



China Baowu Steel Group Corporation Limited

SOCIAL RESPONSIBILITY

2018



20
18

Report Overview

ABOUT THIS REPORT

This report is the third Social Responsibility Report released to the public by China Baowu Steel Group Corporation Limited (hereinafter referred to as "China Baowu" or "the Company").

This report is compiled with reference to State-owned Assets Supervision and Administration Commission (SASAC) of the State Council GZFGG No. [2012] 23 Guiding Opinion on Carrying out Management Improvement Activities by Central Enterprises, SASAC of the State Council No. [2008] 1 Guiding Opinion on Fulfilling Social Responsibility by Central Enterprises, Guideline for Preparation of Chinese Corporate Social Responsibility Reports by Chinese Academy of Social Sciences, and based on the unique understanding of social responsibility and specific practices of China Baowu.

SCOPE

Unless otherwise specified, this report mainly describes China Baowu's work in integrity management, innovation-driven, green development, employees, society and ecosystem, etc. from January 1 to December 31, 2018, and the report covers such industries as steel manufacturing, new material, trade logistics, industrial services, urban services and industrial finance.

TEXT LANGUAGE AND RELEASE FORM

This report is published in both Chinese and English. To avoid the discrepancy of the descriptions in different languages, the report is subject to its Chinese version. If you have any question or suggestion, please feel free to contact us. Our contact information is as follows:

**Department of Corporate Culture of
China Baowu Steel Group Corporation Limited**

Baowu Building, Building No. 1, 1859 Shibo Avenue,
Pudong New Area, Shanghai, China

Zip code: 200126

Telephone: +0086 21 20658888

Fax: +0086 21 20658899

Email: csr@baowugroup.com

The report is released in the form of presswork and electronic document, and the electronic document can be downloaded from China Baowu's website (<http://www.baowugroup.com/>).

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ADDRESS BY CHAIRMAN OF THE BOARD



陈德章

Party Secretary and Board Chairman of
China Baowu Steel Group Corporation Limited

Serving The Nation By Jointly Creating A High-Quality Iron & Steel Ecosphere

2018 was a significant year since the restructuring of China Baowu.

In this year, we deeply studied and implemented the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and, guided by this, took firmer steps to serve the nation by strengthening the iron and steel industry with stronger resolve. We continuously improved the operating benefits and development quality, and made contributions to national affluence and strength, social stability, and better livelihood for the people.

In this year, we unswervingly implemented the new concept on development, consistently carried out transformation, upgrading and innovation centered on the supply-side structural reform, and achieved ever better operating benefits and development quality. In 2018, the steel output of China Baowu reached 67.25 million tons, ranking the second in the world. The annual operating revenues registered 439.8 billion yuan and the profits were 33.8 billion, up 100% year-on-year and creating a new record of profits in its history.

In this year, we persistently implemented the new concept on development and stepped up the planning for major, cutting-edge technologies and product innovation, with the aim of meeting national strategies and user demands. We launched seven products worldwide, actively pushed intelligent manufacturing and accelerated the process of "Industrial Intelligentization and Intelligent Industrialization", and promoted green urban steel mill construction across the board on the principle of "higher than standard, better than city proper, integration with city".

In this year, we resolutely carried out the decisions and deployments of poverty alleviation made by the CPC Central Committee, and made poverty alleviation a key political task. We doubled the funds for designated poverty-stricken areas with more allocated to extremely poverty-stricken counties by assisting Yunnan's Ning'er County, Tibet's Dingqing County and Qinghai's Tongde County in getting rid of poverty, overfulfilling our commitments to the designated areas in every aspect.

The world today is undergoing profound changes never seen in the past century, when economic globalization, political polarization, social informatization and cultural diversification are exerting substantial impacts on the global landscape. As China's economy is shifting from high-speed growth to high-quality development, the iron and steel industry is facing various new requirements made by ecological development, upgraded demand for materials, transformation of industrial services, and the Made in China 2025. As a leading enterprise in China, China Baowu shoulders more arduous and challenging tasks in leading the transformation and upgrading of the industry. Therefore, China Baowu, committed to becoming a global iron and steel leader, put forward the corporate mission of "jointly creating a high-quality iron and steel ecosphere" for the first time.

The iron and steel ecosphere we propose features the combination of "intelligent manufacturing + intelligent service". Based on new-generation network and information technologies, it realizes the connection and coordination of all links of iron and steel manufacturing and service and ensures intelligent decisions on each of them. With "one base and five industries" as the basis and putting user interests first, our iron and steel ecosphere, through sharing and intelligent data, strives to maximize the synergy effect of all stakeholders based on the maximal integration effect of China Baowu. This iron and steel ecosphere also features "opening-up, sharing and innovation", aspiring to establish a new business mode of B2B2C.

"The boat encounters stronger waves when sailing midstream". As the initiator and founder of the iron and steel ecosphere, we will undertake the responsibility of defending its core values and operating rules. On one hand, we will carry forward the spirit of self-revolution, and reshape the iron and steel supply chain by shattering the fetters on our mind, restrictions on our enterprises and geographical limitation. On the other hand, we will fully exert our advantages as a pilot state-owned capital investment company and a central enterprise, actively integrate the specialized resources and capabilities of subsidiaries, and build the service infrastructure connecting all stakeholders. In this way, we will create the most coordinated, cohesive and competitive ecosphere to lead the high-quality development of the iron and steel industry.



2019 marks the 70th anniversary of the founding of the People's Republic of China. Over the past 70 years, China's iron and steel industry has experienced more twists and turns than that in any other country, but it has also made more glorious achievements than any of them. We can say with pride that the iron and steel industry has made irreplaceable contributions for the Chinese nation to stand up, get stronger and more prosperous.

In this new era when the Chinese nation is working hard to achieve the Chinese Dream of great rejuvenation, China Baowu, following General Secretary Xi's instruction of "fostering a world-class enterprise with global competitiveness", will adhere to our initial aspiration and mission of serving the nation by building a powerful iron and steel industry, and do our best to become a global iron and steel leader. China Baowu will go all out to foster a high-quality iron and steel ecosphere that is built and shared by all stakeholders and aims at our common development, and help realize the Chinese Dream of the great national rejuvenation!

About Us

China Baowu Steel Group Corporation Limited (hereinafter referred to as "China Baowu") was established on December 1, 2016 through joint restructuring of former Baosteel Group Co., Ltd. and Wuhan Steel (Group) Company. With registered capital of 52.79 billion yuan, assets size of 711.81 billion yuan and production capacity of 70 million tons, China Baowu ranks first in China and second in the world as a pilot state-owned enterprise.

In 2018, China Baowu continued to lead the industry with

STEEL OUTPUT OF

67.25 million tons

GROSS REVENUE OF

438.6 billion yuan

TOTAL PROFITS OF

33.8 billion yuan

RANKING

162nd

IN FORTUNE GLOBAL 500 LIST

VISION | TO BE A GLOBAL LEADER IN THE STEEL INDUSTRY

Leading by Technology

Achieving the leading in quality, green, intelligence, cost and other aspects through technological innovation.

Leading by Efficiency

While keeping the total scale of profitability leading the world, ensuring the continuous improvement of asset efficiency and achieving high-quality development.

Leading by Scale

Taking "global leading" as the goal, increasing production capacity scale, increasing market share, and optimizing regional layout and product structure to achieve global leading in total sales revenue.

MISSION | TO BUILD A HIGH-QUALITY STEEL ECOSYSTEM

Steel ecosystem is around the core businesses in the field of the steel intelligent manufacturing + intelligent services including manufacturing, trading, logistics, raw material and fuel, finance, data, technology, park development, etc, and it is an industrial ecosystem built by all parties related to these businesses that integrates multiple functions and provides users with efficient, agile and safe products and services.

Steel ecosystem is based on "one basis and five industries, customers first" and the basic features are: open sharing, connection and collaboration, intelligence and agility, innovation and iteration, and jointly building a thriving steel ecosystem.

VALUES | INTEGRITY, INNOVATION, SYNERGY & SHARING

DEVELOPMENT GOALS

A Hundred Million

A hundred million tons of steel industry (2025)

A Trillion

A trillion yuan of revenue (2035)

A Hundred Billion

The pillar industry with a hundred billion yuan of revenue

Ten Billion

The pillar industry with ten billion yuan of profits or the excellent enterprise with ten billion yuan of revenue

A Billion

The excellent enterprise with a billion yuan of profits of revenue

BUSINESS PORTFOLIO | "ONE BASIS AND FIVE INDUSTRIES"

Including six major segments, namely: the basis of steel manufacturing and the coordinated development of new material industry, trade logistics industry, industrial service industry, urban new industry and industrial finance industry.

1 STEEL MANUFACTURING

In the steel manufacturing, the Company, aiming to lead the development of global steel industry, focusing on scale, technology, efficiency, and centering on the country's supply-side structural reform and industrial restructuring, insists on value creation, green development, technological and development mode innovation, provides high-quality steel for the automobile, machinery, electrical appliances, energy, shipbuilding, marine engineering, nuclear power construction, transportation and other downstream industries, promotes transformation and upgrading of China's steel industry and becomes China's first and the world's leading manufacturing service provider of quality steel.

Revenue (yuan)	Total Profits (yuan)	Employees
371.3 billion	30.1 billion	108,581

2 NEW MATERIAL INDUSTRY

In the new material industry, it is committed to building itself into a comprehensive material supplier and solution provider integrating R&D, manufacture and processing services by building the second largest manufacturing segment of China Baowu with high-performance metal materials, light metals, carbon-based materials, ceramic matrix composites and metal packaging products in the fields of large-scale transportation (including aerospace, rail transit and automobiles), new energy and massive consumption.

Revenue (yuan)	Total Profits (yuan)	Employees
18.5 billion	-161 million	5,510

3 TRADE LOGISTICS INDUSTRY

The trade logistics industry focuses on bulk of raw material and fuel and finished products related to iron and steel, opens up the links from mines, ports and steel mills to terminal circulation through resource investment, integration and platform operation, provides open B2B trading platform and intelligent logistics service platform, and becomes an important element to build a high-quality steel ecosystem.

Revenue (yuan)	Total Profits (yuan)	Employees
59.9 billion	366 million	1,686

4 INDUSTRIAL SERVICES INDUSTRY

In the industrial services, it, relying on the technical accumulation, resources and brand advantages of the group, and taking into consideration of serving the steel industry, provides professional solutions and services for industrial enterprises and green development of urbanization, and strives to become a leader of the industry.

Revenue (yuan)	Total Profits (yuan)	Employees
22.3 billion	1.7 billion	14,045

5 URBAN SERVICES INDUSTRY

In the urban services industry, it, taking vitalizing the stock of real estate as the basis and appropriate incremental development and construction as a supplement, stressing the integration of "industry, finance, Internet and city", focuses on the development of industrial real estate, promotes new supporting industries, innovates the new mode with "factory-industrial park-urban area" developing coordinately to facilitate the transformation and development of urban steel bases and provide carrier and service for the group's new materials, industrial finance and other business development so as to become a leading provider for comprehensive development, operation and supporting service of industrial parks in China.

Revenue (yuan)	Total Profits (yuan)	Employees
22.1 billion	-333 million	27,798

6 INDUSTRIAL FINANCE INDUSTRY

In the industrial finance area, it aims to become a provider for supply chain finance: providing supply chain financial services around the steel industry chain; to be a creator of industrial synergy value: expanding and strengthening businesses with high degree of integration with the main business, enhancing the integration of industry and finance, creating industrial synergy value and promoting win-win of industry and finance; to be a driver for the transformation and upgrading of the steel industry: promoting the transformation and upgrading of the steel industry by means of industrial funds, asset management, PE, equity investment, capital operation and others.

Revenue (yuan)	Total Profits (yuan)	Employees
4.7 billion	2.2 billion	1,305

The Board of Directors



Chairman of The Board
Chen Derong



Director
Hu Wangming



Outside Director
Buck K. W. Pei



Outside Director
Li Guo'an



Outside Director
Shen Xiaowu



Outside Director
Lin Jianqing



Worker Director
Fu Lianchun



Hu Wangming began to act as a director of China Baowu in October 2018.

Senior Executives



Party Secretary & Chairman
Chen Derong



Director, General Manager &
Deputy Party Secretary
Hu Wangming



Deputy Party Secretary
Fu Zhongzhe



Standing Committee Member of
Party Committee
Zou Jixin



Chief Accountant
Zhu Yonghong



Deputy General Manager
Guo Bin



Deputy General Manager
Zhang Jin'gang

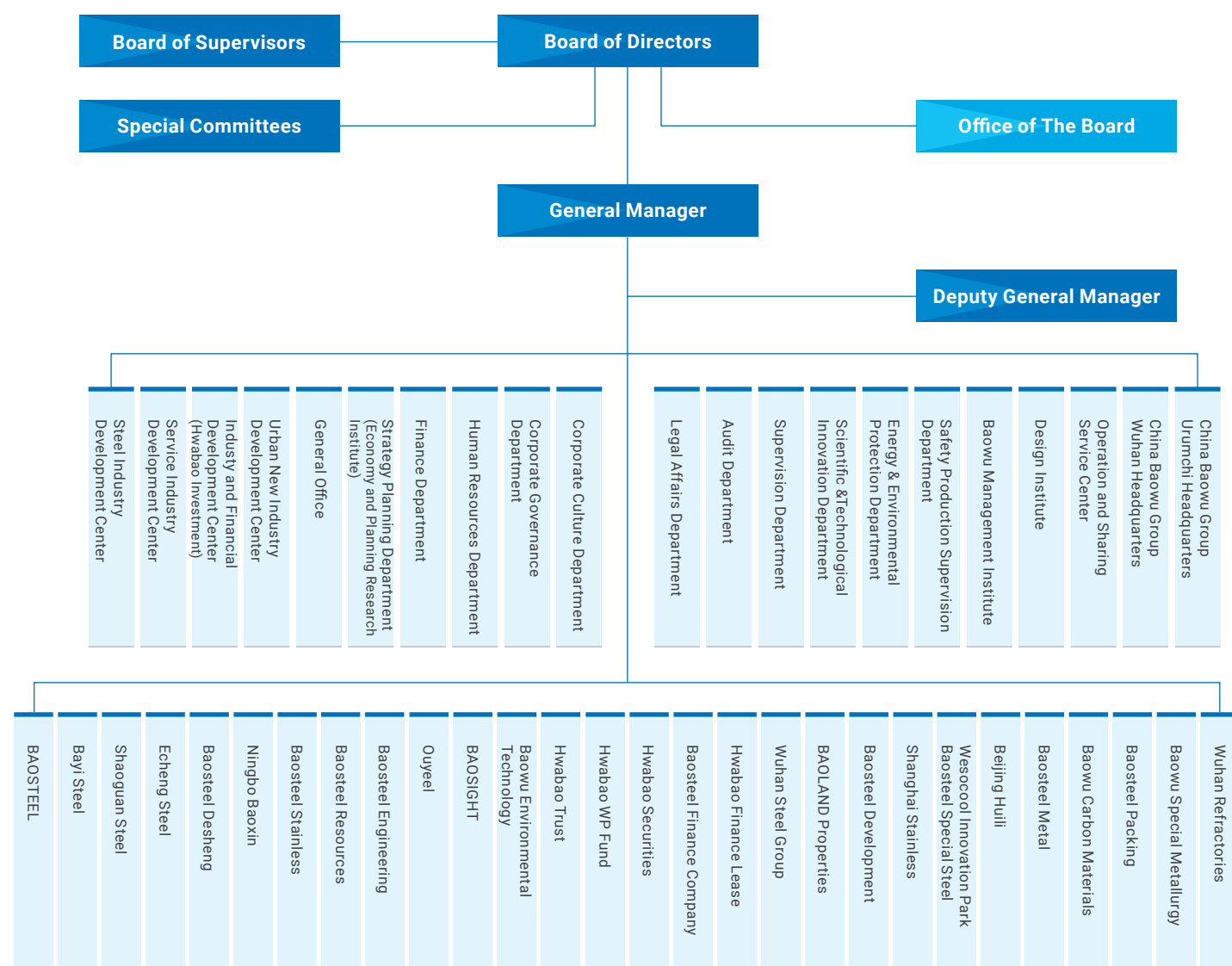


Standing Committee Member of Party
Committee & Secretary of Committee
for Discipline Inspection
Zhang Keqin



1. In March 2018, Ma Guoqiang ceased to be the Party secretary and chairman of China Baowu;
2. In June 2018, Chen Derong became the Party secretary and chairman of China Baowu, no longer serving as the general manager;
3. In October 2018, Hu Wangming became the director, general manager and deputy Party secretary of China Baowu, no longer serving as the deputy general manager;
4. In November 2018, Dai Zhihao ceased to serve as a member of the standing committee of the Party Committee of China Baowu.

Management Structure



- The full names of the four business centers are respectively: Steel Industry and Related Manufacturing Development Center, Steel Industry and Related Service Industry Development Center, Industry and Financial Integration Development Center, Real Estate and Urban New Industry Development Center.
- Industry and Financial Development Center and Hwabao Investment operate by means of "two brands and one team"; Strategy Planning Department and Economic and Planning Research Institute operate by means of "two brands and one team"; Design Institute and Baosteel Engineering operate by means of "two brands and one team"; Scientific & Technological Innovation Department, Energy and Environmental Protection Department, Safety Production Supervision Department are co-located; Wuhan Headquarters, Urumqi Headquarters are co-located with Wuhan Steel Group and Bayi Steel respectively. Baosteel Special Steel is co-located with Wesocool Innovation Park.

Strengthen Party Building

The Party Committee of China Baowu has thoroughly studied and implemented Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the spirit of the 19th CPC National Congress, as well as General Secretary Xi Jinping's important exposition on the reform and development of state-owned enterprises and Party building. In accordance with the Central Committee's deployment requirements, closely around the general requirements of Party building in the new era, taking the Party's political construction as the guide and taking "Two Upholdings" (resolutely upholding the Central Committee of General Secretary Xi Jinping and the central position of the Party as a whole, and resolutely upholding the authority and centralized and unified leadership of the Party Central Committee) as the highest political principle, it has fully implemented "Two Consistents" (consistent in the major political principle of upholding the Party's leadership over state-owned enterprises and consistent in the establishment of modern enterprise system as the reform direction of state-owned enterprises) and the responsibility system for Party building, comprehensively deepened the "Three Basic Constructions" (grassroots construction, foundation work and basic skill training), given full play to the leadership role of the Party Committee and kept the direction, managed the overall situation and ensured the implementation, providing strong political guarantee for building China Baowu into a global leader in the steel industry. By the end of 2018, there were 2,882 Party organizations at all levels, including 204 Party committees, 231 general Party branches and 2,447 Party branches, and 53,658 on-duty Party members.

Thoroughly studying and implementing Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the spirit of the 19th CPC National Congress, taking the Party's political construction as the guide and implementing "Two Upholdings"

We have made it a top political priority to study and implement Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the spirit of the 19th CPC National Congress and have formulated and promoted the implementation of China Baowu's Implementation Plan for Further Studying and Implementing Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the Spirit of the 19th CPC National Congress; we have made the annual study plan for the theoretical study central group of the Party Committee, earnestly organized the study and in-depth discussion, exchange and research, and held five group study discussions and one communication report meeting; we have adopted the methods of level-by-level responsibility, courses in different modules, and implementation in stages to ensure "Five Full Coverages" (full coverage of Party and government responsibilities; full coverage of "one post and two responsibilities"; full coverage of "Three Musts" (safety management must be emphasized in industry management, business management and production management); full coverage of the chief government officer's serving as the director of the safety committee; and full coverage of safety supervision departments at all levels reporting production safety condition to the organizational departments at the same level), and have completed the centralized training in rotation of 2,174 Party members and leaders; with the theme of "thoroughly implementing new thought and fully planning new development" and focusing on the major issues of Party building, reform development facing the enterprise, the leadership of China Baowu has taken the lead in conducting in-depth research. Steel ecosystem is based on "one basis and five industries, customers first" and the basic features are: open sharing, connection and collaboration, intelligence and agility, innovation and iteration, and jointly building a thriving steel ecosystem.

Focusing on "Two Consistents", doing a good job in top-level design of institutions and mechanisms, strengthening the building of major decision-making mechanisms, and strengthening the Party's leadership and improving the corporate governance

The Party Committee's research and discussion has been taken as a pre-procedure of "Three Majors and One Large" (decision-making on major issues, appointment and removal of major cadres and major project investment, and use of large amount of funds), and 81 major decision-making issues have been teased out by fully fulfilling the principle of prior control in strict accordance with "Three Insists, Four Checks, Four Cases not Discussed in Meetings". Among these issues, 34 items involving implementation of major special missions of the Party and the nation, Party building and appointment or dismissal of cadres were decided directly by the Party Committee; the other 47 items, after pre-discussion by the Party Committee, shall be determined by the board of directors or authorized managers. The leadership system of "Two-way entry and cross-appointment" has been improved. Among the 14 subsidiaries with boards of directors, 13 have implemented the system of "all-in-one responsibility" by the Party secretary and the chairman and one has appointed Party secretary and chairman separately, as its chairman is a member of a democratic party. All the 356 wholly-owned and holding companies completed the work of adding Party building into their articles of association in 2017. In 2018, the work of adding Party building into the articles of association was promoted on a regular basis. A total of 6 newly established or restructured subsidiaries all implemented this work.



