considered and passed Internal Control Assessment Report (2017) on March 30, 2018, confirming effectiveness of internal controls implemented by the Company in 2017.
- Ernst&Young Huaming Certified Public Accountants (Special General Partnership) audited the effectiveness of internal controls outlined in the Company's financial report as at December 31, 2017 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 adopts a comprehensive remuneration mechanism mainly made up of performance-based pay, combined with annual pay and allowances for technical and skilled talents. By performance-based pay, it means the pay rate corresponds with one's role and highlights the weight of role contribution in income distribution. Income is linked to contribution. Employees earn bonuses depending on personal performance assessment results. Senior and middle management teams receive annual pay, which is determined by annual performance assessment results.

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 front-line staff, enhance talents reserve and strengthen enterprise competitiveness. There were 392 new employees for the company in 2017, among which, 196 are for the technical service posts and 196 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. Key performance indicators include work performance indicators and competency indicators. The cycle of performance assessment is defined by role. 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, pubic 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 2017 totaled 711,420,000 yuan, up 0.23% yoy.

An enterprise annuity program is provided. Every employee contributes 1% of his or her salary, while the Company pays 5% of the same base as paid by employees. Given that the Company's profit from operation achieved turnaround in 2016. The profit lifted significantly in 2017. Suspending collection of enterprise annuity and the Company restarted the enterprise annuity payment since 1 March, 2017. Also, it collected the enterprise annuity missed between March 2016 and February 2017. Subsidizing to those employers who did not own the benefits of monetization on the housing allotment, and the subsidy standard is 7% of salary.

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 salaries.

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

Employees enjoy one meal for free on working days.

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

The HR of the Company runs an employee satisfaction survey regularly to keep track of what is needed by them, and every law, rule and policy concerning personal interests of employees are put into practice.



- 2. Key Performance Indicators
 - > Employee Mix by Age

	Headcount	Headcount
Age Range	in 2017	in 2016
35 and below	3,588	3,726
36 to 40	2,730	3,339
41 to 50	13,145	14,261
51 to 60	5,634	5,728
Total	25,097	27,054

Turnover Rate by Age

	Turnover Rate	Turnover Rate
Age Range	in 2017	in 2016
30 and below	0.22%	0.48%
30 to 40	0.07%	0.07%
41 to 50	0.04%	0.01%
51 to 60	0.01%	0.004%
Total	0.34%	0.564%

Turnover Rate by Region

	Turnover Rate	Turnover Rate
Region	in 2017	in 2016
Within the Province	0.27%	0.31%
Outside the Province	0.07%	0.25%
Total	0.34%	0.56%

II. HEALTH AND SAFETY

1. Policies and Execution

The Company honestly respects all provisions relating to work safety outlined in the *Work Safety Law of the PRC* and the *Circular on Releasing Rules on Enforcement of Enterprises' Liability for Work Safety* issued by State Administration of Work Safety. The safety production laws and regulations can be identified and updated timely, and published online to be available for each unit. There are 319 laws and regulations published on the website, and 7 safety production laws and regulations were updated in 2017.

The company earnestly carried out various requirements raised in national, provincial and municipal laws and regulations in 2017, and strengthened implementation of responsibility of safety production entity without illegal behaviors.

2. Key Performance Indicators

- 2.1 In 2017, there was 1 occupational death accident in the company, in which 1 person died; the death rate per 1,000 people was 0.016.
- 2.2 In 2017, the company had a loss of 6,900 working days due to occupational injury, which increased slightly compared with 1,750 days in 2016.
- 2.3 Occupational health, safety measures and execution
 - According to requirements of government departments, the company has organized secondary units to carry out the work to improve construction of "six mechanisms" for safety production risks. Organize to carry out combing and confirmation of risk control measures including re-identification, refinding and study and judgment of risk points (dangerous sources). Currently, 1 primary risk point, 15 secondary risk points and 753 tertiary risk points of the company are confirmed with corresponding management and control measures and responsibilities formulated and implemented.
 - The company has carried out special actions of "removing hidden danger and insuring safety in a hundred days", and organized each unit to carry out such actions in three stages since July. The company also conducts limited space management, emergency management, occupational health, special equipment and other special inspections simultaneously, and notifies each unit to implement and make rectifications for problems discovered.