Strengthening the Party's organizational system construction and promoting standardization of Party building

We have promoted the construction of the "Party building cloud" platform and implemented the "management of the entire cycle of political life of Party members". We have implemented real-time and dynamic management of basic information and standing books such as Party organization management, Party member management, "three meetings and one lesson", change of term of Party organization, "Party member quality improvement plan", democratic evaluation of Party members, and collection of Party membership dues. At present, the online payment of Party membership dues covers more than 46,000 Party members. We have earnestly implemented the requirements of "strengthening the standardized and normalized construction of Party branches" by General Secretary Xi Jinping at a national organization meeting and carried out the regulations on the work of Party branches. We have prepared the standardization manual for the construction of Party branches in China Baowu through extensive research and fully listening to the opinions of secretaries of grassroots Party branches.

Strengthening training of Party organization secretaries, further stimulating the leading role of grassroots secretaries

We have held special training classes for new Party secretaries, full-time deputy secretaries and secretaries of the Committee for Discipline Inspection. Around the responsibility of implementing Party building, focusing on "knowledge required to know" and with the content of responsibility, system provisions and practical operations as priorities, the heads of Party affairs departments of China Baowu explain difficult problems and analyze case from seven modules of organizing Party building, cadre talents, publicizing culture, discipline inspection and supervision, Party office, trade union and Communist Youth League. We have organized the first work practice competition of Baowu's Party branch secretaries and the content of the competition includes theory elaboration, case analysis, basic knowledge of Party building, practical operation of Party building cloud platform, etc. Through the training and competition, the Party secretaries have further enhanced their abilities to perform duties and professional level.

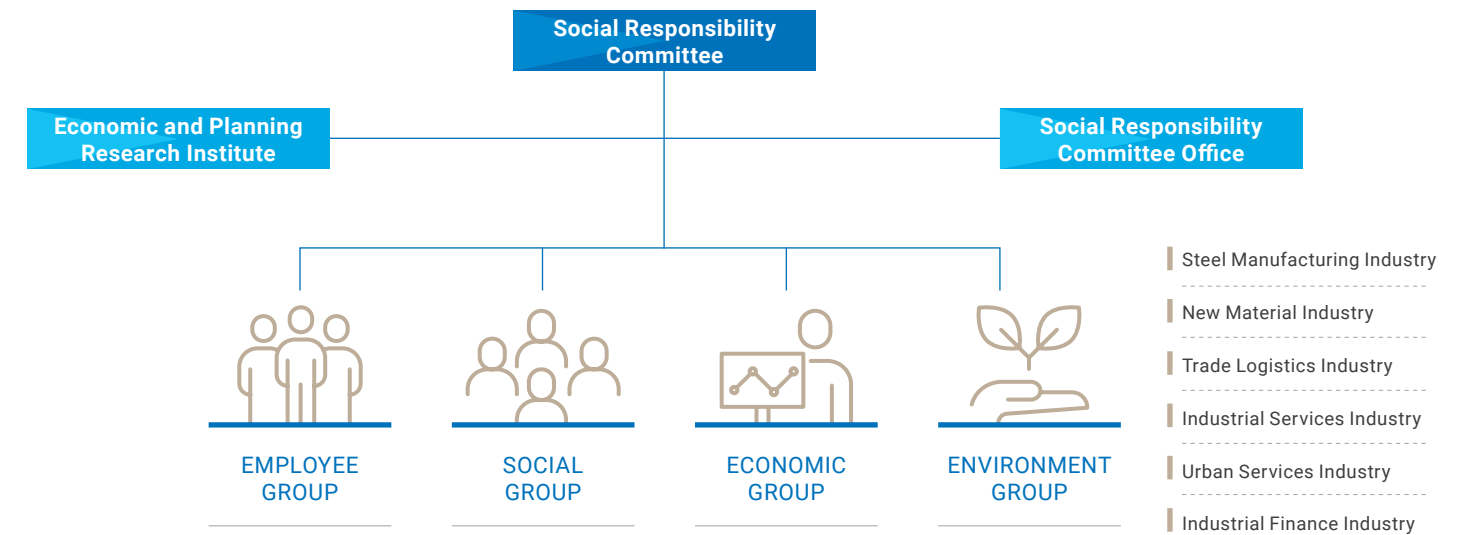
Adhering to plan, deploy and evaluate Party building together with the central work, and implementing "co-responsibility of the Party and governmental officials" and "one position with two responsibilities"

We have implemented the requirements of General Secretary Xi Jinping to report both the economy and the Party building and carry out the "two-way" assessment. The assessment results and organization performance evaluation results are coefficients of each other, which are connected with the performance evaluation of leading groups and leading personnel. Through "online evaluation + on-site verification evaluation", the implementation of the responsibility system of Party building by the secondary Party organizations has been assessed. We have comprehensively carried out the evaluation of Party building through the reporting of Party organization secretaries at the grassroots level, and all second-level Party organization secretaries have reported on their work on site for three years. China Baowu's Party secretary and full-time deputy secretary personally review and evaluate the work so that the secretary who reported on his work feel the tension of the "exam", which is effective in promoting the Party secretaries to implement the responsibility of Party building at the grassroots level.



Social Responsibility Management

RESPONSIBILITY GOVERNANCE
Social Responsibility Organizations



Preparation Process of Social Responsibility Report



PROMOTING RESPONSIBILITY

SOCIAL RESPONSIBILITY REPORT RELEASE CONFERENCE

On August 30, 2018, a large-scale themed interview activity "Magnificent eastern tide advancing in the new era—celebrating 40 years of reform and opening up" was organized by the Publicity Department of the CPC Central Committee in China Baowu. More than 70 journalists from the central and local mainstream media gathered at China Baowu headquarters by the Huangpu River to get a comprehensive understanding of the great achievements made by the iron and steel workers of the People's Republic of China over the past 40 years; and to experience the innovation of China Baowu to cultivate the world-class steel enterprise with global competitiveness by focusing on the new era, new responsibilities, new actions and new atmosphere. At the event, the 2017 China Baowu Social Responsibility Report was released and Chen Derong, Party secretary and chairman of China Baowu, made the keynote speech.

**Excellent Social Responsibility Cases
of China Baowu In 2018**



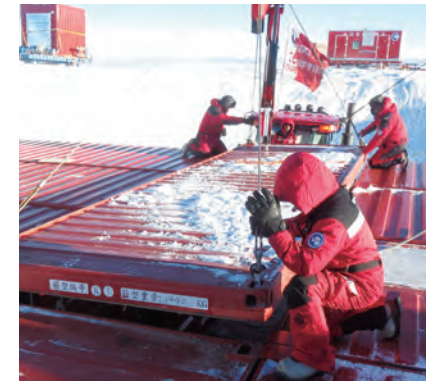
**BAOSTEEL: WITH THE NATIONAL PILLAR, CARRYING THE
"MANUFACTURING POWER" TO THE END**

Over the years, BAOSTEEL has strengthened independent innovation and applied standards, technologies and products to many national projects and important fields related to national economy and people's livelihood, making an important contribution to the upgrading of China's manufacturing industry. For example, the thick plates for the key equipment of the nuclear island were successfully applied to "Hualong One" nuclear power plant; extremely low iron loss oriented silicon steel was successfully applied to the national major projects such as "the Three Gorges" and "west-east power transmission"; heavy rail products were widely used in the "Beijing-Shanghai High-speed Railway", "Shanghai-Kunming Line" and other high-speed railway trunk lines and a number of subway lines in Wuhan city; about 340,000 tons of different types of steel were used in three main projects—the medium bridge, islands and tunnels of the Hong Kong-Zhuhai-Macao Bridge.



**BAOSTEEL: STARTING THE DEMONSTRATION OF STEELMAKING
INTELLIGENT MANUFACTURING AND LEADING A NEW CHAPTER**

BAOSTEEL No. 3 Concaster became the world's first concaster adopting four robots with one equipped at the ladle platform and the middle ladle area respectively and two equipped for the crystallizer, which greatly reduced the workload and labor intensity of workers and greatly improved the essential safety. The complete operation function, precision of operation performance and degree of automation have reached the international leading level. With the key technology of independent integration, BAOSTEEL has become the first company in China to achieve the process of "one-key steelmaking + fully-automatic tapping" for large-scale converters.



**BAOSTEEL ENGINEERING: CONTRACTING TO BUILD CHINA'S FIRST
ANTARCTIC PROJECT UNDER SNOW**

The second phase of Taishan Station under the general contract of Baosteel Engineering is the first Antarctic project under snow in China. The project team overcame extreme weather, short construction window period, limited construction conditions and other difficulties, and the construction period was only 30 days. The project adopted customized container module assembly and special sealing and waterproof, which effectively solved the insulation and waterproof sealing of buildings under snow in extremely cold environment; equipped with water supply system with snowmelt water tanks and sewage treatment system, the intelligent micro-grid power supply system with complementary wind-solar-diesel generator-energy storage battery can effectively protect the Antarctic environment and save fuel.



**BAOWU ENVIRONMENTAL TECHNOLOGY: BUILDING A PROFESSIONAL
PLATFORM FOR ENVIRONMENTAL GOVERNANCE AND BUILDING A HIGH-
QUALITY STEEL ECOSYSTEM TOGETHER**

Baowu Environmental Technology independently developed and innovatively integrated rotary hearth furnace technology to effectively avoid dust in the factory and preventing secondary pollution caused by the transportation of dust and mud; built the collection, storage and transit platform of hazardous wastes for small and medium-sized enterprises with an annual collection, storage and transfer capacity of 12,106 tons, which broke the situation of insufficient comprehensive disposal capacity of hazardous wastes of small and medium-sized enterprises in Baoshan District; created the platform for the recycling and disposal of urban wastes, which had absorbed 216,000 tons of construction wastes by the end of 2018. The environmental governance professional platform of Baowu Environmental Technology has built a green link for the harmonious development of cities and steel mills.



**SHAOGUAN STEEL: INTELLIGENT MANUFACTURING TO CREATE
"DIFFERENT STEEL"**

Shaoguan Steel, focusing on improving the safety environment of "3D"note posts and aiming to realize the basic requirements of operation with a few workers and unmanned operation at 3D posts and promoting the essential safety at the workplace, promoted special work on intelligent manufacturing. In 2018, ten landmark intelligent manufacturing projects were built, among which 42 central control rooms were merged and 9 branch plants (workshops) were abolished in the central operation and monitoring center of iron making process and energy medium, and the number of operation areas was optimized from 64 to 25, with an efficiency increase of 31%.

! "3D" refers to Dirty, Difficult and Dangerous.



BAOSTEEL: WITH LOVING HEART, SINCERITY AND ACTION

BAOSTEEL was designated to undertake the task of supporting poverty alleviation in four counties of Pu'er City, Yunnan Province such as Ning'er and Zhenyuan. In 2018, a total of 26.2 million yuan was invested in Yunnan and 35 projects were built; through the projects in infrastructure construction, industrial poverty alleviation, education and training, etc., the production and living standards of the people in poor areas have been effectively improved, and the task of poverty alleviation in Ning'er County, Zhenyuan County, Jiangcheng County and Guangnan County has been vigorously promoted.



BAYI STEEL: VISITING THE PEOPLE, BENEFITING THEIR LIVELIHOOD AND GATHERING THEIR SUPPORT

Bayi Steel, focusing on the overall goal of Xinjiang's social stability and long-term peace and order, and in accordance with the decisions and arrangements of the Party Committee of the Autonomous Region, has always prioritized the work of "visiting the people, benefiting their livelihood and gathering their support" in villages. Bayi Steel made Party members' "improvement" part of community-level practice, and distance education was provided for 2,662 people, 91 active Party members were trained and 15 Party members were recruited; and the Yuepuhu County Gan'en Agricultural Products Cooperative was established to help villagers sell 118 tons of agricultural and side supplies, and 52 specialized farmer cooperatives of various types were set up, bringing more than 1,000 poor households into employment. Up to now, 1,277 poverty-stricken households and 6,395 people have been lifted out of poverty, and Bayi Steel's work in villages has been fully recognized by the local Party committees at all levels, and won the honorable title of "Advanced Collective for Visiting the People, Benefiting Their Livelihood and Gathering Their Support" in the Autonomous Region for four consecutive years. Ning'er County, Zhenyuan County, Jiangcheng County and Guangnan County has been vigorously promoted.



BAOSTEEL: TURNING WASTE INTO TREASURE AND LIVING IN HARMONY WITH THE CITY

BAOSTEEL accelerated "no solid waste leaving the plant", focused on the return production and utilization of solid waste and the by-product transformation and adhered to the "3R" principle of "reduction, reuse and recycling". In 2018, the comprehensive utilization rate of solid waste reached 99.30%, the product certification of 9 categories of solid waste was completed, and 11 new absorption channels of solid wastes inside the plant were expanded. In addition, BAOSTEEL also gave full play to the solid waste absorption potential of iron and steel enterprises, and took the initiative to absorb all kinds of solid wastes that is hard to be handled in cities by metallurgical furnaces, creating a new situation of integration and symbiosis between steel mills and cities.



WUHAN STEEL GROUP: WATERING THE FLOWERS OF HOPE IN DINGQING COUNTY

Wuhan Steel Group assisted Dingqing County in Tibet by developing education, changing the concept of farmers and herdsmen and blocking the transmission of poverty between generations. The group invested 15 million yuan to build a standard kindergarten, organized nearly 40 Dingqing kindergarten teachers twice to practice and train in the preschool education center of Wuhan Steel Group, and sent 10 excellent kindergarten teachers twice to volunteer teaching in Dingqing County to improve the overall level of preschool education in Dingqing County.



BAYI STEEL: BAOWU WEST LINE, EXPANDING CIRCLE OF FRIENDS BY "THE BELT AND ROAD INITIATIVE"

Bayi Steel seized the great opportunity of "the Belt and Road Initiative" and gave full play to regional advantages and resources endowment. It arranged Baowu West Line to connect steel products with Central Asia, South Asia, Russia, Eastern Europe and other regions and countries and organically joint the upstream and downstream enterprises of steel industry, building a green steel industry chain system, production system and socialized service system with the steel industry as the leading role. In 2018, Bayi Steel shipped 172 trains and created thousands of jobs in Kazakhstan.



OUYEEL: FINANCIAL TECHNOLOGY HELPING INCLUSIVE FINANCE AND SERVING SMALL AND MICRO BUSINESSES TO FULFILL SOCIAL RESPONSIBILITY

With domestically developed blockchain as the technology base, Ouyeel Financial Service Co., Ltd. provides convenient, efficient and low-cost inclusive financial services to many small and medium-sized and private enterprises, which is conducive to solving the problems of difficult and expensive financing for small and medium-sized enterprises, and helping financial institutions better understand the real business transactions and operating conditions of small and medium-sized enterprises. After seven months of trial operation, a total of more than 4 billion yuan has been issued to small and medium-sized enterprises, and the financing cost of small and medium-sized enterprises is as low as 4.8%. The minimum single financing amount is only 3,800 yuan, and the longest fund flow reaches to tier-five suppliers, which covers Shanghai, Shandong, Xinjiang, Hunan and other provinces and autonomous regions.

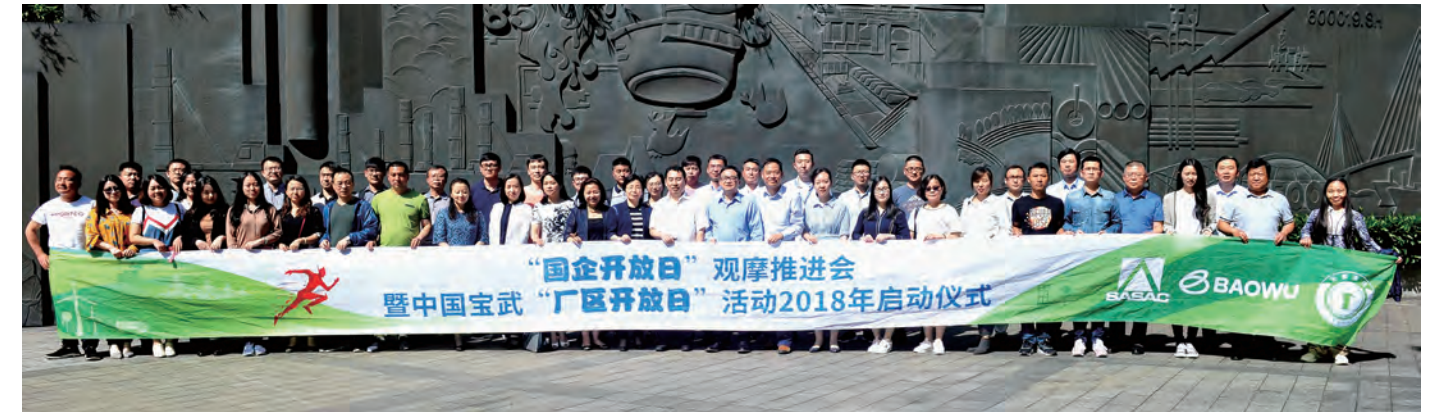


Excellent Environmental Management Cases

SELECTING AND RELEASING EXCELLENT ENVIRONMENTAL MANAGEMENT CASES

China Baowu continued to select excellent environmental management cases. All units actively participated, and 74 cases for evaluation were submitted, an increase of 118% over the previous year. Among them, 15 cases were awarded the title of "China Baowu Excellent Environmental Management Case in 2017".

- **Wuhan Steel Group:** mine land reclamation and ecological restoration project
- **Wuhan Steel Group:** Sponge City construction project
- **BAOSTEEL:** steel slag processing center construction project
- **BAOSTEEL:** coke-oven flue gas desulfurization and denitrification transformation
- **BAOSTEEL:** Shanghai Baosteel International Economic and Trading Co., Ltd. reduced the disposal cost of waste emulsion by decreasing the disposal amount of waste emulsion
- **Bayi Steel:** the process of collaborative waste disposal by OY furnaces
- **Shaoguan Steel:** application of slag vertical mill for turning coal to gas
- **Baosteel Desheng:** emission reduction transformation of sintered flue gas dioxin
- **Ningbo Baoxin:** up-to-standard transformation of wastewater discharge
- **Baowu Carbon Materials:** zero discharge of coking wastewater for resource utilization
- **Baosteel Engineering:** sintering ring cooling low-temperature waste heat ORC power generation demonstration project
- **Baosteel Engineering:** establishment of China Baowu self-monitoring technical system for sewage discharge and standard compilation of Technical Guide for Self-monitoring of Sewage Discharge Units for Iron and Steel Industry and Coking Chemical Industry
- **Baosteel Development:** waste tree branches are turned into treasure, and the harm is turned into profit
- **Baosteel Resources:** build green mines to boost the company's development
- **Baowu Environmental Technology:** carry out soil remediation comprehensively and strive to become a model of third-party environmental pollution treatment enterprise



RESPONSIBILITY & COMMUNICATION

OPENING PLANT AREA

On May 23rd, the 2018 launch ceremony of the "State-owned Enterprise Open Day" Observation and Promotion Meeting and the "Plant Open Day" was held successfully, host by the Propaganda Bureau of the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) and undertaken by China Baowu. Nearly 180 representatives, experts and scholars engaged in social responsibility work from many domestic state-owned enterprises, private enterprises, foreign enterprises and social organizations participated in the activity. The representatives visited the historical exhibition hall of Baosteel, the graffiti wall of Silicon Steel Department, the Hot Rolling Mill and the zoo, experienced the hot scene of steelmaking and understood the close connection of steel to national economic development and people's life.

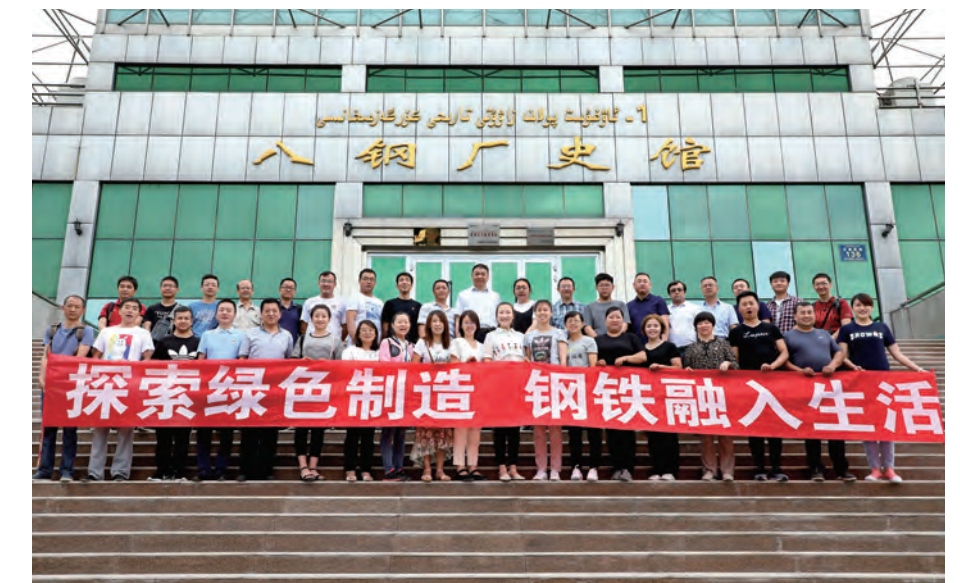
Bayi Steel held the 2018 Annual Plant Open Day on July 4. The representatives visited the History Hall, Control Center, OY furnaces, 150-ton converters, hot rolling production line and industrial water advanced treatment center, and had a working meal with the staff at No. 3 Staff Canteen. During the visit, everyone said that the continuous Open Day activities of Bayi Steel for many years not only gave the public a zero-distance experience on how to make steel, but also gave them a more real experience of the transformation and green development of Bayi Steel, as well as the achievements of integration of steel manufacturing and cities.

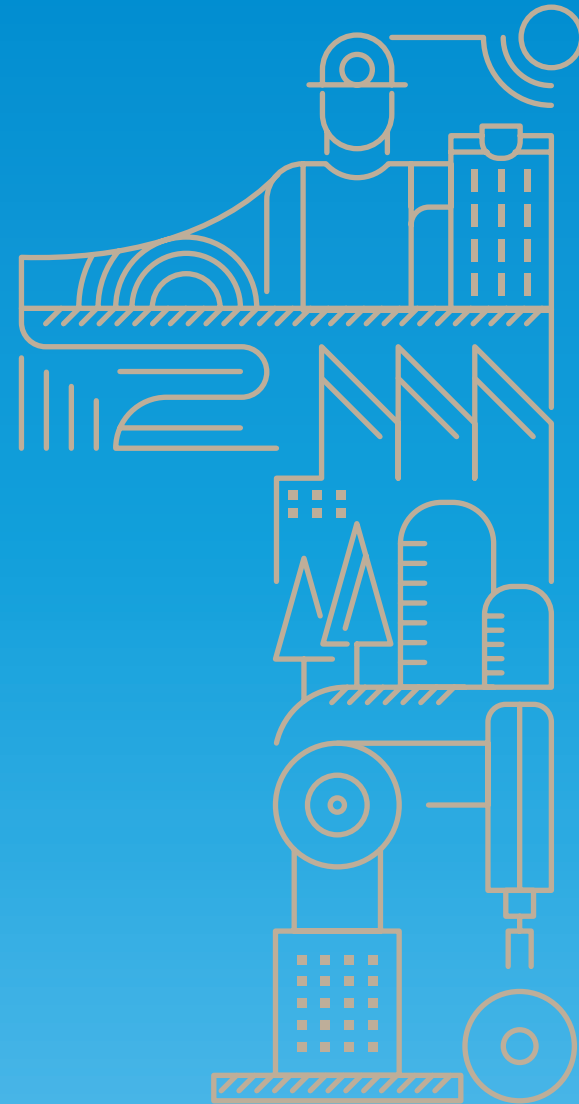


▲ Walking into Wuhan Steel Corporation. Students from Gangcheng No. 17 Primary School are visiting the Museum of Wuhan Steel.



▲ Walking into Meishan Steel. The public are visiting the demonstration production line of cold rolling pickling with the first-class level in China.





Intelligent Manufacturing

MAKE DIFFERENT STEEL

Lead transformation and upgrading with intelligence
Intelligent gathering
intelligent manufacturing
intelligent sharing
Let us
Embrace changes and ride the waves to empower the future

2016-2018:

Intelligent manufacturing pilot demonstration projects: two national-level and one provincial-level

Operation rooms reduced by more than

↓ **50**

Total robots in service and in operation were more than

480 sets

Total unmanned operation vehicles in service and in operation were more than

100 sets

China Baowu, with leading modern steel technology, supports the strategic goal of a manufacturing power, actively implements intelligent manufacturing strategy, and builds an intelligent manufacturing system integrating intelligent equipment, intelligent factories and intelligent interconnection.

Intelligent Manufacturing


To support the strategic goal of building a strong manufacturing country and implement the **Made in China 2025** strategy, China Baowu has taken active actions to solve pain points and boost enterprise transformation and development through intelligent manufacturing. **China Baowu Intelligent Manufacturing Action Plan (2018-2020)** has defined the company's intelligent manufacturing action goals, the road map and seven key tasks.

SEVEN KEY TASKS

- 1**



Preparing **2018-2020 Intelligent Manufacturing Action Plan for Subsidiaries**
- 2**



Building The World's Leading Smart Steel Plant
- 3**



Implementing The Pilot Demonstration Project of Intelligent Manufacturing
- 4**




Vigorously Developing Intelligent Manufacturing Service Industry
- 5**



Carrying Out Research On Key and Core Technologies
- 6**

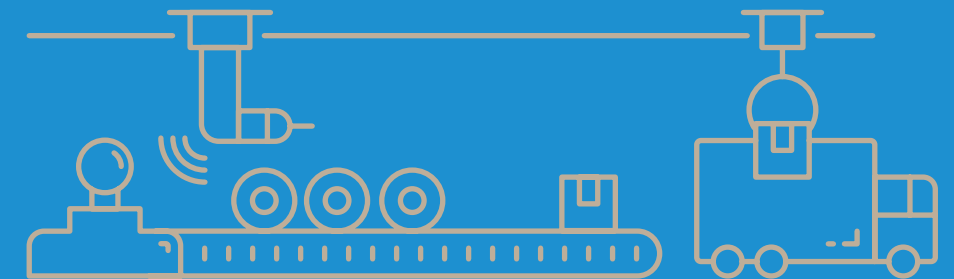


Carrying Out Research On Intelligent Manufacturing Standards
- 7**



Accelerating The Cultivation of Intelligent Manufacturing Talents

FOUR ALLS



- 1**

All Manufacturing Operation Rooms Are Centralized
- 2**

All Operating Positions Use Robots
- 3**

All Operations Are Remotely Controlled
- 4**

All Services Are Available Online

In 2018, China Baowu insisted on innovation-driven, comprehensively and deeply promoted intelligent manufacturing, strengthened experience exchange and knowledge sharing in the same process and flow within the group, promoted process re-engineering and management reform, and strived to help the construction of steel ecosystem by "flexible manpower line, centralized control and one-key operation".

2016 - 2018 Intelligent Manufacturing Pilot Demonstration Projects

- 2** National-Level


- 1** Provincial-Level



Operation Rooms Reduced By More Than

↓ 50

Total Robots In Service And In Operation Were More Than

480 sets

Total Unmanned Operation Vehicles In Service And In Operation Were More Than

100 sets

Flexible Manpower Line

According to the "3D" (Dusty, Danger and Duplication) characteristics of field operations, industrial robots or intelligent equipment will be used to replace the manual work on the site, or the automation control level of field equipment will be improved to gradually realize the unmanned and flexible manpower operation on site, and enhance the operation consistency, improve the working environment and reduce security risks.

AUTOMATED WAREHOUSE

Automatic warehouse of steel products of BAOSTEEL Baoshan Base covers an area of more than 60,000 square meters, the largest and most intelligent steel product warehouse in China at present.

- ① Minimizing storage width and spacing, maximizing storage utilization in storage area, and increasing storage area capacity by 30-40%;
- ② Improving efficiency of vehicle operation, and allocating the most suitable vehicle operation according to the space distance and operation plan;
- ③ The information technology is used to link the warehouse area with the wharf and vehicles, and the command scheduling algorithm among the three is continuously optimized to further realize the optimization of logistics efficiency of the system.

According to the designed annual turnover of 2.368 million tons, the traditional warehouse of the same size needs 130 employees, and the automated warehouse only needs 30 employees to achieve the same work efficiency.



▲ The unmanned traveling crane is lifting the steel coils



Scan the QR code to watch the automated warehouse operation ▲

UNMANNED STEELMAKING AND CONTINUOUS CASTING OPERATION

In the traditional steelmaking and continuous casting production line, the working environment is bad. High temperature, thermal radiation, steel splashes, high temperature flue gas and staggered equipment layout in the ladle working area cause harm to the physical and mental health and safety of the first-line cast steel workers.

The No. 3 continuous caster of BAOSTEEL Baoshan Base Steel Works was transformed and became the first continuous casting machine in the world to use four robots working together - one robot at the receiving side of the ladle, one robot in the tundish area, and two robots for mould fluxes, and it realized automatic robot operations such as adding mould fluxes for continuous casting, disassembly of ladle SN hydraulic cylinder, disassembly of the ladle long nozzle, and temperature measurement and sampling of the tundish. This project not only greatly reduced the working load and labor intensity of the first-line cast steel staff, but also effectively improved the quality of slabs.



Scan the QR code to watch the operation of temperature measuring and sampling robots on the middle ladles ▲

One-Key Operation

Main operating procedures are designed to try to achieve one-key operation, that is, highly automatic control of model-based production process, such as "one-key steelmaking". One-key operation means less human intervention in the manufacturing process and the production process and product quality can be stabilized.

INTELLIGENT RAW MATERIAL FIELD

With regard to the raw material field of traditional steel production, the operation scope is large and there are too many individual operation positions with frequent man-machine interaction and large safety risk. BAOSTEEL carried out unmanned, digitized and intelligent transformation for the ironmaking raw material field. It made full use of 3D scanning, precise positioning and other technologies, systematically improved the control and management level of the raw material field from intelligent, efficient and safe aspects, and realized unmanned operation of stackers-reclaimers and automation of the raw material field system. The unmanned transformation of 55 out of 94 stackers-reclaimers has been completed.



▲ Intelligent Raw Material Field

FULLY AUTOMATIC CONVERTER TAPPING

Based on the independently integrated automatic tilting of the converter tapping, automatic travel of the trolley and other key technologies, BAOSTEEL successfully broke the foreign technology blockade in the No. 4 converter and mastered the full-automatic tapping technology of the large 300 ton converter. It also achieved a real sense of "one-key steelmaking + full-automatic tapping" process and solved the last bottleneck in converter intelligent smelting. The process of "one-key steelmaking + full-automatic tapping" of the large-scale converter has been realized in a real sense for the first time in China.

Centralized Control

Centralized control is based on network, visualization, remote support platform and other technologies. On the one hand, it can realize the unified management of multi-base manufacturing management systems and achieve the homogeneity of products in each base, the best cost, and the highest efficiency; on the other hand, centralized management in the base or centralized monitoring of similar units can be realized to improve operation efficiency, and meanwhile support the operation consistency and the stability of product quality.



▲ Centralized control center of blast furnaces

CENTRALIZED CONTROL CENTER OF BLAST FURNACES

BAOSTEEL built the world's first large-scale blast furnace control center by independently integrated construction and successfully implemented the centralized operation control and production management of the four blast furnaces in Baoshan Base. It also realized the remote technical support for the blast furnace production at the other three bases and built the world's advanced production management mode of blast furnaces.



CONTROL ROOM BEFORE IRONMAKING

Real-time monitoring, collecting logistics and equipment information related to blast furnace production, can realize timely early warning and rapid response.



INTELLIGENT MAINTENANCE

Through data collection and analysis, can achieve intelligent pre-maintenance, accurate judgment, and active intervention so as to effectively reduce the frequency and time of equipment failure.



REMOTE SUPPORT SYSTEM

Connecting the network of each base, can realize remote experts' centralized guidance and online diagnosis and technical exchange and sharing between bases and improve the support efficiency and timeliness of guidance.



CENTRALIZED OPERATION MONITORING CENTER OF PRE-IRONMAKING PROCESS AND ENERGY MEDIUM

Shaoguan Steel was the first to try the application of big data technology in ironmaking production. By means of blast furnace experts' decision-making model and intelligent diagnosis, the transformation from "experiential operation" to "digital operation" was realized. It was the first time to establish an intelligent control platform through the integration of ironmaking, sintering and coking in the industry. The "5+2" island-type layout integrated the control and decision-making of all units of pre-ironmaking process and energy medium and realized large-scale centralized control and borderless collaboration across processes, regions and distances over 5 kilometers.

After the integrated control, the production terminals of blast furnaces, sintering, coking, raw material fields and energy medium were connected with the smart center to form a "highway", which could realize the full coverage of 350,000 data points, automatic report generation, automatic push of mobile APP and timely release to relevant personnel at different levels.

After the completion of the monitoring center,

42 central control rooms were removed

The number of operation areas was optimized from 64 to **25**

The personnel efficiency was increased by **31%**

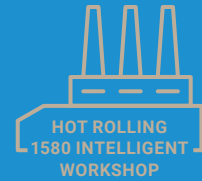
9 branch plants (workshops) were canceled

The operation screens were reduced from 454 to **193**



Scan the QR code to learn about Shaoguan Steel "Intelligence Center" ▲

Smart Workshops



PILOT DEMONSTRATION PROJECT OF INTELLIGENT MANUFACTURING OF THE MINISTRY OF INDUSTRY AND INFORMATION TECHNOLOGY - BAOSTEEL HOT ROLLING 1580 INTELLIGENT WORKSHOP

BAOSTEEL is the first batch of intelligent manufacturing pilot demonstration projects approved by the Ministry of Industry and Information Technology. Intelligent transformation was carried out around the "unmanned operation, comprehensive on-line detection, new-generation control model" and other eight core business areas,

THE PROCESS ENERGY CONSUMPTION

falling by
↓ **6.5%**

INTERNAL QUALITY LOSSES

falling by
↓ **30.6%**

WASTE

falling by
↓ **10%**

FULL-AUTOMATIC INPUT RATE

increasing by
↑ **10.5%**

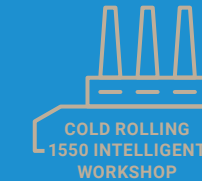
LABOR EFFICIENCY

increasing by
↑ **11%**



Scan the QR code to learn about BAOSTEEL Hot Rolling 1580 Intelligent workshop ▲

In addition, a number of core technologies and practical methods of intelligent steel manufacturing of intelligent steel plants were formed, and the effect of good pilot demonstration was achieved.



THE PILOT DEMONSTRATION PROJECT OF INTELLIGENT MANUFACTURING IN GUANGDONG PROVINCE IN 2018 - ZHANJIANG COLD ROLLING 1550 INTELLIGENT WORKSHOP

Zhanjiang Steel focused on "two increases" and "two decreases" and planned the comprehensive application of intelligent systems such as unmanned vehicle operation, automatic packaging, industrial robots and automated decision in the 1550 Production Line, so as to build a benchmark intelligent workshop for intelligent production, intelligent quality and intelligent logistics.

Compared with the traditional cold rolling workshop,

170 persons
CAN BE OPTIMIZED WITH THE SAME CONFIGURATION

THE WORKING EFFICIENCY CAN BE INCREASED BY MORE THAN
↑ **18%** on average

BLUEPRINT OF 1580 INTELLIGENT WORKSHOP

1 Unmanned Operation

2 Equipment Status Diagnosis And Predictive Maintenance

3 Overall On-Line Monitoring Of Process

4 Intelligent model



Real-Time Monitoring Through The Internet of Things And Big Data

5 Visual Virtual Factory

6 Consistent Quality Control

7 Integrated Collaborative Plan

8 Green Production Line



Urban Steel Plant

THE HIGHLIGHT MOMENT OF MOVING TOWARD HIGH-QUALITY DEVELOPMENT

When everyone's dreams shine,
the city becomes a dream.
When every dream is full of green life,
every moment we move forward is a highlight.

In 2018, China Baowu successfully completed the assessment target for energy conservation and emission reduction during the fifth term of State-owned Assets Supervision and Administration Commission (SASAC).

Overall energy consumption per ton of steel decreased by

↓ **3.6%**

Sulfur dioxide emission fell by

↓ **22%**

Chemical oxygen demand (COD) emission fell by

↓ **18%**

Oxynitride emission fell by

↓ **24%**

China Baowu, based on the principle of "higher than the standard, better than the urban area, integrating into the city", with "a high-quality steel ecosystem for co-construction and sharing" as the mission, comprehensively planned to "build a green urban steel plant" and strived to become a model of harmonious coexistence between cities and steel plants.

Urban Steel Plant

Based on the principle of “higher than the standard, better than the urban area, integrating into the city”, China Baowu comprehensively planned the action program and work system of “building a green urban steel plant”, focused on “ultra-low emission of waste gas, zero discharge of waste water, no solid waste leaving the plant”, accomplished the “treatment of three wastes – waste gas, waste water and solid waste”, and built a garden-like plant featuring “cleaning, greening, beautification and culturalization”.



In 2018, China Baowu

overall energy consumption per ton of steel

compared with 2017
decreased by **2.3%**

sulfur dioxide emission

compared with 2017
decreased by **3.5%**

oxynitride emission

compared with 2017
decreased by **2.9%**

chemical oxygen demand (COD)

compared with 2017
decreased by **10.0%**

energy consumption per ten thousand yuan output value

year-on-year
fell by **9.9%**

In 2018

- ★ Zhanjiang Steel was rated as “Environment-friendly Enterprise with Cleaner Production” by China Iron and Steel Association;
- ★ BAOSTEEL Meishan Base Cold Rolling Mill and Iron Works were rated as “Water Saving Enterprise of 2017 in Jiangsu Province”;
- ★ Shaoguan Steel was awarded “Outstanding Contribution Award of Guangdong Energy Conservation of 2017” by Guangdong Energy Conservation Association and Guangdong Economic Investment Promotion Association;
- ★ The office area of BAOSTEEL Meishan Base, Department of Energy and Environmental Protection, Iron Works and Baowu Carbon Materials Meishan Branch were listed in the “Shanghai Garden Units” of 2015-2017 published by Office of Shanghai Greening Commission.
- ★ Zhanjiang Steel was awarded “Advanced Metallurgical Greening Enterprise in China” by China Iron and Steel Association;
- ★ Zhanjiang Steel and Shaoguan Steel were awarded the title of “Environmental Protection Integrity Enterprise” (Green Brand Enterprise) of 2017 by Guangdong Provincial Environmental Protection Department;
- ★ Ningbo Baoxin won the title of Water-saving Pioneer of Ningbo;

Improving Energy Efficiency & Optimizing Energy Utilization Structure

Enterprises are the main force in optimizing the energy consumption structure and promoting the energy consumption revolution. In 2018, China Baowu initiated the “research on the roadmap of energy consumption revolution in iron and steel industry”, and made strategic research and prospect on major issues related to its energy consumption in iron and steel industry in the next 15 years from national layout optimization of iron and steel industry, process optimization of internal production line, optimization of raw material structure, energy structure optimization, production organization optimization, technological innovation and application, development and application of advanced energy-saving technology, management improvement and other aspects.



IMPROVING ENERGY EFFICIENCY

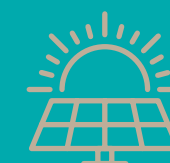
In 2018, China Baowu continued to follow up and promote the initiative of “Joint Energy Conservation Action by A Hundred, A Thousand, and Ten Thousand Enterprises” by its affiliated key energy units. More than one hundred energy-saving technical renovation projects were implemented, and after all the projects were completed, 345,000 tons of standard coal can be saved every year. A total of 28 energy management projects under contract were implemented, and 45,000 tons of standard coal can be saved per year upon completion.



COAL CONTROL

In 2018, China Baowu intensified its “coal control”, and the group consumed 46.61 million tons of coal, 1.4 million tons less than the previous year.

According to the requirements of Notice on the Issuance of Key Work Arrangements of Shanghai on Energy Conservation, Emission Reduction and Climate Change Response in 2018, BAOSTEEL completed the annual coal consumption of 12.79 million tons by implementing such measures as controlling the coal used for power generation and increasing the use of purchased coke and semi-coke, and the annual target set by Shanghai was achieved.



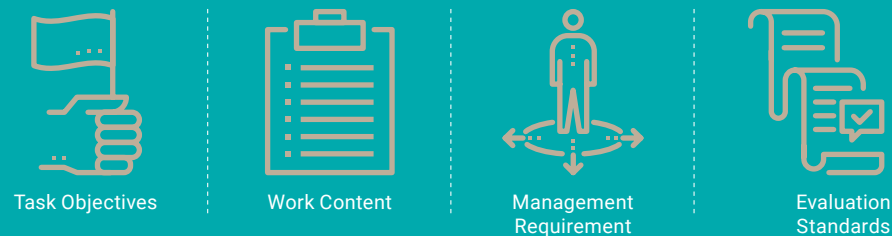
New Energy Utilization

China Baowu made full use of the plant rooftop resources to develop photovoltaic power projects and installed solar water heaters to produce hot water. The installed capacity of photovoltaic power generation on the plant rooftop reached a total of more than 130 megawatts, and more than 80 million kilowatt-hours of electricity was generated in 2018.

No Solid Waste Leaving The Plant

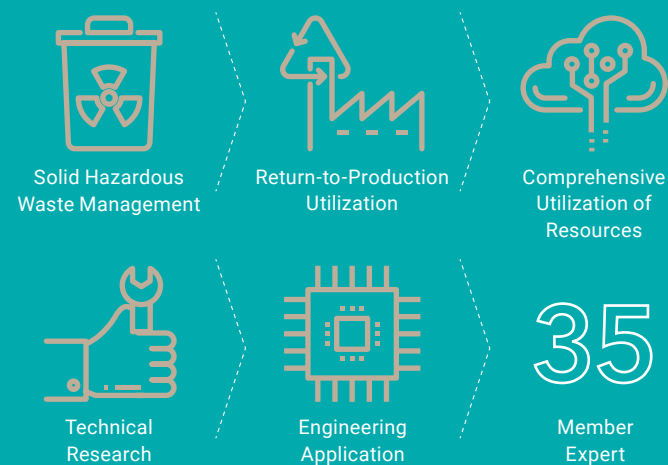
Aiming to basically achieve the goal of “no solid waste leaving the plant” by 2020, China Baowu formulated the Special Action Plan on No Solid Waste Leaving the Plant in 2018, organized an expert database to carry out on-site inspection and assessment, built an information sharing platform to enhance communication between units, share experience and provide practical support for the implementation of no solid waste leaving the plant, and organized and implemented special work training and on-site training.

China Baowu Special Action Plan for No Solid Waste Leaving the Plant in 2018



- 1 Making Up For Deficiencies**
 Establishing and improving information management system for solid wastes;
- 2 Creating Breakthroughs**
 Achieving three categories of industrial solid wastes not leaving the plant;
- 3 Strengthening Advantages**
 Promoting product certification of large-scale industrial solid wastes;
- 4 Preventing Risks**
 Speeding up the compliance management of solid waste storage sites.