- Organize to carry out re-identification and risk assessment and work out control measures for major dangerous sources. A total of 16 major dangerous sources of the company are confirmed according to national standards. The company implements level-to-level administration on dangerous sources. The company and each unit work out and implement corresponding risk control measures according to risks at different levels, and effectively ensure safety operation of dangerous sources of the company by virtue of putting the supervision and management responsibility on dangerous sources into practice. Two special inspections on major dangerous sources and dangerous chemicals were carried out in 2017, with a total of 54 problems discovered, for which relevant units were urged to make prompt rectifications and implementation, situations of which were tracked.
- Constantly strengthen construction of the emergency rescue mechanism and improvement of emergency capability, have established the aid organizations and institutions with General Manager of the company as the commander-inchief, have been equipped with rescue equipments, built and perfected the gas protection (rescue) station, fire fighting and rescue team, Anhui emergency rescue team for metal smelting and other professional rescue teams, and determined the rescue principles and plan starting procedures. Related departments of the company have worked out 26 special emergency plans including emergency plans for dangerous chemicals accidents, fire accidents and sudden public health events respectively under the framework of the overall plan.
- In order to ensure the safety of work in a limited space, the company has organized the units to seriously perform safety conditions confirmation in limited space and special inspections. In order to effectively strengthen the company's safety management in the production, storage, operation and transportation of dangerous chemicals, the company formulated and issued the *Work Plan for Special rectification of Hazardous Chemicals Safety at Magang (Group) Holding Co., Ltd.*, clarifying the work objectives, organizations and key content of the special rectification to inspect all links of hazardous chemicals including the production, storage, use, operation and transportation, and promptly rectify and eliminate the safety risks existing in all links. The company formulated and issued the "Five Treatments" work plan and organized the units to carry out special treatment work on ammonia-related refrigeration, limited space, liquid metal hoisting and transportation, industrial gas and dust explosion prevention.
- Increase safety production investment and the implementation of safety measures projects. In 2017, the company invested more than RMB73.3 million in safety production, slightly increased compared with that in 2016.

- Employee safety education rate reached 100%, the rate of employment with certificates with regard to special operation personnel was 100%. Organize and carry out the training, certificate obtaining and review for special operation personnel, special equipment operation personnel and management personnel; organize safety qualification training class for leaders and safety management personnel from hazardous chemicals units and the general production and operation units. In 2017, we trained 2,238 above-mentioned employees, and reexamined 2,975 special operators.
- We carried out audits on the occupation health and safety management system and safety standardization system, special inspections on major dangerous sources, hazardous chemicals and special equipments; report safety production to the board of directors regularly.

III. DEVELOPMENT AND TRAINING

1. Policies and Execution

In 2017, in line with the development strategy of "13th Five-Year Plan", the company persists in improving the classification and training system according to the theme of "unswervingly deepening reform and persisting in strengthening brands"; 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

2017

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

Indicator	Management	Technician	Operation and Maintenance
Percentage of trained employees	82.7	96.3	98.73
Training hours per capita per year	23	70	21

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 16 and forced labor.

1. 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. 2017 Annual Environmental Protection Targets

- Energy consumption, total emission indexes of major pollutants issued by the government;
- > Process energy consumption indexes meet national standards;
- > Pollutant discharge meets national standards and internal control standards;
- Energy evaluation, environmental assessment and acceptance of construction projects are in line with laws and regulations;
- > Safe disposal rate of hazardous waste is 100%;

2016

- > Occurrence rate of all kinds of pollution accidents is zero;
- > Fresh water consumption per ton $\leq 3.65 \text{m}^3/\text{t}$;

3. Achievements

- > Joint-stock company won the first batch of national "green factory";
- Comprehensive progress was made in key indexes of energy conservation and environmental protection;
- > Successfully passed the central environmental protection supervision;
- > Successful completed environmental system upgrading;
- > Finish application for pollutants discharge license on time;
- Energy conservation and environmental protection received financial support of 25.89 million yuan;
- > Safe disposal rate of hazardous waste was 100%;
- > Occurrence rate of contamination accident throughout the year was zero;
- > Fresh water consumption per ton was $3.47 \text{ m}^{3/t}$;
- The comprehensive energy consumption per ton steel hit the best record in history and the year-on-year decrease was 14kgce.



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 soot, 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 2017, the national government issued a number of policies on environmental protection, revised the Regulations on Environmental Protection of Construction Projects, established the Interim Measures for Completion Environmental Protection Acceptance of Construction Projects, and implemented the enterprise independent acceptance; continuously promoted the control of air pollution, improved the air environmental management system, and continuously strengthened countermeasures against heavy pollution weather; further advanced water pollution control, conducted the implementation of the Ten Action Plans for Prevention and Treatment of Water Pollution, and urged the implementation of local government responsibility; fully implemented the Ten Action Plans for Prevention and Treatment of Soil Pollution, fully started the detailed investigation of soil pollution situation, carried out the environment investigation and evaluation for the construction land soil, and accelerated the establishment of soil pollution control act; steadily promoted the reform of vertical management system of monitoring and supervising law enforcement of the following environmental protection organizations; expedited the implementation of the pollutants discharge license system, formed an environmental management system with the pollutants discharge license as the core, and simple but efficient fixed sources; promoted the reform of eco-environmental damage compensation, and strengthened the coordinated guidance, follow-up evaluation and supervision inspection of reform pilots.

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

In 2017, the company further implemented the "Ecological Civilization Construction" national development strategy, emphasized on the work theme of "Determinedly deepening the reform and constantly building strong brands", the excellent performance dominated, the guidance of the overall development strategy and the "13th Five-Year Plan" energy conservation and environmental protection planning, continuously promoted the lean management level of "Three flows and one state" through the effective operation of energy and environmental management system, and enhanced the company's green development.