Establishing a 35-member expert database covering five subdivisions



Selecting experts to carry out program review, on-site inspection and assessment, building an information sharing platform, enhancing communication between units in the construction of solid waste information system, sharing experience on the solid waste product, and discussing the technical problems of dry desulfurized ash and priceless sludge disposal, thus providing practical support for each unit to implement no solid waste leaving the plant.

FOUR RIGID INDICATORS

- 1 Making Up For Deficiencies**
 Establishing and improving information management system for solid wastes;
- 2 Three Solid Wastes**
(limestone mud cake, iron dust mud, waste resistant material)
 Not leaving the plant^{note};
- 3 Productization Certification**
 Productization certification of 9 categories of solid waste resources in Baoshan Base and a large amount of solid wastes in Shaoguan Steel was realized.
- 4 Standardized Storage Site**
 General industrial solid waste and hazardous waste temporary storage site.

THREE PROGRESSIVE TARGETS

- Comprehensive Utilization Rate**
 The four bases of BAOSTEEL, Shaoguan Steel, Echeng Steel, BAOSTEEL Desheng were all above **98%**
- Return-to-Production Utilization Rate**
 Zhanjiang Steel **39.53%**
- Production Rate**
 Baoshan Base **73%**

- 1 Significant Reduction At The Source**
 Zhanjiang Steel used alternative dolomite for converters to reduce OG sludge by 8.6%; Wuhan Iron and Steel Corporation reduced sludge quantity through water saving and drainage management; and Shaoguan Steel reduced industrial wastes by more than 80% year-on-year by strengthening waste classification.
- 2 Expanded Scope In Cooperative Disposal**
 Baoshan Base completed spraying waste emulsion in Power Plant and return-to-production and consumption after pressing electric furnace dust powder into balls; Baoshan Base and Shaoguan Steel started the construction of rotary hearth furnace project; and joint tests on the disposal of tire rubber blocks and waste mineral sludge were carried out in the OY Furnace of Bayi Steel.

- 3 Breakthroughs in Solving Problems**
 Breakthroughs were made in the application test of dry desulfurized ash in Meishan Steel and Desheng Steel, the treatment of sludge in Bayi Steel, and the production of thiamine from coking desulfurization waste liquor in Echeng Steel.

¹ note:

The “three major solid wastes not leaving the plant” refers to the fact that the limestone mud cake, iron-containing dust mud and waste resistant materials are reused in the plant or turned into products.

Ultra-Low Exhaust Emission

In 2018, a total of



33

air pollution control projects

were identified by China Baowu in combination with efforts to rectify ecological and environmental problems.

SINTERING AND COKE OVEN FLUE GAS EQUIPPED WITH DESULFURIZATION AND DENITRIFICATION DEVICE



For project of flue gas desulfurization and denitrification was completed.

Being transformed.

CLOSURE TRANSFORMATION OF RAW MATERIAL FIELD

BAOSTEEL Baoshan Base completed the closure of most of the raw material fields and it was planned to complete the closure transformation of open raw material fields in 2019. Wuhan Iron and Steel Corporation, Shaoguan Steel and BAOSTEEL Desheng started the closure transformation of raw material fields.

GOVERNANCE OF VOLATILE ORGANIC COMPOUNDS (VOCs)

Bayi Steel set up cold rolling wastewater treatment station for odor treatment and coke-oven-produced VOCs treatment; Zhanjiang Steel launched the graphite VOCs gas recycling and environmental improvement project for its Iron Works, which is expected to be put into operation in July 2019; BAOSTEEL adopted RTO waste gas purification process to effectively control benzene, toluene, xylene and VOCs in the exhaust gas, and formulated implementation plans for RTO waste gas treatment projects in other manufacturers according to the implementation priority of environmental protection policies in various regions; Baowu Carbon Materials added VOCs monitors in the old chemical production areas to monitor VOCs in the areas, and a collection and centralized incineration treatment project was launched for VOCs discharged from the old chemical production areas and Phase III wastewater treatment plants.

COMPREHENSIVE AIR POLLUTION CONTROL PROJECT OF BAOSTEEL

As a steel enterprise with a long workflow, the comprehensive treatment of smoke and dust, odor emission control and other issues have been the research areas of BAOSTEEL with huge investment. As early as 2006, the relevant research was launched. In June 2012, the Ministry of Environmental Protection promulgated and implemented eight emission standards for steel and coking industries, and the types of pollutants involved in the new standards and control requirements were significantly increased. Facing the new national standards, BAOSTEEL accelerated the research pace, starting from solving urgent problems in the production sites, meeting the national laws and regulations and frontier and forward-looking applied technology research. This project developed the technology and equipment of integrated bipolar charge electric coagulation, which filled the gap in China. After successful application, the actual emission reduction of PM2.5 was 52% and the total dust emission reduction was 22.6%. The formation mechanism of dioxin was researched, and the compound dioxin emission reduction technology integrating source control + process inhibition + terminal entrained flow adsorption was formed, with the compound removal efficiency reaching over 95% and the dioxin emission concentration achieving $\leq 0.5\text{ngTEQ}/\text{Nm}^3$. The project won the second prize of 2018 Metallurgical Science and Technology Award.

Wastewater Zero Discharge

In 2018, China Baowu's efforts in "wastewater zero discharge" mainly included three aspects:

1

BASIC SITUATION INVESTIGATION AND KEY TECHNOLOGY SOURCING

Through investigating the water balance of some production bases and learning key technologies such as advanced wastewater treatment and constructed wetland wastewater treatment, it organized Baowu Carbon Materials and Shaoguan Steel to make on-site communication on coking wastewater treatment technology, laying a good foundation for the follow-up promotion of wastewater zero discharge.

2

COMPREHENSIVE PROMOTION OF CONVENTIONAL WASTEWATER REDUCTION PROJECTS

Promoting water saving and emission reduction, pollutant interception and diversion of rain and sewage water treatment of Wuhan Iron and Steel Corporation Beihu Water Station, and completing the project planning of comprehensive treatment of water conservation and emission reduction and the feasibility text of four projects in Phase I of Wuhan Iron and Steel Corporation; promoting Echeng Steel to carry out the transformation project of rain and sewage diversion in old plant area, and actively cooperating with Ezhou city in the transformation project of domestic sewage pipe network in Xishan and Luojiaping areas.

3

PILOT DEMONSTRATION OF KEY BREAKTHROUGH TECHNOLOGY

Completing the construction of pilot demonstration project of "advanced recycling engineering technology upgrading of phenol-cyanogen wastewater" of Baowu Carbon Materials Baoshan Branch.

DEMONSTRATION PROJECT OF ZERO DISCHARGE OF COKING WASTEWATER



▲ Fish are swimming in the fresh industrial water that has been treated with zero-sewage discharge

There are many kinds of pollutants and complex components in coking wastewater, so it is difficult to implement zero-emission technically. Domestic coking enterprises are mainly concentrated in Shanxi, Inner Mongolia, Hebei and other provinces lacking in water, and these enterprises are facing the double pressure from environmental protection emission standards and price rise of fresh industrial water.

Baowu Carbon Materials has conducted research on coking wastewater zero discharge since 2005, and carried out researches on bench-scale and pilot-scale test device for reuse of coking wastewater and construction of industrial device for deep reuse of coking wastewater. Over the past decade, continued investment in research and development has been increasing, one difficulty after another in the coking wastewater zero discharge technology have been overcome, 16 patents and technical secrets such as membrane salt concentration have been achieved, and the application of coking wastewater zero discharge engineering has been realized by means of independent integration.

Baowu Carbon Materials demonstration project of coking wastewater treatment zero discharge is the first true device of complete coking wastewater zero discharge by means of independent integration at home and abroad, which consists of three systems: biochemical treatment of coking wastewater, deep reuse and concentrated water crystallization. The zero-discharge demonstration project is designed with handling capacity of 120m³/h and water yield above 96%, producing the industrial sodium chloride and anhydrous sodium sulfate, and no hazardous mixed salt waste.

Green Mine Environmental Management & Ecological Restoration

ON THE ONE HAND, IT FOCUSED ON RISK PREVENTION.

In 2018, China Baowu conducted on-site environmental risk surveys for all 11 mining companies and organized on-site environmental protection training.



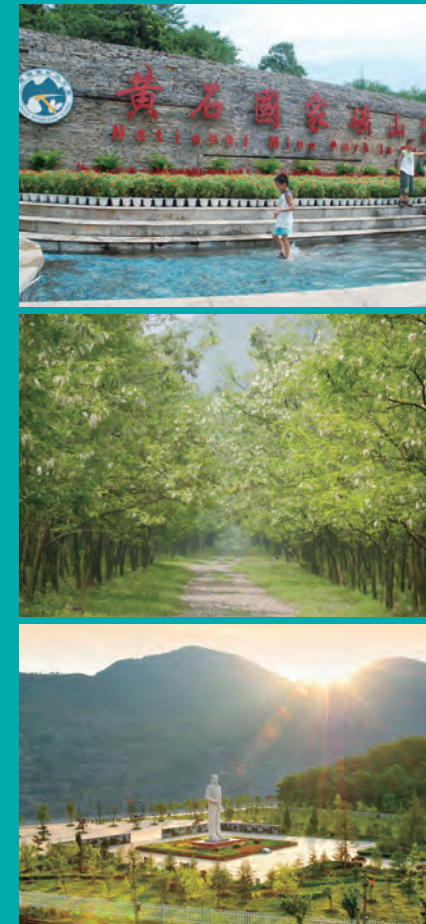
11 risk feedback reports were completed, to promote environmental risk identification and control of mining units, work out and implement improvement schemes according to the reported problems so as to actively prevent risk events;

ON THE OTHER HAND, IT PAID ATTENTION TO CAPACITY BUILDING.

Management, technical and operational personnel in the mine sites were organized to take customized environmental protection training, involving so as to improve the level of environmental compliance management, up-to-standard discharge and risk prevention comprehensive management and lay a solid foundation for the construction of green mines to reach new standards.

583
persons

LAND REHABILITATION & ECOLOGICAL RESTORATION PROJECTS OF DAYE IRON MINE



▲ Huangshi National Mine Park

Daye Iron Mine, located in Huangshi City, Hubei Province, belonging to Wuhan Iron and Steel Corporation Resources Group, is a large iron mine rich in a wide variety of metals. Since mining in 226 AD, it has more than 1,790 years of mining history, from Sun Ce building furnaces, Yue Fei forging swords, to Zhang Zhidong carrying out westernization campaign to build factories, Sheng Xuanhuai establishing Hanyeping Coal and Iron Works, and then to modern Daye Iron Mine minin. It was China's first large open-air iron mine with mechanized mining with high attention from the world, and now it has become a "living history book" of mining and metallurgy in Chinese civilization. Since the founding of the People's Republic of China, Daye Iron Mine has mined 117 million tons of raw ore and made positive contributions to national economic development.

However, after years of large-scale mechanized mining, the discharge and stockpiling of slag, waste rock and tailings occupied and destroyed a large amount of land, which damaged the forest farmland and houses within the mining area, and waste rock fields covered an area of 9.3 million square meters.

From 1990, Daye Iron Mine implemented the "green mine action", formulated the "hard rock greening and reclamation scientific research plan" in detail, and finally decided to plant locust trees with developed root system, drought tolerance and poverty tolerance after many screening and optimized experimental schemes according to the soil and rock agrochemical index analysis tests. For over twenty years, Daye Iron Mine invested over 2 million yuan a year to organize the staff to carry out compulsory tree planting activities and successively reclaimed 6,820 mu of land, forming the largest hard rock greening reclamation ecological forest in Asia and creating a miracle of planting tress on stones. Besides, it has become a paradise for pheasants, turtledoves, hares and other 10 kinds of wild animals. It not only effectively restored the ecological environment in the mining area, but also absorbed a large number of harmful ingredients in the air and released oxygen to improve the air quality in the mining area every year.

In 2005, Daye Iron Mine began to develop cultural resources in depth. On the one hand, the mining and metallurgical industry has a long and glorious history, and extensive collection of written materials and pictures of cultural relics helps the public understand the rich and profound cultural deposits of Daye Iron Mine; on the other hand, it made full use of the unique natural geological conditions, and integrated the world's first high and steep slope, Asia's first hard rock reclamation forest, mining industry expo park and other resources, and actively declared to become one of the first national mine parks in China - Huangshi National Mine Park.

Since 2012, Huangshi National Mine Park has held the "Sophora Flower Tourism Festival" every year, which has become a tourism brand activity affecting the local and surrounding areas. In 2018, the park received more than 500,000 visitors, demonstrating to the whole society the transformation from disorderly development to beautiful ecology, from a waste rock field to a sophora japonica forest, and from mining to mine appreciation. From March to April, 2018, the park hosted 40,000-50,000 primary school students from surrounding areas such as Wuhan, Ehou and Jiangxi to participate in mining and metallurgy cultural tourism studies, which allowed them to step out of the classroom and have an in-depth understanding of China's mining and metallurgy culture and feel the greatness and glory of workers.

Scan the QR code to watch the beautiful scenery of National Mine Park in Huangshi ▶

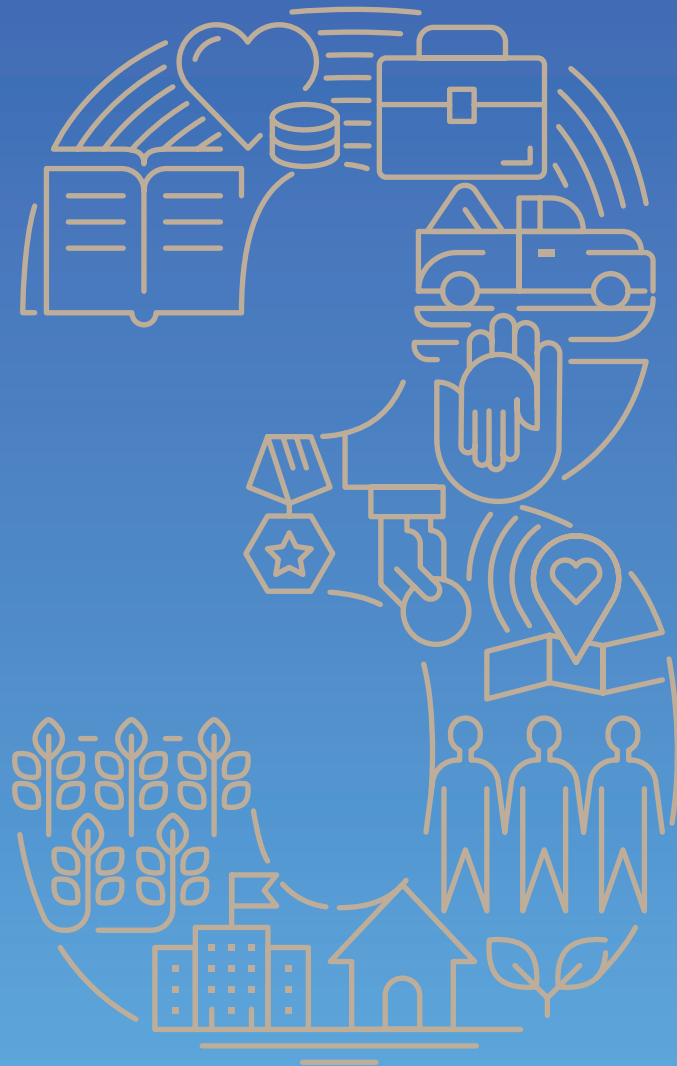


In January 2018, Huangshi National Mine Park was included in the **first batch of China Industrial Heritage Protection List** as well as the Tentative List of China's World Cultural Heritage and created a national model for green transformation.



Honors of Huangshi National Mine Park

- ★ National Industrial Heritage Tourism Base
- ★ National Green Mine Pilot Unit
- ★ National Science Popularization Education Base
- ★ Training Base of China University of Geosciences
- ★ The 7th China BAOSTEEL Cup Environment Award
- ★ National Industrial Tourism Demonstration Base
- ★ Hubei Patriotism Education Base
- ★ Huangshi Education Base for Party Members and Cadres



Poverty Alleviation

TRUE SPIRIT SHOWS IN EVERY DETAIL

May you see the beautiful mountains after the rain,
also see curls of smoke from the village;
May you hear the sound of reading aloud,
also hear dreams shooting up.

China Baowu is responsible for poverty alleviation in 10 counties and is one of the central enterprises supporting the largest number of poor counties.

10

counties

From 2002 to 2018, China Baowu invested 760 million yuan in poverty alleviation funds, implemented 741 poverty alleviation projects, and sent 47 cadres on temporary duty to alleviate poverty. Over 520,000 people directly benefited from China Baowu's continuous poverty alleviation.

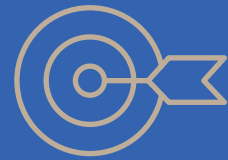
760

million yuan

China Baowu was selected by State-owned Assets Supervision and Administration Commission of the State Council (SASAC) for two times to exchange typical experience in poverty alleviation and recognized and praised by Liu Yongfu, director of the Poverty Alleviation Office of the State Council, Hao Peng, Party secretary of the SASAC and relevant leaders of the Central Commission for Discipline Inspection.

China Baowu's efforts to combat poverty in 2018 were rated as "Good" by the Poverty Alleviation Office of the State Council.

Political Responsibility of China Baowu



INTENSIFYING EFFORTS TO COMBAT POVERTY AND COMPLETING ALL TARGETS SET FORTH IN THE LETTER OF RESPONSIBILITY AND THE AGREEMENT

In 2018, China Baowu fully fulfilled and exceeded all the commitments in the letter of responsibility of designated poverty alleviation:

INVESTING ASSISTANCE FUNDS OF

33.3
million yuan

INTRODUCING ASSISTANCE FUNDS OF

3.7
million yuan

TRAINING

712
grass-roots cadres

TRAINING

29
technicians

PURCHASING LOCAL AGRICULTURAL PRODUCTS FROM POVERTY-STRICKEN AREAS WORTH

10.7
million yuan

HELPING SELL LOCAL AGRICULTURAL PRODUCTS WORTH

82.7
million yuan

PROVIDING FUNDS TO

360
underprivileged college and secondary school students

RECEIVING INFRASTRUCTURE LOANS OF

1.4
billion yuan from China Development Bank



China Baowu overfulfilled the commitments in the 2016-2018 Agreement on Assistance to Tibet and Qinghai and helped **Ning'er County in Yunnan, Dingqing County in Tibet and Tongde County in Qinghai out of poverty.**



TAKING A MORE POLITICAL STAND IN FIGHTING POVERTY AND INCREASING ORGANIZATIONAL AND INVESTMENT EFFORTS

China Baowu took poverty alleviation as a major political task and promoted it as a key project. The company took it as its priority and set up a leading group of poverty alleviation with Chen Derong, Party secretary and chairman, as chief of the leading group; China Baowu's Party Committee Standing Committee studied poverty alleviation work on four occasions throughout the year and implemented a plan to double the funds for designated poverty alleviation and gave preference to poverty-stricken counties; the company established a sound and complete institutional system and formulated and issued three-year poverty alleviation action plan from 2018 to 2020.



PARTY AND GOVERNMENT LEADERS TOOK THE LEAD IN THE ACTION, AND MEMBERS OF THE TEAM WERE IN ALL COUNTIES

In May,

Hu Wangming, general manager and deputy secretary of the Party Committee of China Baowu, represented the company to participate in the on-site promotion meeting for poverty alleviation in poverty-stricken areas for the central enterprises and the symposium for helping build a happy and beautiful new Gansu;

In July,

Chen Derong, Party secretary and chairman of China Baowu, on behalf of the company, participated in the Industrial Assistance Promotion Meeting for Poverty Alleviation in Xinjiang by Central Enterprises and 19 Provincial and Municipal State-owned Enterprises;

In July,

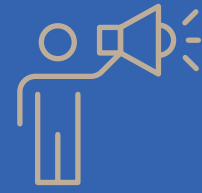
Hu Wangming, general manager and deputy secretary of the Party Committee of China Baowu, participated in the Conference on Poverty Alleviation in Poverty-stricken Areas of the Tibet Autonomous Region and Conference on Deepening Assistance to Tibet and Poverty Alleviation and Central Enterprises' Preparation Work Mobilization Meeting for Poverty Alleviation in Tibet. After the meeting, he went to Zhongba County from Shigatse to inspect the implementation of the counterpart assistance project;

In September,

Chen Derong, Party secretary and chairman of China Baowu, participated in the Conference for Central Enterprises' Helping Tibet in Poverty Alleviation and then went to Shanglin County, Guangxi Province for investigation and survey;

In December,

Chen Derong, Party secretary and chairman of China Baowu, led a team to inspect the designated poverty alleviation project in Guangnan County, Yunnan Province. In the past year, China Baowu's leadership and outside directors and directors of Poverty Alleviation Office led 20 teams into villages and communicated with villagers in straitened circumstances face to face and made on-the-spot inspection on the implementation of the projects, and investigated, supervised and inspected poverty alleviation and relevant projects, covering 10 counties that received targeted poverty alleviation and matching assistance.



SELECTING AND ASSIGNING EXCELLENT CADRES ON TEMPORARY DUTY FOR POVERTY ALLEVIATION TO MAKE CONTRIBUTIONS ON THE FRONT-LINE POVERTY ALLEVIATION

1

Selecting cadres who are young, experienced and have a good work style to serve as an important channel for the cultivation of industrial development reserves.

2

Strengthening pre-appointment training and implementing the requirements of "understanding poverty alleviation, knowing how to assist, and working hard".

3

Making clear the four responsibilities of officials for poverty alleviation and comprehensively improving their performance.

4

Formulating the *Measures on Administration of Cadres on Temporary Duty Assigned for Poverty Alleviation by China Baowu*, establishing a service mechanism for poverty alleviation cadres, forming a supporting team and caring about the growth of cadres for poverty alleviation.

5

A total of 13 designated cadres for poverty alleviation were sent, at least one cadre for each designated county. An additional Residency First Secretary was sent to poverty-stricken counties of Jiangcheng County and Guangnan County respectively, and a total of five Residency First Secretaries were sent.



▲ Li Mouzhi (first from right, China Baowu's cadre for assisting Yunnan), the Residency First Secretary, communicates with the villagers



STRENGTHENING SUPERVISION AND GUIDANCE TO ENSURE THAT THE MAIN RESPONSIBILITY FOR POVERTY ALLEVIATION IS FULFILLED

The Five-In-One Supervision and Inspection System:

Joint conferences and main leaders' on-site supervision, on-site supervision of the Commission for Discipline Inspection and the Supervisory Commission, project audit and special inspection, supervision and inspection of Poverty Relief Office, and front-line inspection of poverty alleviation cadres.

A total of

42 supervision and inspection reports were made

79 problems were discovered and solved in the year

No violation of the eight provisions was found in the field of poverty alleviation, nor was any problem found in the conduct of cadres on temporary duty.



STRENGTHENING INNOVATION IN WORK AND CARRYING OUT POVERTY ALLEVIATION IN VARIOUS FORMS

China Baowu Actively Innovated The Working Mode of Poverty Alleviation:

1

Highlighting the main responsibility and optimizing the system management. Establishing a commanding system with unified leadership and the first leader in command, and a combat system with unified command and joint efforts.

2

Highlighting top-level design and doing a good job in characteristic management. Focusing on the targets of targeted poverty alleviation areas and promoting relevant poverty alleviation work.

3

Focusing on targeted poverty alleviation and doing project management well. It implements the "541" project management for poverty alleviation projects every year, namely

the poverty alleviation projects for the whole village covering

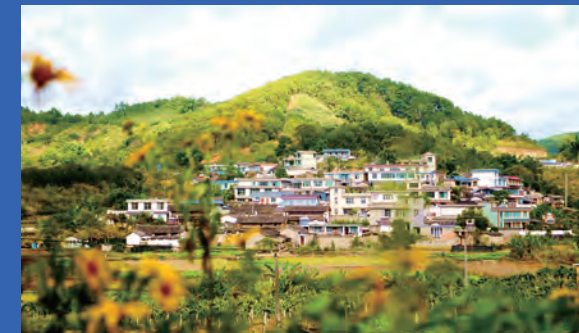
50%

industrial poverty alleviation projects covering

40%

education poverty alleviation projects covering

10%



▲ Industrial poverty alleviation, building beautiful Wenquan Village, Ning'er Town



INDUSTRIAL POVERTY ALLEVIATION

Innovating the mode of industrial poverty alleviation, setting up the industrial investment fund of China Baowu in poverty-stricken areas, and promoting industrial poverty alleviation to a higher level. Helping introduce eight enterprises in six designated poverty-stricken counties, with an actual investment of 47.95 million yuan, supporting seven leading enterprises and 12 rural cooperatives in designated counties, and lifted 15,764 registered people in financial difficulties out of poverty.



POVERTY ALLEVIATION THROUGH EMPLOYMENT

Organizing training for 552 village leaders for becoming rich and helping 13,073 people in financial difficulties find jobs in other areas, including 12,898 newly registered poor laborers in Guangnan County transferred to employment, far exceeding the target of 2,600 persons set by Wenshan Prefecture government.



PARTY CONSTRUCTION AND POVERTY ALLEVIATION

The Party Branch and General Party Branch in which the five Residency First Secretaries belongs to signed five joint construction agreements with China Baowu; 82 people received training for the village Party branch and village committee; and the Party members donated a total of 850,000 yuan.



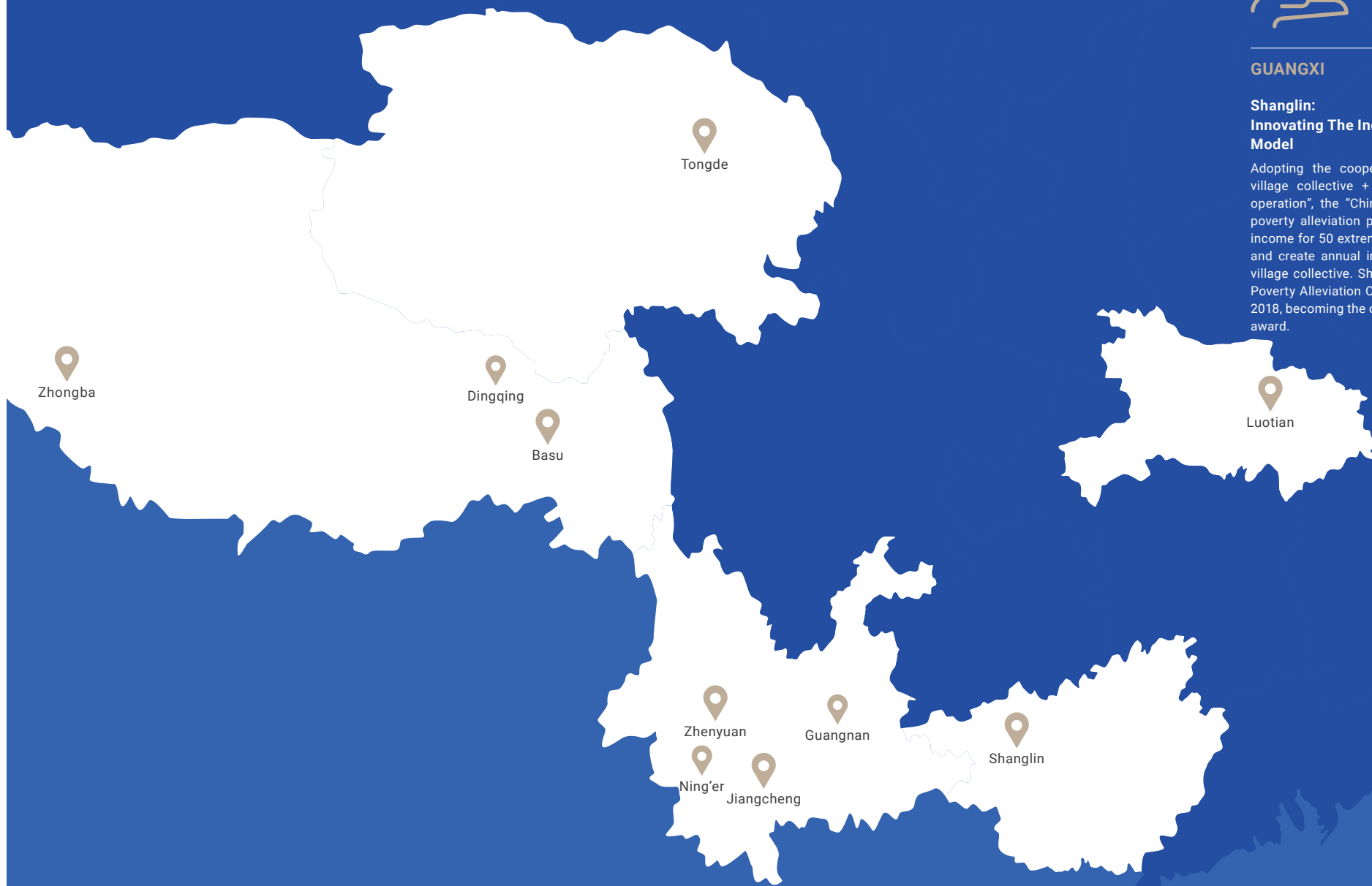
POVERTY ALLEVIATION THROUGH CONSUMPTION

Helping sell local agricultural products worth 82.7247 million yuan. Huabao Securities made use of their customer resources to promote Ning'er coffee beans and coffee products and opened up a market with annual sales of more than 10 tons in Beijing. The cadres supporting Qinghai organized seven leading enterprises in Hainan Prefecture to promote their special agricultural products in China Baowu. Special agricultural products were launched on China Baowu's Good Life Staff Service Platform to help alleviate poverty through consumption.

Map of China Baowu's Poverty Alleviation Efforts In 2018

In 2018, China Baowu invested 33.3 million yuan for designated poverty alleviation, implemented 541 assistance projects, and sent 25 designated poverty alleviation cadres, including seven Residency First Secretaries in villages. A total of 10,324 registered people in financial difficulties in designated counties were lifted out of poverty, and 38,034 people benefited directly from poverty alleviation.

In 2018, China Baowu invested 62.4 million yuan in matching funds and implemented 18 poverty alleviation projects, and lifted 1,163 registered poverty-stricken people out of poverty, and 40,000 people directly benefited from it.



QINGHAI

Tongde:
Giving Full Play To Its Advantages, Promoting The Quality of Management Cadres in Poverty-Stricken Areas

Taking advantage of the company's resources and talent advantages in governance, scientific and technological research and development, talent training, management mode and other aspects, it held the First Workshop for Enterprise Management Personnel in Hainan Prefecture and organized training for management cadres and leaders in poverty alleviation areas, with governmental leaders of Hainan Prefecture and 34 principals of key enterprises in the counties under Hainan Prefecture attended.



HUBEI

Luotian:
Farewell To Adobe Houses, Realizing Villagers' Dream Of Living In Good Houses

The construction of "Wugang New Village" was completed, and it has become the largest resettlement site for poverty alleviation in Luotian County. The 320 households and 1,075 people in financial difficulties from 43 villages in Shengli Town left the abode houses they had lived for generations and now lives in the clean and bright buildings for free, and their dream of living in good houses for many years is realized.



YUNNAN

Ning'er:
E-Commerce Serves As An Engine, Creating New Driving Force For Industrial Development

Promoting the establishment of Ning'er E-commerce Incubation and Operation Center and establishing a professional e-commerce operating team. In 2018, Ning'er County was granted the qualification of "E-commerce Demonstration in Rural Areas". The number of online shops established and operated by enterprises and individuals in the county exceeded 50, including more than five flagship stores. The scale of e-commerce sales in the county exceeded 50 million yuan.



GUANGXI

Shanglin:
Innovating The Industrial Poverty Alleviation Model

Adopting the cooperation mode of "enterprise + village collective + poor households + entrusted operation", the "China Baowu Fangzhang industrial poverty alleviation park project" can provide stable income for 50 extremely poor households every year and create annual income of 900,000 yuan for the village collective. Shanglin County won the National Poverty Alleviation Organization Innovation Award in 2018, becoming the only county in Guangxi to win the award.



TIBET

Zhongba:
Working Hard To Alleviate Poverty Through Employment And Training Leaders For Becoming Rich

Building beautiful villages and sacred mountain post station on the Tibetan Plateau, and completing Phase II of the sacred mountain post station in Payang Town, Zhongba County; creating classroom on the air in Zhongba County - "Internet + education", installing three multimedia remote education classrooms, and equipping 400 computers and 28 most advanced all-in-one touch machines.

Dingqing:
Intelligent Support For The Tibet, Building Endogenous Power For The Quality of Next-Generation Farmers And Herdsmen

The construction of Wugang Qingqing Kindergarten in Dingqing County solved the preschool education problems of 270 children. It also organized two-way communication and training for preschool teachers. In 2018, 20 preschool teachers from Dingqing County were sent to the Preschool Education Center of Wuhan Iron and Steel Corporation for internship and training, and 5 preschool teachers from Wuhan Iron and Steel Corporation were sent to Dingqing for volunteer teaching.

Basu:
Making Solid Progress in Relocation and Industrial Development

The shantytown reconstruction and relocation project, the logistics warehouse project of Basu County Industrial Park, and the infrastructure construction for the relocation sites in Basu County for poverty alleviation in Tibet were completed.

Zhenyuan:
The Combination of "Help, Support and Education" Helps Lift People Out of Poverty

A total of 3.1 million yuan were invested to implement the function improvement project for poor villages of Xishan Village in Mengda Town and Wendu Village in Anban Town. A total of 142 houses were demolished, rebuilt, repaired and reinforced in Xishan Village, and roads connecting 201 households for 5.5 km were hardened in Wendu Village, 13.2 kilometers of trunk roads for 10 villagers' groups were expanded; a vegetable terminal market was built in Zhedong Town, with 6 villages and 712 registered poor households enjoying capital gains. Poverty alleviation workshop was constructed in Enle Town, covering 406 registered poor households, and it drove 2,000 surplus rural labors from surrounding rural areas to work every year.

Jiangcheng:
Equity Quantified Fixed Dividends, Driving The Poor Out of Poverty

The project of "frozen storage warehouse and dragon fruit planting in Baozang Town" was constructed, which adopted the equity quantified fixed dividend model and the development model of "enterprise + base + peasant household", giving priority to the registered poor peasant households for employment. The implementation of the whole industrial project lifted at least 50 households and more than 200 people in financial difficulties out of poverty.

Guangnan:
Real Help And Support, Achieving Effective Poverty Alleviation

There were 11 assistance projects, benefiting 8,468 people from 1,711 households, including 6,341 people from 1,556 registered poverty-stricken households. The poverty rate in Guangnan County dropped from 12.19 percent in 2017 to 9.21 percent in 2018, and favorable progress was made in poverty alleviation.

Integrity Management

INTEGRITY IS THE KEY TO THE CODE OF CONDUCT IN THE WORLD

No man can stand without integrity.
We live up to every promise.
No business can stand without integrity.
We pool cultural joint forces with firm belief.

Be loyal and trustworthy, practical and realistic,
Be honest in manufacture and management,
This is the cornerstone of the lasting development of China Baowu,
and the creed of every employee.



Corporate Governance

APPOINTMENT AND OPERATION OF THE BOARD OF DIRECTORS AND BOARD OF SUPERVISORS

As of December 31, 2018, members of the board of directors hold the following positions as special committee members:

	Directors	Strategy and Investment Committee	Nominations Committee	Risk Control Committee	Remuneration and Appraisal Committee
Chairman	Chen Derong	o Director	o Director	o Director	
Director & General Manager	Hu Wangming	o	o	o	
Outside Director	Buck K. W. Pei	o	o	o	o
Outside Director	Li Guo'an	o	o		o Director
Outside Director	Shen Xiaowu	o		o	o
Outside Director	Lin Jianqing	o	o	o	o
Worker Director	Fu Lianchun				

The board of directors of China Baowu held 11 meetings in 2018, including

5	6	53	37
On-Site Meetings	Interim Meetings	Topics were Discussed	Resolutions were Made

The office of the board of directors shall, in accordance with the Articles of Association, the Procedure Rules of the Board of Directors and the rules of procedure of the special committees of the board of directors, carry out the meeting affairs and secretarial work of each meeting, and provide special services for the standardized operation of the board of directors of the Company.

Year	The Board of Directors	
	Meetings	Items Discussed
2016	21	79
2017	10	50
2018	11	53

Audit System

China Baowu internal audit work is guided by the spirit of General Secretary Xi Jinping's important speech at the First Meeting of the Central Audit Committee, and centers closely around the Company's strategic framework of "one basis and five industries" and the management structure of state-owned investment companies, with an emphasis on internal control compliance and strategic performance. The company carried out and completed various audit tasks in an orderly manner and gave full play to the dual functions of internal audit supervision and consulting services and provided effective support for implementing the company's strategy.

Based on the positioning of the state-owned investment company, the audit system of the Company has adopted the mode of "two-level organization setting and unified business management". China Baowu and its first-level subsidiaries shall have independent internal audit institutions, while the subsidiaries under the second-level (including) shall not have internal audit institutions in principle and their business shall be centrally managed by the internal audit institutions of the subsidiaries at a higher level.

China Baowu established a three-in-one internal control review mechanism of "subsidiaries' normal internal control review + group headquarters' guidance review + special review in key areas" for its audit system. At the same time, a series of documents including China Baowu Internal Control Review Guidelines were compiled and released to help subsidiaries improve their capabilities of internal control system.

To ensure that the relevant requirements of "national laws and regulations, group's rules and strategic planning" is put in place on the investment project management, the Company formulated and released the Management Measures for Investment Project Post-evaluation and operational guidelines for post-evaluation of long-term and fixed-term projects, forming a system with clear responsibility subject, unified evaluation standards, a comprehensive coverage, process evaluation, and the strengthening of result application.



OPERATIONAL AUDIT

We carried out daily audit, pointed out the outstanding problems existing in the operation and management of the auditees, actively provided value-added services in the process of audit supervision, put forward 239 management suggestions and helped the subsidiaries improve their management level.

We cooperated with the national supervision and inspection and carried out rectification work of audit problems.

We carried out net assets audit, completing audit reviews of 138 net assets in the whole year, and revised and improved the professional system to provide a system foundation for the quality of review work and efficiency; we fully revealed the risks, reduced the cost of mergers and acquisitions, and safeguarded the rights and interests of the Company to play an effective supervision and active advisory role; and we timely carried out the transfer of three supplies (water, power and gas) and one handover (property management), promoted the professional focus of subsidiaries, improved the efficiency by optimizing the management levels and downsizing, and done a good job in online supervision.

INVESTMENT AUDIT

We carried out audit and evaluation of fixed assets investment projects, promoted prudent research and decision making at the project proposal stage, made the construction objectives of projects clearer, and promoted the management improvement and business standards of investment projects at the implementation stage.

We audited equity investment projects, found the deficiencies in the early decision-making and implementation stage of the projects, and promoted the more scientific and perfect management of equity investment.

We audited final financial accounts of fixed assets investment projects, checked the authenticity,

legitimacy and integrity of the data of final financial accounts on completion, and promoted the management of project construction process.

We carried out special audit on fixed assets investment projects to promote the management and risk prevention of key control points in project construction.

We audited project cost and reasonably determined the project cost, reduced the deviation of project settlement and valuation, and saved the total amount of construction project investment.

MANAGEMENT AUDIT

Through the internal control evaluation, the Company's internal control defects were revealed, and the internal control system and the risk prevention capacity were constantly improved.

Through carrying out special management audit on monetary fund, real estate outside Shanghai and other aspects, we went through the procedures to uncover problems in high-risk areas to improve the operation efficiency of companies, strengthen operation capital management and ensure the safety and integrity of state-owned assets.

MANAGEMENT BY DISPATCHED SUPERVISORS FROM SUBSIDIARIES

Through a comprehensive investigation of the coverage of the standard financial system in subsidiaries, the support degree of the penetrating supervision system was analyzed on this basis to provide support for the follow-up coverage of the standard financial system.

By planning the optimization scheme of the operating mechanism of the board of supervisors, the group's internal supervision system was further promoted and the supervision efficiency was improved.

Putting forward risk suggestions to the board of directors of the subsidiary companies better supports supervisors to monitor the subsidiaries.

In 2018, China Baowu internal audit system completed 542 audit projects. Problems were found in the audit projects, suggestions for management optimization was proposed.

56.5 million yuan
was recovered through the audit

Completion Schedule of Audit Items From 2016 To 2018

Category of Audit Items	2016	2017	2018
Audit of Financial Revenue & Expenditure	10	23	14
Economic Responsibility Audit	140	145	122
Audit of Net Assets of Property Right Change	38	87	138
Audit of Final Financial Accounts of Investment Project on Completion	27	20	14
Audit Evaluation of Investment Projects	11	9	3
Investment Project Cost Audit	9	19	13
Management Audit	148	140	162
Other audit items	56	72	76
IN TOTAL	439	515	542
Submission Number of Investment Project Cost	616	379	589
Net Reduction of Project Funds	450 million yuan	795 million yuan	617 million yuan

Anti-Corruption

China Baowu's Party committees and Party organizations at all levels adhered to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as the guide and firmly implemented the spirit of the 19th National Congress of the CPC, the Second and Third Plenary Sessions of the 19th Central Committee, the Second Plenary Session of the 19th Central Commission for Discipline Inspection and Central Enterprise Party Conduct and Clean Government Construction and Anti-corruption Work Conference, and conscientiously fulfilled our oversight responsibilities and unwaveringly promoted the construction of the Party conduct and of an honest and clean government and anti-corruption work.



TIGHTENING THE "TWO RESPONSIBILITIES" & DEEPENING THE COMPREHENSIVE STRENGTHENING OF PARTY DISCIPLINE

We **promoted the management** of Party conduct, clean government and anti-corruption work in the form of checklists by breaking down the key tasks of the year into 12 key projects in eight areas. And we made clear the lists of the members of leading bodies and departments in charge of their duties and followed up on the implementation of their responsibilities on a monthly basis.

We **improved the evaluation mechanism** by establishing an assessment and evaluation index system for the responsibility system of building a clean and honest Party, including 11 indicators and 19 detailed assessment contents, and promoted the Party committees of secondary units to establish "two responsibilities" accountability list and workflow.

We **strengthened accountability** and held accountable 108 leaders and managers whose responsibilities were not fully implemented.

INTENSIFYING EFFORTS TO CURB CORRUPTION & STRICTLY IMPLEMENTING THE SPIRIT OF THE EIGHT REGULATIONS OF THE CENTRAL COMMITTEE

We **strictly investigated and punished violations of disciplines**. During the year, a total of 128 clues to problems related to violation of the Eight Regulations of the Central Committee were accepted. We severely investigated and dealt with such problems as the private use of official vehicles, the service reception beyond standards, the illegal use of high-grade tobacco and alcohol, the illegal acceptance of entertainment and fitness activities by suppliers, and 50 people were given Party disciplinary sanctions.

We **strengthened education and reminder**. We issued more than 1,000 notices reiterating the requirements for honesty during holidays and festivals, and sent more than 20,000 reminder text messages, WeChat mails and emails, reiterating and reminding relevant requirements on strictly implementing the spirit of the central government's Eight Regulations.