3. Key Performance Indicators

3.1 Classification and Emission

					Increase	
					or	
			Year of	Year of	decrease	
No.	Index	Unit	2017	2016	(±)%	
1	Comprehensive energy consumption	kgce/t	583.4	597.4	-14	
2	Fresh water consumption per ton steel	m³/t	3.47	3.65	-0.18	
3	Compliance rate of pollutants	%	99.98	99.71	0.27	
4	Emission of sulfur dioxide (steel)	kg/t	0.37	0.5	-0.13	
5	Emission of sulfur dioxide (power generation)	g/kWh	0.29	0.37	-0.08	
6	COD emission per ton steel	kg/t	0.045	0.066	-0.021	
7	Emission of particles	kg/t	0.35	0.46	-0.11	
8	Emission of ammonia nitrogen	kg/t	0.002	0.004	-0.002	
9	Emission of NOx (steel)	kg/t	1.01	1.06	-0.05	
10	Emission of NOx (power generation)	g/kWh	0.29	0.32	-0.03	
11	Comprehensive utilization of solid waste	%	99.69	99.63	0.06	

Increase

Total energy consumption

			Increase or decrease
Energy categories	Year of 2017	Year of 2016	(±)%
Raw coal (ten thousand tons)	308	305	3
Cleaned coal			
(ten thousand tons)	647	636	11
Coke (ten thousand tons)	147	150	-3
Electricity (TWh)	35	33	2
Diesel (ton)	4,794	5,243	-449
Gasoline (tons)	278	323	-45
Natural gas (10 ⁴ m ³)	2,134	1,046	1,088

3.2 Total Gas Emission and Density

The Company has always attached great importance to growth with energy efficiency and low carbon footprint. As required by the authorities, a carbon emission examination within the boundary of the Company was conducted. According to initial estimation, the carbon emissions per unit product in 2017 and 2016 were 1.95t/t and 1.96t/t respectively.

3.3 Total Emission of Hazardous Wastes and Density

In 2017, the Company produced 24,974 tons of hazardous wastes, and recycled and disposed of 24,974 tons. Compared with 2016, the amounts of wastes produced and disposed have all seen a significant drop and the safe disposal rate has continued to maintain at the 100% level.

3.4 Total Emission of Non-hazardous Wastes and Density

In 2017, the Company produced 8,240,000 tons of solid wastes, and recycled 8,210,000 tons. Compared with 2016, the amounts of solid wastes produced and utilized have all seen a slight decrease. The 99.69% of utilization rate is higher than the 99.5% target value.

3.5 Emission Reduction Measures and Achievements

- Prevent pollutions by tracing the sources. Any new project is designed and planned for as per standards higher than national and industrial standards, in addition to compliance with the industrial policy and the minimum requirements of the iron and steel industry : If the indicators of technologies and services are equal when purchasing equipment, the products with environmental labels which have less impact on the environment should be purchased preferentially; with the implementation of "fine raw materials policy" in production, the measures such as importing the minerals of higher grades with low sulfur content and purchasing low-sulfur coals have been used to prevent pollutions from the sources.
- Continue to promote efficient operation of the system. The Company has continued to promote efficient operation of the system according to the requirements of ISO14001-2015 and GB/T 23331-2012. Regular activities like identification and control of full life circle environmental factors, identification and control of major energy usage, compliance assessment, internal audit, management improvement, and internal audit have been performed to continuously strengthen the improvement mechanism and improve the energy and environment performance.
- Keep environmental protection facilities in good shape and efficient. The Company currently has 70 sets of water treatment facilities, 205 sets of air treatment facilities, 15 sets of solid waste disposal facilities, 208 sets of online pollution source monitoring facilities, and 21 sets of video monitoring facilities. The company has complete equipment of environmental protection facilities. 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. In 2017, all waste gases have been treated according to relevant standards, with the PM, SO₂ and NOX per ton of steel decreasing by 23.9%, 26.6% and 6.8% respectively, and COD and ammonia nitrogen decreasing by 31.8% and 50% respectively.



- ➤ The Company's key control points of environmental risks are specified and the control over these key points is strengthened; weekly inspection plans are prepared, the rolling inspections on each unit are conducted, the problems found in the inspections are rectified within a time limit according to PDCA and continuous improvement is made; the online management of pollution sources is strengthened with the continuous implementation of hourly meter reading; the process data monitoring is strengthened to find out and deal with problems in a timely manner; the key furnaces and transfer stations are monitored with full coverage all the time using the environment information-based system; and the daily supervision is strengthened with strict evaluation.
- Continuously promote the implementation of environment protection and control projects. The Company has continued to carry out environment control and tackle key environmental problems. In 2017, the Company approved 12 pollution control projects and investment plan of RMB240 million. Currently, the projects of the upgrading and reconstruction of A/B sintering machine head dust removers, addition of centralized dust-removing system to A bunker, addition of dust removers to the rotary hearth furnace's raw material system, addition of dust removers to the sintering and returning system, and installation of online warning facilities and stations on the upstream of the comprehensive outlets have been completed and other projects are in the process of rapid implementation.