We **strengthened supervision and inspection**. We



made comprehensive use of special inspections, special governance, surprise inspections and other means to promote oversight, inspection, and spot checks on the implementation of the central government's Eight Regulations on holidays and festivals.

We **deepened efforts to tackle problems of formalism and bureaucracy**. We carried out a questionnaire survey on managers and included the examination of formalism and bureaucracy in the democratic life to find out the performance of problems. We strictly enforced discipline, and severely investigated and dealt with problems involving formalism and bureaucracy that have resulted in adverse consequences, and six people were given disciplinary action.

PROMOTING STANDARDIZED OPERATION OF POWER

We **carried out special inspections on relatives of leading officials who violated regulations in running businesses** and we punished 10 Party and government officials, demoted and removed 2 from their posts, and exposed problems such as improper rectification of their relatives' running business.

We made **special inspection in the area of bidding and tendering**, found 11 problems, including the rules and regulations of part of the units inconsistent with the group requirements, some projects that

should have been invited for bidding failing to invite for bidding, lax examination for qualifications of the tendering units, direct appointment of judges or insufficient basis for judges, as well as suspicion of bid-rigging and splitting contracts to avoid bidding, and promoted the institutional system related to bidding.

We made **special efforts to address the work style issue in poverty alleviation**, and on the basis of internal examination, set up three inspection teams with relevant departments to carry out verification inspection on poverty alleviation work, so as to urge relevant departments to rectify and correct problems such as the imperfect fund management system for poverty alleviation work, further strengthen education supervision and management, and promote the work style construction of cadres.

We **strengthened internal supervision and consultation**, and focusing on the key points of leaders' relatives running businesses, personnel selection and employment, bonus payment, business outsourcing, procurement, etc., we organized discipline inspection and supervision, personnel, auditing, finance and other relevant functional departments to timely analyze and judge emerging and biased issues in the work of building a clean government and anti-corruption, and studied corresponding countermeasures.

STRENGTHENING SUPERVISION & ENFORCEMENT

We **intensified supervision and enforcement**. In the whole year, 553 clues to problems were accepted, 129 cases were filed, 180 people were imposed disciplinary sanctions on the Party and government, and we seriously investigated and prosecuted such problems as accepting invitation to dinners, traveling, entertainment and fitness activities, accepting gift cards and vouchers from suppliers, and lending relations with suppliers.

We **increased warning education**; through the work conferences on building a clean and honest Party and anti-corruption work, the public briefing on factory affairs, and the monthly Communication on Discipline Inspection and Supervision Work, etc., we informed and exposed the cases of violating the spirit of the Eight Provisions of the Central Committee within the group, and we carried out warning education more than 3,000 times to create an atmosphere of "daring not corrupt" and continue to build an ideological defense line of "do not want to corrupt".

We **issued the second batch of banned list**, 39 units and 39 people were included in the banned range, and hard constraints were conducted through the information system.

ADHERING TO THE PROBLEM-ORIENTED & STRENGTHENING INSPECTION TOURS & SUPERVISION

We **strengthened inspection and oversight efforts**. We optimized the leading group for inspection work by setting up five additional Party committee inspection groups, assigning 10 more full-time inspectors, and providing separate funds for inspection work.

We **improved the institutional system**. The Guidance Manual for Inspection Tours and Supervision Work (Trial) was formulated to unify the work process and main steps of inspection tours, clarify the work responsibilities and discipline requirements of the chief, deputy chief and team members of the inspection teams, and standardize the operation requirements of key links such as acceptance and disposal of problem clues, inspection and understanding, and data filing.

We **innovated ways and means**. We designed and initially completed the "inspections conducted at different levels" work system, and basically defined the network in six aspects, including leadership system, planning and deployment, organization and implementation, application of achievements, institutional system construction and team construction.

We **intensified inspections**, combining routine inspections with special inspections, and the company organized three rounds of inspection, including 11 second-level enterprises directly under the group and 3 third-level and fourth-level enterprises, extending the inspection to more than 20 subordinate enterprises.

Incorruptible Work	2016	2017	2018
Amount of Part-Time Job Remuneration Handed In (yuan)	181,900	107,300	382,300
Persons Handing In Cash Gift, Gifts, Securities Voluntarily	826	1278	1028
Amount of Cash Gift, Gifts, Securities Voluntarily Handed In (yuan)	627,400	1,441,200	1,147,600

① The data in 2016 excludes Wuhan Steel Group

Items	2016	2017	2018
Number of Clues To All Problems	695	511	553
Number of Cases Accepted	85	108	129
Number of Cases Closed	81	89	148
Persons Disciplined by The Party	54	71	118
Persons Punished by Political Discipline	55	64	115
Persons Whose Labor Contracts Were Terminated	11	14	11
Persons Transferred To The Judicial Organs	18	13	0

Total Risk Management

In 2018, the board of directors of the Company approved three major risks and three important risks that should be focused on, including production safety, energy and environmental protection, investment in new industries, international trade protection, cash flow control, employee stability during the transition period and other aspects. The company defined the control requirements and responsible units of various risks. Each unit defined its responsibility system and responded to various emergencies in a timely manner. In 2018, the overall risks were controllable, all risks were controllable, and no major risks occurred.

In 2018, we, centering around industry focus, structure optimization, system construction, headquarters restructuring, focused on strengthening the core functions of "financing, investment, management, and exit platforms", strengthened the construction of the board of directors, improved the corporate governance structure, promoted optimization of investment management system, boosted standardized and scientific decision-making, carried out risk prevention of major investment and mergers and acquisitions, and released the Work Discipline During Integration, Management and Relationship Adjustment; we actively promoted the work of downsizing and continued to improve the systematic capacity of the state-owned investment companies in terms of "financing, investment, management, and exit platforms".

In 2018, we further improved institutional building and strengthened internal control. We optimized

the system and process with clear responsibility, supervision and counterbalance, and the functional departments as the main body. The rules and regulations and control standards were strictly implemented, all kinds of emergencies were timely dealt with, and responsibilities were implemented and continuously improved. We promulgated the Implementation Measures for Investigating and Holding Responsible for Illegal Operation and Investment and basically established a system for holding responsible for illegal operation and investment of state-owned enterprises and a mechanism for backtracking their responsibilities, implemented control requirements, and made continuous improvement through self-evaluation, supervision and inspection. At the same time, the guidance on the responsibility investigation of subsidiaries was strengthened, and the Implementation Measures of each first-level subsidiary were issued successively to ensure accountability and strengthen compliance culture.



Innovation-Driven

INNOVATION, SPREADING LIKE WILDFIRE

Only the innovator advances by quality,
Only the innovator is strong by development,
Only the innovator wins and sees the future!

Innovation is an accelerator,
igniting the engine of China Baowu's development.
Steel is tempered in the "fire of innovation",
and we see the future through the fire.



"Innovation" is an element in China Baowu's gene. Over the years, the group has been constantly promoting technological innovation, improving the competitiveness, and always putting technological innovation at the core, and a three-in-one technological innovation system featuring research and development, independent integration and continuous improvement has been formed. With the continuous construction of the state-owned investment company, the group has comprehensively deepened its reform and made great efforts to remove deep-seated institutional barriers. The overall operation efficiency has been continuously improved and the cross-regional operation capacity has been significantly enhanced.

Technical Innovation

Indicators	2016	2017	2018
Amount of R&D Investment (billion yuan)	6.2	7.3	10.3
Proportion of R&D Investment (%)	2.0	1.8	2.3
Number of Patents Applied For (pieces)	2534	2452	2371
Number of Patents Authorized (pieces)	1879	1850	1633
New Product Sales Rate (%)	14.0	15.6	12
Economic Benefits Of Scientific Research Projects (billion yuan)	1.7	1.7	1.7
Technical Trade Contract Amount (million yuan)	60.8	28.3	95.1
Number of Technology Trade (pieces)	50	39	67

WORK OBJECTIVES

Taking system optimization as the starting point to promote industrial chain collaborative innovation; focusing on the quality of steel, greening and intelligence and maintaining a high level of research and development investment; vigorously enhancing our capacity for independent innovation and accelerating the development of core technologies and strategic products with independent intellectual property rights.

resources in multiple bases and further optimizing the coordinated allocation of resources; building an open innovation platform to connect downstream users, technical ideas and partners, and forging a complete innovation and entrepreneurship ecology of China Baowu from market demand, innovation cooperation to industrial incubation.

SYSTEM CONSTRUCTION

Promoting the management mode of "One Institute and Multiple Centers" with the plants and the institute carrying out research and development together, and coordinating research and development

Building a technology sharing platform. In view of the wide industrial layout and geographical distribution, uneven technical capacity, as well as the contradiction between talent flow and spatial layout of steel industry in the future, we explored the mode of technical exchange and sharing and promoted multi-base interaction and exchange. Thereby an innovative atmosphere of "comparing, learning, overtaking, helping and surpassing" has been formed to improve the overall technological leadership of China Baowu. By giving full play to the advantages of open, hub-type, platform mass organizations and gathering all parties to work together, we set up the



In 2018, China Baowu's project of Stable Manufacturing Technology and Application Demonstration of Automotive Lightweight GPa-grade Steel Slates won the only special prize of Metallurgical Science and Technology Award. Intelligent Monitoring for Cold Rolling Mill Chattering and Vibration Suppression and Acceleration Technology and Application and Development and Application of Manufacturing Technology and Equipment for Extremely Thin One-molding Cold Rolled High Silicon Steel both won the first prize. Additionally, five second prizes and one third prize have been obtained. Scan the QR code for more information.

promotion committee of low-carbon smelting (pre-iron making process), steelmaking, hot rolling, cold rolling, intelligent manufacturing and other technical fields within the group.

Setting up Baowu New Material Industry Innovation Center. According to the strategic positioning of the group as a state-owned investment company and to meet the needs of the development modes of "capital management" and "assets management" of the new material industry, the New Material Industry Innovation Center has been established. The center will be responsible for the identification of new materials and new technology, advance hatching, and technology integration. It supports the sourcing and path guidance of new material industry technology for strategic investment and supports the technology improvement and innovation of weak new material companies, thus forming strong technical support and sustained independent innovation ability and striving to build new materials into the second largest strategic manufacturing business segment of China Baowu.

Further promoting the construction of Incubator Wesocool. Incubator Wesocool is a professional incubation service platform for the construction of a national demonstration base of China Baowu for entrepreneurship and innovation. It tightly focuses on the concept of Hard & Core Technology and service for entity economy and adopts the models of "base + fund", "expert + housekeeper", "the landlord + shareholders", the "platform + stage" to provide high-quality technical resources and industrial resources for innovative entrepreneurship and attract talents worldwide for innovative entrepreneurship. This year, more than 30 new entrepreneurial projects have been introduced, and more than 100 entrepreneurial projects are being incubated. Among them, 30% have formed a cooperative relationship with China Baowu, which provides a strong support service for the group and the national innovative entrepreneurship activities.

TECHNOLOGICAL INNOVATION ACHIEVEMENTS

In 2018, we, centering around the strategy of "green, quality, intelligence" of the group, actively improved the innovation system and carried out R&D of technologies such as product innovation, cutting cost through technology, and green and intelligent manufacturing. A number of products were launched in the world. Moreover, we successfully passed the review and evaluation of national technology innovation demonstration enterprises, and several achievements won industrial honors, among which "stable manufacturing technology and application demonstration of automotive lightweight GPa-grade steel plates" won the special prize of metallurgical science and technology award.

1 CONTINUOUSLY INNOVATING AND OPTIMIZING PRODUCTS TO MEET THE NATIONAL STRATEGY AND USERS' DEMAND

Adhering to innovation in quality steel products. Such seven products as ultra-high strength automobile sheets, thin-gauge oriented silicon steel, non-quenched and tempered high strength and toughness geological drilling pipes, hot rolled double-sided aluminum coated substrate steel were launched in the world; ultra-large LPG Marine 460LF-TM broke the monopoly of low-temperature steel by foreign steel mills, and low-temperature ship plates were completely replaced by domestic products.

Adhering to new material product innovation. We developed large-single-weight nuclear power products, overcame the bottleneck of mutual restriction between chemical composition and mechanical properties, and consolidated its leading position in superior nuclear power materials; "Application of intelligent manufacturing model for new carbon materials" was awarded as the intelligent manufacturing comprehensive standardization and new mode application project of the Ministry of Industry and Information Technology, which promoted the application and research of new technology characterized by intelligence in the new material industry.

2 VIGOROUSLY PROMOTING R&D OF GREEN MANUFACTURING TECHNOLOGY TO BUILD A GREEN URBAN STEEL PLANT

New low-carbon metallurgy technology: the new steel smelting technology represented by the OY furnaces can reduce CO₂ by 10% and reduce the cost of molten iron by 100 yuan/ton compared with the traditional blast furnaces; China Baowu + CNNC + Tsinghua University explored zero carbon emission by coupling nuclear energy technology with steel smelting and coal chemical technology.

New way for utilizing solid wastes: disposal and treatment experiment of solid waste blending combustion was actively carried out. The solid waste sludge (medical sludge, urban sludge, etc., with 60% moisture content) dehydrated through the board frame in the sewage treatment plant is dried to form the sludge with 30% moisture content, and through the boilers and coal-fired coupled power generation in urban power plants, the harmless utilization of sludge can be realized.

Wastewater treatment technology: aiming at continuous optimization of electro-oxidation air flotation device for cold rolling wastewater, and after applying the results, the removal rate of COD and SS reached 65% and 71.8% respectively.

3 ACTIVELY PROMOTING INTELLIGENT MANUFACTURING & ACCELERATING THE PROCESS OF "INDUSTRIAL INTELLIGENCE AND INTELLIGENT INDUSTRIALIZATION"

For details, please refer to the special report—Intelligent manufacturing (Page 18 in this report).



MANAGEMENT STRUCTURE OF THE STATE-OWNED INVESTMENT COMPANY

Guided by "capital management" and in accordance with the requirements of "clear responsibilities, efficient and professional operation", China Baowu will accelerate the establishment of a management framework with separate operation and hierarchical management:



- Compared with the strategic business combination of "one basis and five industries" of China Baowu, the pattern of "one enterprise one industry" and "one industry one enterprise" is basically clear.
- Capital operation group headquarters combining value creation and strategic control
- Professional, platform-based, market-oriented, large-scale and international asset management company
- Production and operation company with clear functions and streamlined functions

Management Innovation

ADVANCING THE REFORM OF STATE-OWNED ENTERPRISE

China Baowu insists on taking Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as a guiding principle and earnestly implements the decisions of the CPC Central Committee and the State Council. In accordance with Guiding Opinions of the CPC Central Committee and the State Council on Deepening the Reform of State-owned Enterprises (ZF No. [2015] 22) and other "1 + N" series of documents, taking supply-side structural reform as the main line and the state-owned investment companies as the pilot platform for comprehensive reform, in the light of the new orientation, new mission and new goal, and based on practical conditions, we have successively formulated the "1+N" series of documents on deepening the reform of China Baowu and the documents defined the overall framework and implementation path of the reform. Moreover, we have formulated the implementation plan for deepening reform on an annual basis, clarified the tasks, responsibilities and time schedule of deepening reform, strengthened assessment and inspection, and ensured the implementation of all reform measures. Thus, a good situation in which all levels of organizations work together to ensure effective reform and development has been formed.

REFORM OF THE THREE SYSTEMS OF LABOR, PERSONNEL AND DISTRIBUTION

Guided by strategic objectives, we have fully implemented the management responsibility system for the term of office. Following the ideas of "self-surpassing" in the budget, "outperforming" in the year and "pursuing excellence" in the term of office, we have effectively conveyed the will of shareholders and facilitated implementing the goal of strategic planning. From 2018, the subsidiary company leadership began to fully implement management responsibility system for the term of office and annual salary system for post performance, so as to strengthen contractual management, ensure that Party-managed cadres and business managers exercise their human rights in accordance with the regulations, and improve incentive and restraint mechanisms closely related to performance; whether leaders are rehired at the end of their term of office is directly linked to the comprehensive evaluation results, and a normal mechanism for cadres to be able to go up and down, with high and low income, has been formed.

CARRYING OUT TRIALS OF EMPLOYEE STOCK OWNERSHIP TO CONTINUOUSLY STIMULATE THE VITALITY OF ENTERPRISES

China Baowu's subordinate Ouyeel, as one of the first 10 pilot enterprises of employee stock ownership in central enterprises, began to implement the first round of opening up equity in May 2017. Six enterprises at home and abroad including Benxi Steel Group, Shougang Fund, GLP, CCB Trust, Shagang Group and MITSUI & CO. and 126 core backbone employees participated in shareholding on the platform. Among them, China Baowu's stake in Ouyeel fell to 72%, the equity of external investors was 23%, and the equity of the employee-owned platform was 5%. The company raised more than 1 billion yuan of development funds, and the mechanism of benefit sharing and risk sharing between enterprises and employees was formed. Since the opening of equity, the business performance of Ouyeel has achieved sustained and rapid growth, ranking among the best in the industry. In 2018, the volume of GMV reached 120 million tons, with a compound annual growth rate of 143%. Employees' sense of ownership has been significantly enhanced, and the atmosphere of hard work and responsibility has become increasingly strong.



FOUR RIVERS FUND

Four rivers fund, the first steel industrial structure adjustment fund in China initiated and established by China Baowu and other three enterprises, participated in the restructuring of Chongqing Steel. Through debt restructuring and inefficient and ineffective asset stripping, the total assets of Chongqing Steel was greatly consolidated, falling from 36.4 billion yuan to 25 billion yuan. After the debt crisis was resolved, the asset-liability ratio was reduced to 33%, and the financing channels were reopened again; the personnel were divided clearly, and per capita labor productivity was more than 1,000 tons, leaping to the forefront of domestic steel enterprises.

In March 2018, Chongqing Steel restructuring was selected as a typical case in the bankruptcy trial of the Supreme People's Court. It is believed that the successful restructuring of Chongqing Steel has a referential significance in mechanism for dealing with large and complex enterprise restructuring cases, and it sets up a sample of successful restructuring of large listed state-owned enterprises. Xiao Yaqing, director of the State-owned Assets Supervision and Administration Commission, said during a visit to Chongqing Steel in May 2018 that Chongqing Steel had turned a deficit into a profit through judicial restructuring, and it provided a useful reference for the deepening of supply-side structural reform in the steel industry nationwide.

As the core shareholder of four-in-one steel industrial structure, China Baowu has provided Chongqing Steel with all-round help and support in the improvement of technology, talent, management and other system capabilities. Through a series of comprehensive integration of industrial and financial resources, Chongqing Steel has been able to get out of difficulties. In 2018, Chongqing Steel achieved operating revenue of 22.639 billion yuan, growing by 71.03% year on year, and the net profit attributable to shareholders of listed companies reached 1.788 billion yuan, with year-on-year growth of 458.57%. The annual steel output reached 6.3815 million tons, up by 55.1% year-on-year. The production and operation performance reached the best level in history.

At present, Chongqing Steel management team is working on the future development plan, adjusting the product structures and implementing the path of promoting the development of green manufacturing and intelligent manufacturing. It aims to build a new Chongqing Steel with strong market competitiveness, making itself the most competitive steel enterprise in southwestern China, the leader of green friendly and transformation and upgrading of inland steel mills, and the company model with employees and enterprises developing together.



Innovation of Business Model

BAOSTEEL MERGED WUHAN STEEL GROUP

From February 2017, after BAOSTEEL consolidated stocks of Wuhan Steel Group through the capital market, the merging implementation has been promoted in accordance with the overall path of "four steps" including uniting, integration, fusion and combination. 2018 was a key year from integration to fusion, and the integration process was in line with expectations. Under the joint efforts of the five major special teams, 16 functional business lines and 8 embedded support teams, the annual schedule rate of integration and fusion was 98.4%, and the milestone schedule rate was 95%; synergy benefits reached 2.74 billion yuan, up to 137% of the annual target of 2 billion yuan; the operating income of Wuhan Steel Group reached 71.636 billion yuan and the total reported profits were 2.115 billion yuan, and the business performance was greatly improved and the enterprise regained vitality; in October 2018, the case of Baowu Integration Led by the Management Model of Multi-manufacturing Bases won the "40th Anniversary of Reform and Opening up" Special Award for Chinese Management Practice in the Fifth Annual China Conference and the Second Annual Ram Charan Management Practice Award organized by Harvard Business Review. And the case of "with the advance of China's supply-side structural reform, Baowu's restructuring and integration, and association between strong enterprises" was specially broadcast in the CCTV Financial Channel's program "The Power of Capital".

OUYEEL INNOVATIVE PLATFORM-BASED SUPPLY CHAIN SERVICES

Ouyeel takes "co-construction, sharing and trustworthiness" as its values; by integrating the resources of all parties in the steel industry chain, the company provides "four flows" (business flow, logistics flow, capital flow, information flow) comprehensive supply chain services, including trading, logistics, supply chain finance, steel technology and data information, to improve the efficiency and reduce the cost of the supply chain. Thus, a new steel ecology involving all parties in the ecosystem has been created. As a model and leader of the industrial Internet, Ouyeel has boldly innovated and accelerated its development. It has blazed a distinctive path in terms of platform supply chain service innovation, which is of positive significance to help the supply-side structural reform of the steel industry, give full play to the decisive role of the market in resource allocation, and promote high-quality economic development. Meanwhile, as an industrial Internet platform with trading volume of 100 million tons and trading volume of 100 billion yuan, Ouyeel brings together a large number of small and medium-sized users with efficient and intelligent supply chain services, drives the transformation, upgrading and innovative development of trillion-level industry to collaboratively build a high-quality steel ecosystem.

BAOSTEEL SPECIAL STEEL "TWO BUSINESSES IN ONE PLACE" OPERATION MODE

According to Overall Transformation and Upgrading Cooperation Agreement of Wusong Area signed by China Baowu and Shanghai Municipal Government on July 4, 2018 and the overall strategic planning of China Baowu "one basis and five industries", and combined with its own needs of making up the deficits and industrial transformation and upgrading, BAOSTEEL Special Steel creatively adopted the overall operation mode of "two businesses in one place". One business takes the core assets of special metallurgy as the main body, running special steel business and focusing on the development of special smelting metal materials. Baowu Special Metallurgy Co., Ltd. was established in accordance with the principle of "six clearnesses" (assets, liabilities, business, personnel, space and time) by establishing the mode of independent legal person and independent operation. The other business is in charge of the adjustment and disposal of other steel assets, as well as the development and transformation of the park, and it aims to build a science park (urban area) with new materials innovation and entrepreneurship as the core. BAOSTEEL Special Steel set up a joint venture platform company with Lingang Group and related enterprises in Baoshan District for the follow-up construction and development of the plot.

BAOSTEEL ROLL'S FIRST PRICING MODEL OF ROLLING TONNAGE

In the face of customers' requirements for high-end rolling products, rolling reduction, service productization and digitized control, Baosteel Roll took the lead in promoting the innovative business model of cold roll supply in China. Through the transformation from order-type production to "technology + service" operation mode, and from the single output of roll products for customers into the product and service integration of providing roll products, operation and maintenance support, technical upgrading, it opened the way transforming from traditional machinery manufacturing enterprise to a new business model.

The new business model is not simply selling products, and it provides customers with design, manufacturing, surface treatment, full life cycle services and other package solutions through the pattern of roll manufacturing and service package. Baosteel Roll effectively improved product performance through technology upgrading and management innovation, and extended roll changing cycle through scientific and reasonable roll arrangement and use effectively. Therefore, it realized the annual roll consumption of tonnage steel reduced by about 5%, completely eliminating the risk of mechanical collision. The production line accident caused by roll quality problem reduced by 30%, the turnover rolls reduced by 10, the manual roller grinding reduced by 20%, and the roller grinding efficiency increased by 30%.

Green Development

NATURE EMPOWERS LIFE

Orchids in the rain and bamboos in the wind

All the good things in the world are green.

Green development makes the urban steel plant more beautiful than ever.

Green development is the name card of high-quality development of China Baowu.

Cleaning, greening, beautification, culture

We honor our commitment to the blue sky, clear water and pure land, with our original intention and mission never changing.



VISION

Driving the development of green steel industry ecosystem



OBJECTIVE

Creating a competitive corporate green brand



MANAGEMENT POLICY

- ★ Upholding environmental compliance by implementing the responsibility of legal entity
- ★ Building green production mode by adhering to resource and environment restriction
- ★ Promoting industrial restructuring through innovation, coordination and opening up
- ★ Promoting urban ecological civilization through shared and integrated development
- ★ Cultivating green brand advantages by adhering to the strategy of quality products
- ★ Leading green lifestyle with equal emphasis on advocacy and practice



MANAGEMENT PRINCIPLES

China Baowu implements the principles of environmental management by the coordinated development of legal entity accountability, "co-responsibility of the Party and governmental officials" and "one position with two responsibilities", hierarchical management, separate management and control, comprehensive coverage of business, and localized coordination of energy and environmental protection.

Green Manufacturing

CONSTRUCTION OF ENERGY & ENVIRONMENTAL PROTECTION MANAGEMENT SYSTEM

By the end of 2018, all steel enterprises and key industrial enterprises in diverse industries of China Baowu had passed the environmental management system certification and energy management system certification, and supervision review or re-certification audit were carried out regularly in accordance with the provisions so as to continuously and effectively promote the operation of the environmental management system.

In China, BAOSTEEL first explored the establishment of an environmental life cycle management system, formulated and issued the 2018 Work Plan for Promoting Environmental Life Cycle Management and effectively organized its implementation.

China Baowu issued the Notice on the Establishment of An Environmental Protection Supervision Working Group (BW Zi No. [2018] 463) on September 28 and formally established the group corporation's environmental protection supervision group. During the year, the group organized relevant training, formulated and issued Environmental Protection Supervision Work Plan (BW Zi No. [2018] 531) and formed a work plan and carried out in-depth work on the site.

ACTION ON ENERGY CONSERVATION & EMISSION REDUCTION

In 2018, China Baowu invested about 4.6 billion yuan in upgrading energy conservation and environmental protection technologies and implemented a series of energy-saving projects, laying a solid foundation for such key work such as strengthening the dual control of energy consumption, optimizing the structure of energy use, and comprehensively implementing the battle against pollution prevention and control.

For details, please refer to the special report—Urban steel plant (Page 28 in this report).

CARBON REDUCTION MANAGEMENT

COMPLETING CARBON QUOTA PERFORMANCE

A total of 15 legal entities of China Baowu have been incorporated into the local carbon trading management system, with a total carbon quota of more than 90 million tons, and 100% performance of the carbon quota has been completed. Through CCER offset mechanism, market transaction and inter-unit agreement transaction within the group, the Company's cost of carbon quota performance has been reduced and the carbon assets management experience has been further enriched.

ACTIVELY CARRYING OUT RESEARCH ON CARBON ASSETS MANAGEMENT

We completed the task of "Research on the Scheme of Chinese Baowu's Establishing Carbon Assets Management Platform" and studied the quota allocation method of carbon market about the steel industry at home and abroad. Besides, we analyzed the carbon emission data of the seven long-process steel production enterprises of China Baowu from 2013 to 2016 and calculated the carbon emission and intensity of each plant based on different process. Carbon quota allocation methods for different types of long-process steel industry were put forward. It was suggested to adopt the benchmark method for the main process as the national preferred method for the carbon quota allocation for steel enterprises with long process. And we also analyzed and studied the existing carbon management and carbon assets operation mechanism of China Baowu and its subsidiaries and put forward the plan for building China Baowu's carbon assets management platform.

GREEN PRODUCTION PERFORMANCE

In 2018, China Baowu completed the comprehensive energy consumption of 586 kg of standard coal per ton of steel, sulfur dioxide emissions of 29,889 tons, chemical oxygen demand emissions of 2,051 tons, oxynitride emissions of 63,894 tons, down 2.3%, 3.5%, 10.0% and 2.9% respectively compared with the same period in 2017. The target of energy conservation and emission reduction assessment on the fifth term of the State Council SASC (2016-2018) was successfully completed. The total amount of energy used and coal consumed by the Company's enterprises in Shanghai all met the annual assessment targets set by Shanghai.

Major Indicators	Performance and year-on-year progress in 2018	
	Compared to 2015 year on year	Compared to 2017 year on year
Comprehensive Energy Consumption Per Ton of Steel	-3.6%	-2.3%
Sulfur Dioxide Emissions	-22%	-3.5%
Oxynitride Emissions	-24%	-10.0%
Chemical Oxygen Demand Emissions	-18%	-2.9%

STRENGTHENING INTERNATIONAL EXCHANGES & COOPERATION ON CARBON REDUCTION TECHNOLOGY

China Baowu hosted two influential international carbon reduction technology exchanges.

Under the guidance of Climate Department of the Ministry of Ecology and Environment, China Baowu and Global CCS Institute jointly held the Seminar of Low Carbon Development and Carbon Capture, Utilization and Storage Technology on May 10. Chinese and foreign experts from Global CCS Institute and International Energy Agency delivered speeches and presented new ideas, practices and breakthroughs in low-carbon reduction. They shared practical experience in low-carbon development and exchanged innovative achievements in cutting-edge technologies of carbon capture, utilization and storage, exploring ways to control greenhouse gas emission.

The Sustainable Technical Route and Framework Conference of Global Steel Industry and the Asian Steel Industry Expert Seminar, hosted by International Energy Agency (IEA) and undertaken by Baosteel, was held in Shanghai on May 23 to 24. Major steel enterprises, raw material suppliers, representatives of government departments and industry associations and experts and scholars from domestic and foreign research institutions, organizations and universities from Asian regions, including Nippon Steel Sumitomo Metal Corporation, Pohang, China Baowu, BHP Billiton, etc., gathered to explore innovative technologies and strategies for sustainable development of the steel industry to reduce energy consumption and greenhouse gas emission.

Green Products

Green products refer to the products that can save energy, reduce consumption, reduce pollutant emission, and contribute to improving environmental quality and reducing the harm to human health in the whole life cycle of design, manufacture, transportation, use, recycling, reuse and waste.

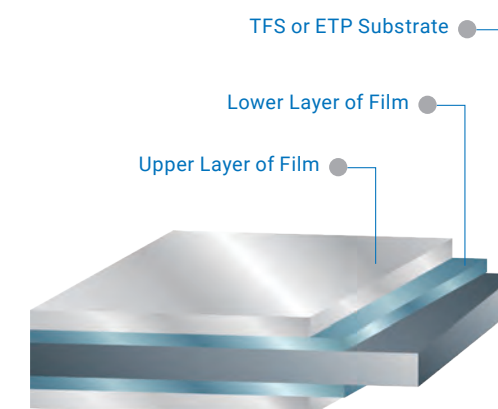
RESEARCH ON PRODUCT LIFE CYCLE

BPEI Index (Baosteel Product Environmental Index) based on LCA was adopted to evaluate green products, and BAOSTEEL completed Detailed Rules V2 for Definition and Classification of Carbon Steel Plate Green Products. It stipulates the definition, classification and evaluation standards of green products, and classifies green products from two dimensions, i.e. product categories and downstream industries. The LCA evaluation results and BPEI indexes of 14 categories of products from 2015 to 2017 were presented as the reference values, and the concept of "green products" was put forward to display Baosteel's business results and social responsibilities from the perspective of environmental friendliness and promote the development of green products.

Based on LCA research method, the 1.0 Plus project of BCB (Baosteel Car body) was completed. The LCA model of BCB1.0 Plus car body parts and assemblies was established. The model contained 16 assemblies and 240 parts of the body, involving 53,000 pieces of data. By investigating the production process data of 6 automobile parts processing and manufacturing plants, the model integrated the LCA data of 8 processing and forming technologies of automobile parts, such as cold stamping, hot stamping, hydraulic forming, laser welding, roller forming, VRB thickening plate, laser pipe welding and roller stamping. The project completed an ecological design case study. LCA evaluation was conducted for six design schemes of girder small assembly to support the ecological design of different steel schemes for auto parts. The six design schemes comprehensively compared environmental indexes such as energy consumption, CO₂, dust, SO₂, NO_x and COD. LCA evaluation results showed that, taking the steel plate manufacturing stage and automobile use stage into consideration, the emission reduction of GPa-grade high-performance automobile steel plates of Baosteel was 2.154 million tons of CO₂ compared with ordinary steel (continuous annealing general cold rolled plates); based on China's annual automobile sales of 20 million, the use of BCB comprehensive technology could achieve emission reduction of 14.676 million tons of CO₂.

GREEN PRODUCT DEVELOPMENT

Composed of high molecular resin films and steel plates, Baosteel laminated steel is a kind of environmental protection and high-performance packaging material, which eliminates the traditional coating and curing process, and achieves green low energy consumption of laminating production and downstream processing. Featuring food safety and high corrosion resistance, the product is suitable for a variety of cans and lids with high requirements for complex molding and corrosive content, and can be widely used in packages for food, beverage and other products. During the R&D of Baosteel laminated steel products, LCA method was adopted for ecological design. Comprehensive, integrated and objective environmental impact assessment and design were carried out during the whole life cycle from raw materials acquisition, processing, circulation and storage, consumer use, recycling and abandonment. We also analyzed and compared the life cycle environmental performance of laminated steel cans, tin cans and aluminum cans and the main influencing factors, and found that laminated steel cans are better than tin coating cans and aluminum coating cans in life cycle energy consumption, water consumption, CO₂ emissions, dust emissions, SO₂ emissions, NO_x emissions, COD emissions and other major indicators. On this basis, the Environmental Product Declaration (EPD) of laminated steel products based on LCA has been completed for the first time. LCA has become a powerful tool for Baosteel product ecological design.



GREEN PRODUCT MARKETING

In 2018, BAOSTEEL sold 10.4312 million tons of green products, achieving 106.97 percent of the annual target. Among them, the sales volume of BEST green products was 2.1883 million tons, and that of BETTER green products was 8.2429 million tons.

SALES OF GREEN PRODUCTS

Year	2016	2017	2018
Sales of Better Products (million tons)	7.108	7.095	8.243
Sales of Best Products (million tons)	1.391	1.745	2.188
Sales of Green Products (million tons)	8.498	8.840	10.431

GREEN PRODUCT SOLUTIONS

A NEW MEMBER TO BAOSTEEL QP STEEL FAMILY, CONTINUING TO PROMOTE GREEN & ENVIRONMENTAL PROTECTION OF CAR BODY STEEL

Since its global launch, Baosteel quenching-partitioning steel has developed rapidly, with its sales volume exceeding 15,000 tons in 2018, an increase of more than 50% over the previous year. At the same time, Baosteel QP steel family continues to grow. On the basis of the original six family members, two new members of QP1500 and QP980-EG were added in 2018. It focuses on the replacement of new-generation steel and problem improving, laying a solid material foundation for the green

environmental protection, energy conservation and emission reduction of car body steel for the future, and the corrosion resistance improvement of safety structural parts. Mass supply to Chinese brands, Japanese brands and European and American brands has been realized, providing strong support for the lightweight development of the automobile industry.



THROUGH EVI COOPERATION, BAOSTEEL LAMINATED STEEL HAS BEEN SUCCESSFULLY APPLIED TO DRD BEVERAGE CANS

As a new favorite of high-end beverage cans, laminated steel has the characteristics of high temperature sterilization, high corrosion resistance, safety and environmental protection. Baosteel laminated steel aims to provide a package of solutions to users, cooperating with users in the packaging industry and suppliers of canning equipment through EVI. It took one and a half years to jointly develop the laminated steel for DRD beverage cans of Baosteel, which was successfully applied in 5118 can-type beverage cans. The aspect ratio of DRD cans is more than 2, which is the highest so far. As soon as the product was put on the market, it got extensive attention in the global market. The newly developed laminated steel for DRD cans has realized mass supply through the EVI project cooperation from product design and mold testing.

Green Industry



In 2018, China Baowu Green Industry Achieved Total Sales Revenue of

5.0
billion yuan

Green industry is to integrate energy conservation and environmental protection technology and develop energy conservation and environmental protection industry. It is aimed at expanding accumulation of energy saving and environment improvement technology application inside and outside steel industry, and making systematic commercial development for energy conservation and environmental protection technology, so as to form the ability to provide energy conservation and environmental protection solutions inside and outside the industry. While providing valuable products and services to the society, it can also realize dual benefits for the enterprise economy and society.

INDUSTRIAL ENERGY CONSERVATION & NEW ENERGY UTILIZATION INDUSTRY

LOW TEMPERATURE WASTE HEAT ORGANIC WORKING MEDIUM RANKINE CYCLE POWER GENERATION TECHNOLOGY HAS BEEN APPLIED IN COMMERCIAL DEMONSTRATION PROJECT FOR THE FIRST TIME

In January 2018, the "ORC power generation demonstration project of low-temperature waste gas and waste heat of three-stage sintering ring cold machines of BAOSTEEL" undertaken in EMC mode by Baosteel Energy Saving Co., Ltd. subordinate to Baosteel Engineering was officially put into operation, realizing the first industrial application of MW-grade ORC power generation technology in the steel industry and marking its improvement of design and equipment manufacturing capacity. The fully automatic unattended operation of the unit can meet the large fluctuation of sintering, and the annual power generation can reach 11.91 million kWh, equivalent to 3,811 tons of standard coal and 9,528 tons of annual carbon dioxide reduction.

RESOURCE UTILIZATION

THE LEADING SERVICE PLATFORM OF ROTARY HEARTH FURNACE TECHNOLOGY IN CHINA

Baowu Environmental Technology has independently developed and creatively integrated the rotary hearth furnace technology with direct reduction technology as the core. With the technology, large amounts of dust and metallurgical sludge, especially "toxic solid waste" such as furnace dust or sludge containing lead and zinc, can be handled. Compared with the traditional rotary kiln process, there is no need for fuel preparation and deep processing of raw materials, and it features high efficiency, stable performance and zero discharge. The first rotary hearth furnace equipment of Baowu Environmental Technology was put into production in Zhanjiang Steel and zinc oxide was separated on the same day, achieving the fastest speed of capacity in China in that year. The stable operation of Zhanjiang rotary hearth furnace equipment solved the problems that have been increasingly troubling the steel works, realized the harmless utilization of dust and sludge in Zhanjiang Steel, effectively avoided dust in the plant, and eliminated secondary pollution caused by the transportation of dust and sludge.

SAFE DISPOSAL PLATFORM OF HAZARDOUS WASTES FOR SMALL & MICRO ENTERPRISES

Entrusted by the Baoshan District Government, Baowu Environmental Technology prepared a platform for collection, storage and transfer of hazardous wastes for small and medium-sized enterprises and it was officially put into operation on July 30, with an annual collection, storage and transfer capacity of 12,106 tons. The platform can collect and dispose the hazardous wastes from small and medium-sized enterprises in Baoshan District and further improve the environmental compliance of these enterprises in the process of hazardous waste transfer and disposal by providing comprehensive environmental management consulting services, guidance and assistance. And the current situation of insufficient environmental management ability has been greatly improved and the problem of poor disposal path of hazardous wastes for small and medium-sized enterprises in Baoshan District has been successfully alleviated.

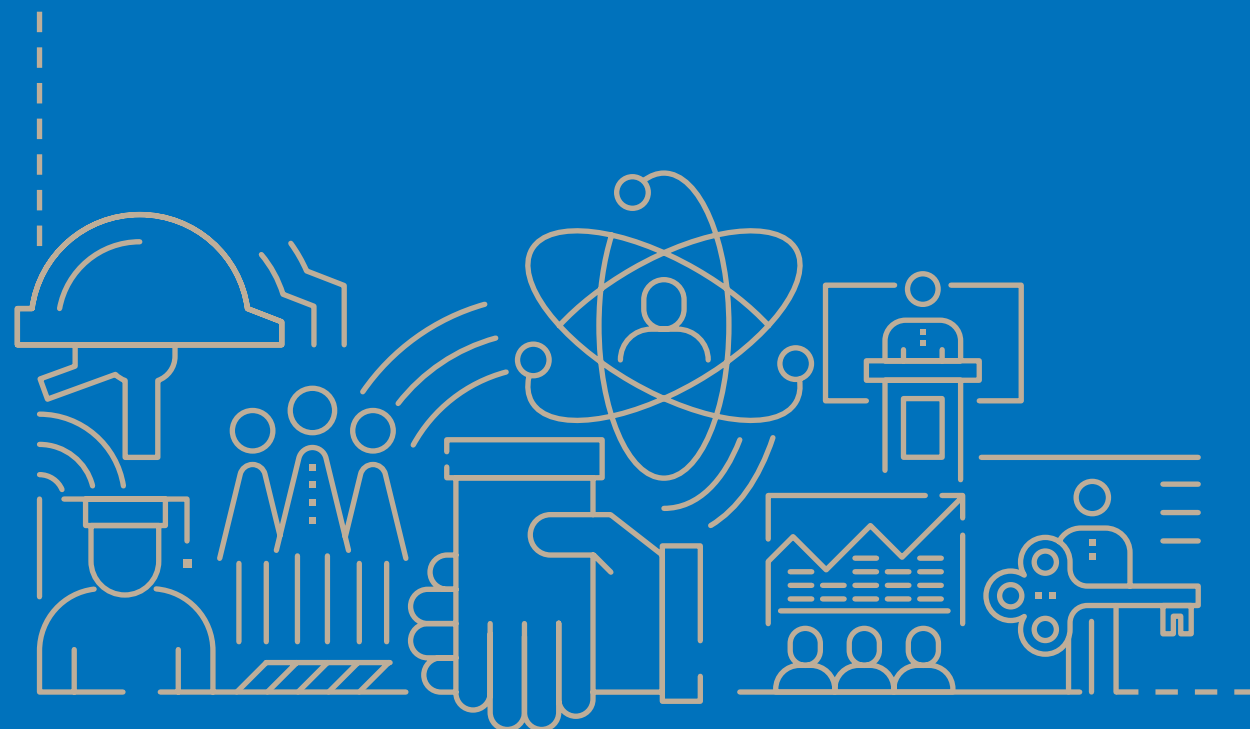


Employees

WE ARE ALL DREAM-SEEKERS

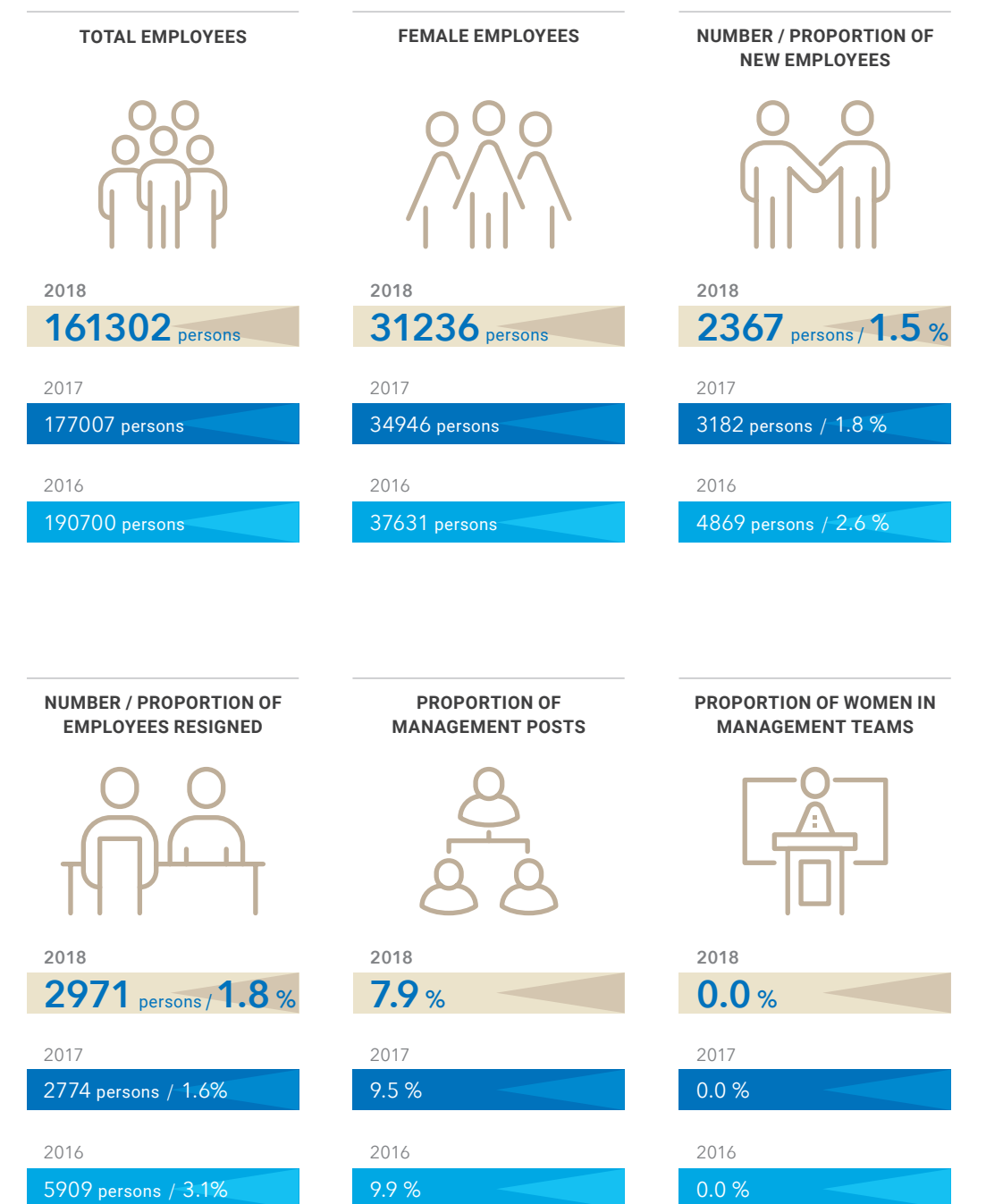
Dreams are great because of hard work.
History is immortal through struggle.
The new era belongs to the strivers.
On the way of struggle, we are all dream-seekers.