3.6 Disposal of Non-hazardous Wastes, Reduction Measures and Achievements

Recycle solid wastes as much as possible. The Company classifies, stores, processes and recycles solid wastes. Ferrous dust and mud containing low-grade iron are recycled totally; blast furnace slag and iron scale from steel rolling are reclaimed for sale or deep processing totally. According to the 3R requirement of the cyclic economy, the Company encourages cross-factory waste recycling by providing incentives.

3.7 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 2017, 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

The Company has formulated the "13th Five-Year Energy-Saving and Environmental Protection Plan" and key indicators and parameters to achieve the goal of mid-andlong term energy and environment control. It has also signed the Liability Statement of Energy-saving and Emission Reduction with the key responsible units at the beginning of each year and convened monthly meetings of analyzing, overviewing and assessing the energy consumption indicators to implement specific measures of energy saving and emission reduction, strengthen the assessment of implementing these measures, and achieve overall control. The energy saving management has been strengthened by establishing energy management network and system, energy measuring management, and energy quota management; 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

The Company imposes strict quota and index management on water resources, specifying the quota to each second level unit. The process water consumption has been reduced by optimizing facility operation and managing operation parameters. The various water treatment systems are well-connected and utilized to reduce direct drainage, effectively use the circulating water system and reduce fresh water consumption; the energy saving and emission reduction technology upgrading and key technical problems tackling have been strengthened; by tackling the technical problems concerning Liufenhe's target of zero emission, the discharging of waste water has been reduced and the waste water is utilized as a resource, the fresh water consumption per ton of steel has been decreasing, and the water reuse rate has been growing year by year. In 2017, the fresh water consumption per ton of steel was $3.47m^3/t$, and the industrial water reuse rate was 97.97%.

1.3 Solid waste resources

As a factory located in a city, the Company pays great attention to the development of the industry of comprehensive utilization of metallurgical solid waste resources. The Company has been promoting the utilization of metallurgical solid waste resources through technical innovation, corporate investment and policy support. With years of exploration and practice, Ma Steel's comprehensive utilization of metallurgical solid wastes, such as water granulated slag from blast furnace, steelmaking slag, mud with iron, and coal ash have been properly utilized and disposed. In 2017, the Company produced 8.24 million tons of solid wastes, among which, 8.21 million tons have been utilized with a comprehensive use ratio of 99.69%.

2. Key Performance Indicators:

2.1 Total Energy Consumption

Refer to P.20 section 3.1.

2.2 Total Water Consumption and Density

Total fresh water consumption was 53,370,000 tons in 2017, equivalent to 3.47t per ton of steel. The industrial water reuse rate was 97.97%, up to the standard of Class I clean production.

Indicator	Unit	2017	2016
Total fresh water consumption Fresh water consumption	0,000 t	5337	5,349
per ton of steel	t/t	3.47	3.65



2.3 Energy Efficiency Plan and Achievements

In order to "double control" the total quantity and intensity of energy consumption, the Company includes energy consumption per ton of steel, fresh water consumption per ton of steel, COD emission and SO₂ emission, among other key indicators, in its Energy Efficiency and Environmental Protection Plan for the 13th Five-year, defines mid- and long-term energy efficiency and environmental protection targets and plans, links the performance of leaders to these targets directly and signs Energy Saving and Emission Reduction Target Statement with each responsible unit at the beginning of every year. Moreover, it optimizes the three-tier energy measurement management and energy indicator management, and reinforces management energy-saving by rule making, production organization, energy consumption planning, staff competency improvement and process control. In 2017, the Company reported energy consumption 583.4kgce/t, down 14kgce/t, and fresh water consumption 3.47m³/t, down 0.18m³/t, on a year-on-year basis.

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

With regard to its water taking and discharging, the Company develops and strictly implements the annual total quantity control plan and monthly breakdown plan according to the requirements of the government and relevant authorities. The Company reduces its discharging of waste water by implementing water saving projects, including closed circulation of blast furnace soft water, recovery of waste water from ironworks, and renovation of steel rolling plants' slab cooling water circulation; it also performs leakage detecting on the pipeline with water balance test and replaces worn water pipeline to control leakage and damage on the pipeline; in addition, the Company raises the cycle of concentration and reduces the quantity of newly added water by tightening the control over the operation of the recycled water treatment station.

IV. CONSTRUCTION AND OPERATION OF ENVIRONMENTAL PROTECTION FACILITIES

The Company has established 36 (sets of) in-service key solid waste treatment facilities to cover the whole production system, among which, 15 (sets) are controlled by the Company; these facilities include the converter sludge transport, sintering, guniting, and utilization system, comprehensive utilization process of dezincification and palletizing of blast furnace dust in rotary hearth furnace, fixed steelmaking slag line treatment system, steelmaking slag air granulation and water quenching treatment line, steelmaking slag heating and magnetic separation treatment line, blast furnace water slag treatment line, hot rolling acid retreatment line, and dry electric heater ash separation and collection line. The operation of these facilities facilitates the effective treatment and disposal of the Company's solid wastes and ensures the Company's normal operation.

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

In 2017, the Company invested RMB173 million in solid waste treatment, a 43% increase compared with the investment of RMB121 million made in 2016. The investment was mainly put into the management of the south and north slag heaps and the construction of the polluted mine system of Ma Steel's Port Material Factory. The steel slag heating treatment is the key technology used in the management of the south slag heap. The key projects include the converter heating, in-tank water cooling of desulfurized residue, and casting residue hot splashing treatment. The hot splashing station is equipped with gas-collecting hoods. The dust produced enters the high-efficiency spray dust-moving separator via the pipeline for treatment before being discharged up to standard; the dust produced on the heating steel slag production line is collected and then treated with the single pulse sack-duster before being discharged up to standard. The heating water is recycled without being discharged. The project has been completed and put into operation.

VI. THE ENVIRONMENT AND NATURAL RESOURCES

To minimize the impact of its activities on the environment and natural resources, the Company has phased out backward production lines, speeded up restructuring and made constant progress in energy saving and environmental protection, by upgrading its products, extending its industrial chain and seizing the opportunity arising from the government's efforts to reduce overcapacity in the iron and steel industry.

6.1 Environmental protection management

Based on the concept of "environment operation and green development", the Company specifies the working philosophy of strategic environment management and develops the environment policy of "beautiful environment, green development and urban factory". 40 procedure documents such as the system management manuals and Pollution Control Management Program have been revised and released under control. The environment management system has been continuously improved and the improvement mechanism is relatively mature; based on its annual energy and environmental protection plan and Liability Statement of Energy and Environmental Protection Targets, the Company breaks down by levels the key targets and works and allocates them to the concerned departments and units. The implementation is monitored and regular measurement, analysis and evaluation are performed. The Company strictly complies with Chinese laws and regulations, such as Environmental Protection Law, Environmental Impact Assessment Law, Air Pollution Prevention and Control Law, Water Pollution Prevention and Control Law, and Solid Waste Pollution Prevention and Control Law, and develops internal control measures stricter than national emission limits against certain pollutants; the Company performs project environmental impact assessment and environmental assessment of construction projects according to laws and regulations, and the implementation rate of "Three Simultaneities" is 100%; the environmental protection management and problems tackling are continuously executed and prominent

environmental problems are addressed. The Company has invested RMB240 million in 12 pollution control projects, including the upgrading and reconstruction of electric sintering machine head dust removers and comprehensive utilization of steel slags; Centering on environment risk control, the targets of 100% daily online outlet rate and zero environmental pollution accident in the whole year have been achieved through carrying out onsite prevention and control, stabilizing up-to-standard pollutant emission, perfecting online monitoring and management of pollution sources; the management of solid wastes (hazardous wastes) has been standardized. Through the standardized management of onsite temporary storage sites, online declaration, transfer forms, and complete records of the external disposal have been achieved. The standardized management of hazardous wastes has achieved 100% compliance through the internal disposal's simulation of external disposal and internal transfer forms with timely transfer and disposal; the safety management of nuclear radiation environment has been strengthened and the radiation sources are 100% controlled with safety.

In 2017, the Company was among the first factories winning the national title of "green factory" and the application and declaration of the licenses of the Company, thermal power plants and coal-coking companies are performed according to time nodes; the Company's work of Green and Harmonious Construction of Iron and Steel Enterprise Based on Environment Operation and Integrated Urban Development won the first prize of Anhui Province's 13th Enterprise Management Modernization Innovation Achievements.

6.2 Energy management

The energy management system has been established and effectively operated according to high standards. 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. Based on "improving quality and efficiency, centering on potential tapping by standards, and targeting at indicator promotion", 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. Currently, the energy consumption of the coking process is better than national limits and that of sintering, palletizing, iron making, and converter steel making meets the national limits. In the benchmarking competition for equipment energy saving and cost reducing among national major large-scale energy consumption steel plants held in 2017, the Company made a historic breakthrough, with the No.1 converter of the No.4 Steel Rolling Factory winning the championship of 300t level and No. B blast furnace of No.3 Iron Making Factory winning the title of Superior Furnace of 4,000 m³ level.

- The energy saving and consumption reducing projects are progressing rapidly with significant achievements. In 2017, 17 energy saving projects, including the renovation of the primary pumping frequency conversion of the No.3 Iron Making Factory's sintering machine and the energy saving upgrading of the cold end of the Thermal Power Plant's No.1 generator set, have been implemented with an estimated annual revenue of RMB22.8 million.
- The Company has further improved its water resource management system and developed *Energy Saving and Consumption Reducing Management Process and Water Saving Management Policy*. It has also combined its water saving and emission reduction and standard emission with standardized management by controlling the fresh water consumption per ton of steel as a major company level energy; the Company has established an assessment and incentive mechanism of water saving and emission reduction by quantifying second level water consumption and emission indicators and setting up monthly analysis, assessment, and evaluation system; in addition, it has also significantly raised the water cycle utilization rate by implementing the measures of supplying water by quality, treating water by level, supplementing clean water with fresh water and replacing the muddy water with clean water.

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

The impact on the Company is insignificant in the short term, but in the long term, the Company will be liable to pay higher environmental protection tax if the provincial government of Anhui raises the tax rate; and the Company will seek tax incentives with continued improvement in the environment.

SECTION VII SUPPLIER MANAGEMENT

I. POLICIES AND EXECUTION

1. In accordance with Product Quality Advanced Planning and Scheduling Procedures mapped out by the Company, product quality is planned for and scheduled in advance. Being demandoriented, the Company has developed Raw Materials Supplier Management Measures, Raw Materials, Fuel and Accessories Procurement Procedures, and Raw Materials and Accessories Procurement Approval and Usage Management Measures, to manage the procurement process, optimize the supply chain and manage suppliers optimally. All of these are set to make sure all products purchased satisfy quality, environment, energy, occupational health and safety and measurement requirements.

- 2. The Company keeps track of risks associated with the supply chain and the society in terms of resource allocation, regional distribution, logistics, environment, financial status and national policies, and kicks start contingency plans timely to assure availability of supply.
- 3. The Company sparkplugs environmental governance and deepens a green supply chain.
- 4. The Company minimizes intermediate costs and values win-win between buyer and supplier.

II. KEY PERFORMANCE INDICATORS

The Company has been committed to building a safe, stable, efficient, sustainable and competitive supply chain. By upholding the concept of "opening the door and raising standards", the Company selects the suppliers with resource, quality, and brand advantages via the public "Supplier Access Information Platform". Currently, the Company has 797 registered suppliers, among which, 6 are foreign and 791 are domestic suppliers.

The Company has strengthened the supplier second party overview, including the access overview of new suppliers and competence overview of the registered suppliers; the dynamic evaluation and grading evaluation of suppliers are based on systematic data. On the basis of equity, integrity, trust, and equal cooperation, the suppliers with integrity will be preferred for business awarding in order to optimize the team of suppliers. Exclusive suppliers are strictly managed and their evaluation process is standardized to reduce procurement risks.

In upgrading the IATF16949 quality system in 2017, the Company required applying a systematic approach to innovating management, optimizing the supplier quality management system and driving development of the supplier quality system. The Company mapped out a plan for promoting the supplier quality system and required suppliers to upgrade their quality system in 2017. With respect to raw materials and ingredients used to produce steel used in automobiles, suppliers are required to be ISO 9001 certified by recognized third-party certification authorities. All suppliers of raw materials and ingredients used to produce steel used in automobiles have been ISO 9001 certified so far. 13 suppliers have passed on-site review by both parties.

The Company controls the environmental and social risks of its supply chain from aspects of resource allocation, regional layout, logistics, environment, financial status, and national policies, and properly launches emergency plans to ensure supply safety; the win-win situation between the supplier and the Company has been achieved by integrating the supply chain's high-quality resources and reducing intermediate costs; the Company advocates environmental operation and strengthens the green procurement.

I. POLICIES AND EXECUTION

The Company has prepared a Quality Manual by combining the requirements of ISO9001 quality management system with its specific conditions. 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.

In 2017, the Company held the second technology marketing conference, formed 10 APQP teams, implemented 19 EVI projects and launched the five-in-one customer service. Right now, the Company holds 32 continually valid certificates of system and product certification and the renewal rate of existing certificates is 100%. In 2017, the Company achieved 3 systematic certificates and 4 product certificates.

II. KEY PERFORMANCE INDICATORS

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

2. Complaints about products and services and countermeasures

In 2017, the customer service system of the Company received a total of 1,804 complaints from customers, representing a 32.96% drop compared with 2,691 complaints in 2016. The Company has taken actions as follows to address these complaints:

- a. Immediate processing. With the improved customer service system, the company has strengthened its five-in-one service pattern to address each customer complaint in a timely and efficient manner.
- b. Strengthening management. The Company has revised the *Rules for Handling Product Complaints and Management of 8D Activities*, so as to strengthen the process and normalization of handling customer complaints and propose effective improvement measures by analyzing each complaint specifically.
- c. Systematic arrangement. By promoting the "three-no" principle of quality, the Company has strengthened the process control and release check to ensure a zero defect rate.

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

- Leading by incentives and promoting patent quantity and quality. Ma Steel has developed incentive policy to encourage intellectual property development. In addition to the national policy of "one award and two incentives", the Company has raised the incentive by establishing the patent acceptance award and "two awards and two incentives", which greatly boosts the employees' enthusiasm for creating patents and inventions. Meanwhile, the Company has been active in organizing training courses for innovation methods, fostering over 30 innovation engineers and more than 150 employees mastering innovation methods, and the number of patent applications and licensing has been increasing significantly year by year. In 2017, the Company declared 254 patents, among which, 160 were invention patents, and 178 new patents were licensed, among which 89 were for inventions. The year has seen a 10% year-on-year increase in patent declaration.
- Scientific layout for improving product competitiveness. Ma Steel has combined the intellectual property rights with the enterprise's industrial structural adjustments, technological development, and marketing and actively constructed a number of patent pools concerning rail transportation, high-performance building steels, auto sheets, electrical steel, and environmental coke oven technologies, to protect its products, technologies, and markets. The Company has been actively participating in the target markets and making international patent applications. With regard to wheel and axle, Ma Steel has applied for 3 international patents for bainite wheels. The *Cylindrical Vacuum Refine Device and Its Using Method*, a revolutionary and creative vacuum refine technology independently developed by Ma Steel, has obtained the licensing of Japan and United States.
- Using patents to reduce costs and risks. Based on its product structure, Ma Steel has been actively promoting its key products, key market patent analysis and precautions, and implemented the intellectual property review system for major technology projects and market development to effectively reduce the risks of product infringement, project investment, market exploration, and overseas right protection and promote the industrialization of product patents. After finishing the intellectual property overview of the high speed train's travelling part, Ma Steel promoted the intellectual property overview of high-end electrical steel products in cooperation with the precaution center of State Intellectual Property Office of the PRC, which reduces the risks of patent infringement for Ma Steel to promote high-end electrical steel R&D and international operation strategy.

- Protecting patents and preventing tangible assets loss. The Company has been improving the intellectual property protection system, strengthening the technical security and protection of intellectual property like patents in equipment assignment activities, and establishing the intellectual property protection mechanism in engineering technology upgrading and equipment manufacturing consignment projects, to prevent the Company's intangible assets from losing. The Company has also strengthened the management of patent application process and tried to find out the common reasons by analyzing patent rejection cases. In addition, it improves patent quality through special training, typical case analysis, and professional guidance.
- Implementing patents and promoting continuous innovation. In recent years, Ma Steel has achieved a patent implementation rate of over 87.5%. The implementation of patents provides an important support for the promotion of the Company's competitiveness and performance. For instance, the 41,100 tons of hot rolled H shaped steel with vanadium and niobium and with the number of S355ML, produced using the patents set forth in *A Low Temperature Resistant H Shaped Steel and Its Manufacturing Process* and *A Low Temperature Resistant Malleable H Shaped Steel and Its Manufacturing Process*, were all used in Russia's Yamal Project; during the 4-year implementation of the patent group set forth in Low Alloy Wheel Steel for Rail Wagons and Its Wheel Preparation Method, 175,000 pieces have been produced, among which, 158,000 pieces have been exported. This patented product has been widely used in China as well as North America, Republic of Korea, Brazil, and Australia.

4. Quality test and product recall

- Product Monitoring and Measurement Procedures have been developed to specify good monitoring and measurement practices regarding purchased products, work in progress and finished products and to validate products.
- Substandard Product Control Procedures have been set forth to prevent substandard products from being used or delivered unexpectedly and to identify, control and manage substandard products effectively.
- A QC suspension call mechanism has been put into operation, to tighten quality control, govern inter-factory quality case arbitration and reinforce on-site testing, supervision and judgment.
- > A three-tier quality supervision system has been put in place, to make QC activities normative, standardized and consistent.

5. Customer data and privacy policy, execution and supervision

The office network and business network are physically separated to protect the user 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 AAAA), Key Customer (Class AAAA) and General Customer (Class AAA) and managed and served differently. The Company carries out a review and then determines the customer classification criteria in the next year. The next year's sales and service policies are defined accordingly and put into action with the Company's permission. In any sales year, in principle, only one sales policy is allowed to be applied to one item for the same customer. The Company provides differentiated services to each class of customers in terms of resource arrangement, production organization, quality control, delivery, pricing policy and sales terms and conditions.

II. KEY PERFORMANCE INDICATORS

- 1. Number of customers by region: In 2017, the Company had a total of 1068 customers, including 710 in eastern China, 145 in southern China, 25 in northern China, 75 in southwestern China and 113 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 1000 by "boosting foreign trade" and "diversifying domestic trade".
- 3. Customer satisfaction: The customer satisfaction rate was 92.93% in 2017.

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. No employee has been accused of corruption as of this report.

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.

Any clues found in petitions and whistle blowing will be investigated by the discipline and supervision teams of the Company and second level units according to personnel administration jurisdiction and corresponding approval process is strictly followed. The main process and working steps are as follows: accept cases→complete Initial Verification Application→develop initial verification program→implement initial verification and compile Initial Verification Report→write Case Filing Application→issue Case Filing Decision→propose investigation plan→investigate→complete investigation and write Investigation Report→refer the case to trial or refer the clues of suspected crimes to judiciary authorities for legal intervention.

SECTION XI COMMUNITY INVOLVEMENT AND POVERTY RELIEF

I. POLICIES AND EXECUTION

Operating on the bank of the Yangtze River, the Company is threatened by dangerous flood every year. Over the years, the Company not only takes internal flood-proof efforts seriously, but also plays a part in flood control actions organized by the government, in accordance with the Flood Control Law of PRC and other applicable laws and regulations.

With respect to poverty relief and education, the Company also 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.

II. KEY PERFORMANCE INDICATORS

1. Flood Prevention and Control

The Company is responsible for protecting a 8,309-meter dam from flood and for maintaining reserve of some materials against flood. As the largest organization in terms of the reserve of antiflood materials, the Company purchases a lot of wood, straw bag, woven bag, steel pipe and angle steel every year, and puts into use heavy-duty self-dumping trucks and haulage vehicles during the flood season.

In 2017, the threat of flood was minor. The Company's Flood Prevention Office organized a pre-flood inspection, stocked up materials completely and sufficiently, and completed flood prevention knowledge training and drill. The Command Center of the Security Department began to have staff members on guard against flood around the clock at the beginning of April. The Flood Prevention Office kept a close eye on rain and water level throughout the flood season, eliminated hidden risk of waterlogging, organized countermeasures against heavy rainfall, kept production and life unaffected and protected the river dam from flood.

2. Poverty Relief

2.1 Overview

The Company pays a lot of attention to poverty relief. Based on national poverty relief strategy, supported by the Group Company (a vice-chairman member of Maanshan Philanthropic Association) and directed by the Group Company and director of Anhui Red Cross Society, the Company has been dedicated to the poverty relief of Malou Village of Wangyan Township and Liji Village of Dicheng Township, Funan County. Some leaders and officers sent by the Company conducted one-on-one poverty relief on 37 very poor households in Malou Village and Liji Village and some designated administrative officers settled in the villages for targeted poverty relief. With these efforts, progress has been made at current stage. In the poverty relief assessment of Liji Village and Malou Village by Huinan Normal University, a third party designated by the provincial government, the proposed poverty relief households of Liji Village achieved a 100% poverty relief rate and the villages and households being relieved from poverty" in 2016, the newly-added 4 poverty relief households from Malou Village achieved a 100% relief rate in 2017.

During the reporting period, the Company also focused on increasing the villages' collective economic income as well as that of the poor households. With its "Farm Machinery Cooperation Project", the Company conducted dilapidated house renovation for 14 unrelieved poor households in Malou Village.

In addition, the Company has donated stationery, computers, printers and safety school bags to the primary school of Malou Village, cash and goods to poor households during holidays, and air-conditioners and office equipment to the office and medical room of Liji Village and the office of Malou Village. With these measures, the Company has made a significant contribution to the poverty relief at all aspects.

2.2 Statistics of targeted poverty relief

Unit: Ten thousand yuan

Indic	ator	Year 2017	Year 2016
1.	General information		
Where	ein:		
1.1	Fund	86	46
1.2	Material equivalence	18.5	6
1.3	Number of registered poor people relieved		
	from poverty with help (person)	574	442
2.	Input by item		
2.1	Poverty relief by industry development		
Where	ein:		
2.1.1	Category of industrial poverty relief	Poverty relief	Poverty relief
	projects	with assets	with assets
		income	income
2.1.2	Number of industrial poverty relief projects	1	1
2.1.3	Investment of industrial poverty relief		
	projects	50	16
2.2	Educational poverty relief		
Where	ein:		
2.2.1	Input of funding poor students	7.45	3.9
2.2.2	Number of poor students funded (person)	250	-
2.2.3	Input of improving educational resources in		
	poor areas	0.2	-
2.3	Health poverty relief		
Where	ein: input of medical and health resources in		
рос	or areas	0.55	-
2.4	Social poverty relief		
Where	ein: input of targeted poverty relief	86	52

Unit: Ten thousand yuan

Indicator	Year 2017	Year 2016
2.5 Other projects		
Wherein:		
2.5.1 Number of projects	1	/
2.5.2 Input	30	/
2.5.3 Number of registered poor people relieved		
from poverty with help (person)	11	/
2.5.4 Description of other projects	Helping poor	
	households	
	renovate	
	dilapidated	
	houses	/

3. In 2017, the Company took in a total of 4,793 interns in 58 groups from 8 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.

In 2016, the Company received a total of 5,128 interns in 51 batches from 8 universities, including University of Science and Technology Beijing, Southeast University, Wuhan University of Science and Technology, Anhui University of Technology, Taiyuan University of Technology, Anhui Polytechnic University, and Tongling University.

- 4. In 2017, a total of 1,858 employees of the Company donated blood of 529,900ml, and a number of units of the Company were awarded the title of "Advanced Volunteer of Blood Donation". During the same period of last year, 2,630 employees donated blood of 700,000 ml.
- Anhui Changjiang Iron and Steel Corporation limited, a holding subsidiary of the Company, donated RMB590,000 to Red Cross Society of Taibai County, Maanshan in 2017.
- 6. The Company has been actively participating in the "Golden Autumn Flower Show" of Maanshan. In 2017, the Company invested RMB350,000 in the show. Its items on the show fully demonstrated the characteristics of Ma Steel and received unanimous praise from the citizens after being displayed at Flower Rain Square, an important landmark in urban Maanshan.

7. Volunteer services

Magang volunteers provide free services on every "March 5" Volunteer Service Day, cares for the disadvantaged people, conducts "love pair", finances students from poverty-stricken families to help them finish school, organizes regular visits by young volunteers to Sunshine Villages and orphanages and stages "Charity Day" events. In 2017, the Youth League of Magang had young volunteers take part in the good crosswalk manners activity organized by the municipal Youth League several times, with a view to prevent traffic accidents and foster good traffic manners. Young volunteers were also involved in blood donation and factory cleaning several times.

SECTION XII CONTACT US

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Chairman (Approved by the Board of Directors): Ding Yi Maanshan Iron & Steel Company Ltd April 25, 2018