To become a global leader in the steel industry,
we cannot do without each hardworking employee.
You are the greatest treasure of China Baowu.



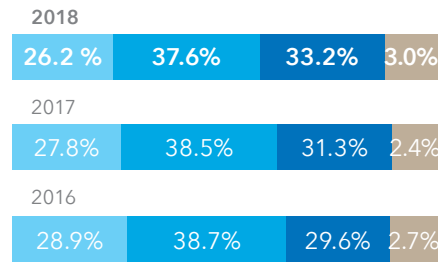
Employee Development

To become a global leader in the steel industry and a model for state-owned investment companies, China Baowu must rely wholeheartedly on its employees. We insist that development is for employees, development depends on employees, and development results are shared by employees. We work closely with the management team, technology team and operation team to achieve the ideological identity, emotional identity and cultural identity of employees to work together with the enterprise for common development.



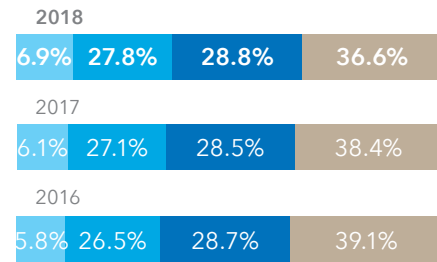
Below 35 36-45
46-55 Above 56

AGE STRUCTURE



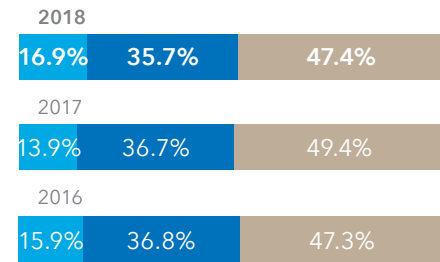
Graduate Undergraduate
Junior College Secondary Specialized School or Below

EDUCATION



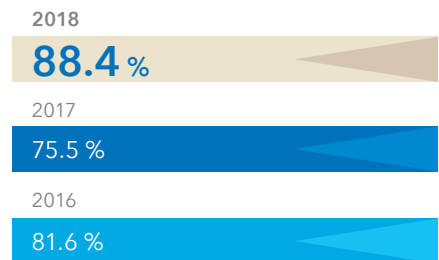
Intermediate & Senior Professional Title Highly Skilled Personnel Other Personnel

COMPOSITION OF PROFESSIONAL TITLE & SKILLS



① Highly skilled personnel refer to the personnel whose skill level is senior or above

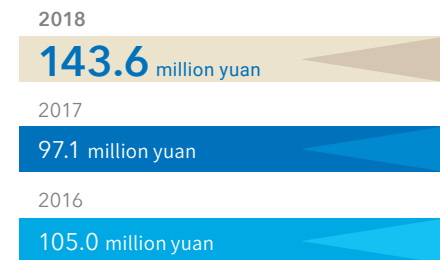
PROPORTION OF LOCAL EMPLOYEES IN OVERSEAS COMPANIES



NUMBER OF OUTSOURCING STAFF



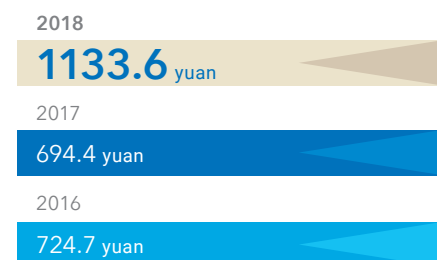
TRAINING INVESTMENT



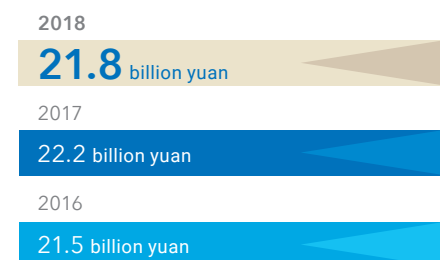
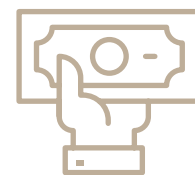
PER CAPITA TRAINING HOURS



PER CAPITA TRAINING INVESTMENT



TOTAL REMUNERATION FOR EMPLOYEES



TRAINING OF INTERNATIONAL TALENTS

We further promote the cultivation of international capabilities and qualities, make it the focus of the strategy of strengthening enterprises by talents to cultivate and develop international talent teams, and create an open and transparent soft environment. We selected 15 employees in the group to participate in overseas key training programs in Harvard University, Berkeley University, Manchester University, Maastricht University, University of Twente and so forth; and 39 people are selected to participate in the A&B project of Bao-Hi Ranges, function research and studies of MITSUI & CO., the GMA project of MITSUI & CO., and the research and studies of intelligent manufacturing and innovation global competitiveness. In this way, the international vision of employees was expanded, which made them better understand and grasp the advanced management and operation mode of foreign enterprises. Moreover, we recommended 5 persons to participate in the 2018 Overseas Training Class of the Ministry of Industry and Information Technology, one person to participate in the 21st Steel Management Training Class of World Steel Association, and three people to participate in the National Development and Reform Commission "the Belt and Road Initiative" International Production Capacity Cooperation Leading Talent Training Program. We are committed to training talents who are familiar with the environment of countries along the Belt and Road, can lead the enterprise to carry out production capacity cooperation in a pragmatic and efficient way and improve their international competitiveness.

OPERATION MANAGEMENT

In line with the positioning and mission of state-owned investment companies, we continue to optimize the management training system, promote ability upgrading, and help the implementation of strategies. The Company restructured the training system and made phased progress. We strengthened the role consciousness and gave consideration of managerial level to form a new method of "grasping both ends, strengthening key points, leaving space, stressing brand" for management training. And the management personnel training system for "senior executives and high-potential talents; key post performance training, key talent special research, key ability special training, and training for key tasks" has been built.

TECHNICAL BUSINESS

"GOLDEN APPLE" PLAN

In 2018, the "Golden Apple" Team successfully developed two products first launched in the world, and made breakthroughs in more than 100 industry-leading key products, processes and equipment technologies. A total of 196 invention patents and 36 international patents were applied, and the direct economic benefits were expected to exceed 500 million yuan. Through building the "Golden Apple" Team, an echelon construction of leading, core and backbone talents has been formed, and a total of more than 10 people have been promoted to the position of chiefs through the practice and training of the "Golden Apple" Plan.

MANAGEMENT TRAINING

We organized 13 leaders and direct leaders to participate in the 2018 Annual Training of the Organization Department of the CPC Central Committee according to our plan and organized 52 direct leaders of the group to attend the training in China E-learning Academy for Leadership. Nearly 400 managers at all levels were organized to attend 51 themed classes, including China Business Executives Academy, Dalian, SASAC Education and Training Center, Ministry of Commerce, and National Development and Reform Commission.

"GREEN APPLE" PLAN

We deepened the training system for "senior executives and high-potential talents; key post performance training, key talent special research, key ability special training, and training for key tasks", and carefully organized and implemented key training programs for decision-makers, special study programs on tenure management responsibility system, and the program of learning to turn losses to profits. A total of 4,582 people were trained in 45 key programs and in 98 classes.

The sixth class of 32 "Green Apple" students completed two phases of intensive training, overseas training and completion work. The seventh class of 45 "Green Apple" students were selected from new college students with bachelor's degree or above recruited from 2012 to 2014. The training mode was optimized and improved, the training program was planned, and the opening ceremony and the first phase of intensive training were implemented.

OPERATION MAINTENANCE

COMPETITION OF STAFF SKILLS

We organized the First China Baowu Workers' Skills Competition themed "Casting Craftsmanship · Improving Skills" to promote learning, training and integration through competition. The competition set up "metallurgical gas worker, blast furnace ironmaking worker, converter steelmaking worker, metal rolling worker, mechanical equipment point inspector, electrical equipment point inspector, bench worker, crane operator, welder, inspector and laboratory technician (chemical analysis), safety officer, marketer (simulation), Party branch secretary clerk, IT application programmer" and other professions for the final competition, with 53,000 employees participating in 657 skill events and 505 finalists. Li Ziqiang and other 65 employees were awarded the honorary title of "Post Master of China Baowu Steel Group Corporation Limited". The competition stimulated employees' enthusiasm to learn, practice, and enhance their skills, greatly

promoting the upgrading of employees' skills and ability.

We set up seven teams to participate in the "Shougang Group Cup" 9th National Steel Industry Vocational Skills Competition. China Baowu stood out from the competition teams of 74 steel enterprises and won the Third Place as a team. Yang Jun, Zhang Peifeng and Xing Jun respectively won the First Place of National Metal Rolling Worker, the Third Place of National Blast Furnace Steelmaking Worker, and the Fourth Place of National Welder and they were awarded "National Steel Industry Technical Expert"; a total of 10 people from China Baowu won the top 20 and the title of National Steel Industry Technical Expert. The participants of China Baowu in the Competition were invited to make experience exchange at the 4th Session of Education and Training Commendation Conference of China Steel Association.

POST INNOVATION

We organized "China Baowu Staff Innovation Activity Day" with the theme of "Mass Innovation, Intelligent Manufacturing, Future", and organized backbone staff at innovation posts for theme exchange. Furthermore, we carried out the activities of pairing employees' innovation studio and innovation volunteer pairing-up of masters and apprentices to actively create a strong atmosphere of innovation and efficiency for employees and promote employees' post innovation. At the meeting, the "Award for New Innovator in Post Innovation", "Award for Post Innovation Achievement Promotion and Application" and "Outstanding Contribution Award for Senior Honorary Innovation Guide Volunteer" of 2018 were offered, and the company established the "Joint Training Center for Intelligent Manufacturing Technology" with Festo Company and awarded plaques for ten employees in "Intelligent Manufacturing Technology Application Breakthrough and Innovation Studio".

We carried out the selection of the First Baowu Craftsmen (Worker Inventors), and ten of the First Baowu Craftsmen (Worker Inventors) and five nominees of the First Baowu Craftsmen (Worker Inventors) were elected after several rounds of selection, which further enriched the innovative talent team of the staff.

We held post innovation seminars, and 70 front-line post innovation experts from Wuhan Steel Group, BAOSTEEL and other units gathered to promote the inheritance, integration and sharing of innovation work through post innovation method exchange, practice case release and group discussion.



▲ China Baosteel's participants in the "Shougang Group Cup" 9th National Steel Industry Vocational Skills Competition



57

HIGH-END TALENTS

were selected & recommended to the state and local governments

Our employees were actively engaged in post innovation activities and contributed ideas and suggestions to the enterprise. They put forward 154,400 rational proposals, among which 105,600 were implemented, creating economic benefits of 1.714 billion yuan. We set up 4,699 self-management (JK) teams and achieved 3,245 independent management achievements; 2,250 economic and technological innovation groups for employees, with a total of 16,800 employees participating in innovation group activities; 2,239 innovation patents were applied, including 1,135 invention patents (50.7%); 2,075 technology secrets; 233 advanced operation methods were summarized.

In 2018, we participated in the 117th International Invention Exhibition in Paris and won four silver awards and seven bronze awards, with the award rate of 100%; we organized 220 employees' innovative achievements for the 10th International Invention Exhibition and won 29 gold awards, 50 silver awards and 74 bronze awards, creating a record level in history; and we organized and participated in the 30th Shanghai Excellent Invention Qualification Trials and won 73 excellent invention awards, including 5 gold awards, 24 silver awards and 44 bronze awards. A total of 57 achievements won Employees' Technical Innovation Award, including three gold awards, 19 silver awards, 16 bronze awards and 19 inclusion awards, making our enterprise the one winning the most awards. In participating the Invention Patent Award Selection for Staff in Shanghai Fair, we were granted one gold award, one silver award and four bronze awards.

The innovation achievements of Hong Hua, a master technician of Baosteel Power Plant, and Miao Weiliang, a master technician of BAOSTEEL Iron Works, won the Third Prize of Shanghai Scientific and Technological Advancement. The innovation achievements of Zhu Wei, a master technician of Baosteel-NSC/Arcelel Automotive Steel Sheets Co., Ltd., won the Great Award of Technological Innovation (Worker Award) of China Baowu.

Ji Zhiyong Innovation Studio of Baosteel Engineering was named Shanghai Labor Model Innovation

- ★ Two Top Young Talents (Natural Science) of The National "Ten Thousand Talents Plan" (National Special Support Program For High-Level Personnel) In 2018
- ★ Four Young And Middle-Aged Leading Technological Innovation Personnel
- ★ 19 Persons Enjoying The Special Allowance of The State Council (Including 12 Technical & Business Personnel & 7 Highly-Skilled Personnel)
- ★ Four National Skilled Personnel

Studio; Song Jun Innovation Studio of BAOSTEEL Silicon Steel Department, Ji Yilong Innovation Studio of Meishan Steel, and Xu Xinhua Innovation Studio of Baowu Carbon Materials were named the 2018 Innovation Studio of Technicians in Shanghai, and Female Workers Innovation Studio of BAOSTEEL Meishan Steel was named the 2018 Shanghai Women Innovation Studio.

In 2018, Song Jun, Xing Lijun and Jin Guoping of BAOSTEEL were awarded the title of "Shanghai Craftsmen", and Liu Zili of BAOSTEEL Wuhan Steel Corporation Limited was awarded the title of "Top Ten Hubei Craftsmen". Xing Lijun of BAOSTEEL won the "China Skill Award", and three persons won the title of "National Technical Expert".

In 2018, two employees won the National May Day Labor Medal, and two collectives won the National Labor Pioneer; six employees won Provincial Model Worker, six collectives won Provincial May Day Labor Award, 12 employees won Provincial May Day Labor Medal, and 14 collectives won Provincial Labor Pioneer. Meanwhile, 15 employees won China Baowu "Golden Bull Award", and 64 employees won China Baowu "Silver Bull Award". Ten employees were rated as the "Most Beautiful Baowu Employee", and 286 as "Excellent Employee", setting good examples for other employees.

STAFF DEVELOPMENT INDEX

The 2018 Baowu Employee Development Index Survey was implemented through a third-party platform Aon Hewitt. A total of 36 first or second-level subsidiaries including group headquarters, steel industry, new material industry, trade logistics industry, industrial service industry, urban service industry, and industrial finance industry, were involved in the survey, and 39,987 people participated in the online assessment. China Baowu's overall employee engagement score was 71, moderately ahead of the average level of the market, central enterprises and state-owned enterprises.

- ★ Six Leading Personnel In Shanghai
- ★ Two Persons Awarded Shanghai Master Technician Studio
- ★ Ten Persons Awarded Chief Technician
- ★ Five Advanced Units & Six Advanced Individuals For Education & Training In The Steel Industry
- ★ Four Top Young Talents In Shanghai

Salary & Welfare



In 2018
Total Remuneration Paid
Amounted To

21.8
billion yuan

According to the strategic positioning and reform direction of the group, the Company's salary distribution further highlighted the orientation of "benefit and efficiency" and clarified the policy of "reducing staff without reducing salary and increasing staff without increasing capital". We emphasized the linkage between total wages and business performance to form a two-line regulation mechanism that links labor cost efficiency and employees' income growth. Total remuneration paid amounted to 21.824 billion yuan in 2018. And the Company deepened the reform of the salary system and highlighted the value of posts and performance orientation to realize the "salary based on posts" and "salary changes with posts". We pushed forward equity incentives for listed companies in an orderly manner, further strengthened market-oriented incentives and constraints, thus successfully completing the unlocking of the third batch of the first-phase restricted stock plan of BAOSTEEL, and successfully implementing the 2018 Stock Option Incentive Plan of Baosteel Packing. The stage summary of employee stock ownership pilot was completed, and the pilot experience of China Baowu in actively exploring the effective mode of employee stock ownership in the emerging strategic incubation industry with high uncertainty in the future was expounded, providing reference for further deepening and standardizing employee stock ownership in central enterprises.



ENTERPRISE ANNUITY

A total of 23 first-tier subsidiaries have joined the enterprise annuity plan, covering 104,531 people. The annuity management agencies adhere to the investment strategy of safety first, steady investment and strengthening supervision. In 2018, under the market environment where the A-share market continued to fall and the bond market was divided and unstable, we accurately predicted the trend, reasonably determined the allocation of major assets and successfully avoided the risk of market fluctuations. Through unremitting efforts throughout the year, we finally achieved a net value growth rate of 4.25%. At the same time, we continued to implement the service concept of the customer first, service first, and while maintaining a high standard of personalized web page and SMS service, we innovated service channels and arranged mobile terminal service system platform so as to provide comprehensive, multifunctional and convenient service.

Safety Protection

In 2018, combining the management theme of "focusing on integration, innovation and development", China Baowu further built a dual prevention mechanism of safety risk hierarchical control, and detection and treatment of hidden danger, and continuously promoted special tasks such as the troubleshooting and treatment of hidden dangers of major production safety accidents, and the safety treatment of metallurgical gas; we further strengthened the standardization of safety production and improved the quality of safety by relying on scientific and technological progress and technology pilot; we further carried out post safety risk description activities, and created an atmosphere of employee self-management and safety culture of mutual assistance among teams, so as to ensure occupational safety and health of employees and continuously improve the safety production management level of the Company.

SYSTEMATIC PLANNING OF SPECIAL GOVERNANCE ACTIONS, STRENGTHENING KEY SPECIAL SECURITY RISK CONTROL

We improved special governance on the safety of metallurgical gas. We investigated operation rooms and lounges in gas area, high temperature molten metal area and other dangerous areas.

We carried out special action to identify, investigate and deal with potential production safety accidents. The group issued Instructions for Rectifying Safety Hazards to supervise the rectification of major accident hazards and report the rectification progress to the relevant government departments.

We carried out special governance on the safety of high-temperature molten metal operations. Hidden dangers found out were rectified.

We improve the safety management of real estate rental sites. In view of the security risks faced by the real estate rental sites, and combined with their own characteristics of the sites, we carried out in-depth special rectification work.

We carried out expert diagnosis of the safety status of coal mine units. We engaged a third party to conduct safety diagnosis of the mines and all problems found were rectified.

We carried out practical training and special supervision of non-coal mine safety management. The problems found were uniformly included in the annual safety evaluation of subsidiaries.

UPGRADING CONTROL TO ENSURE THE "LONG TIME, FULL COVERAGE AND NON-STOP" SPECIAL SAFETY SUPERVISION FOR A LONG TIME, FULLY COVERED & UNINTERRUPTED

The Company adjusted the way of setting up the special supervision groups for safety management and promoted the "long time, full coverage and non-stop" safety supervision of all subsidiaries. Through the effective implementation of safety supervision, the accidents in the second half of the year were significantly reduced compared with the first half. All hidden dangers discovered have been rectified or the rectification plans have been made and is progressing as planned.

WITH CULTURAL GUIDANCE, CARRYING OUT THEMED ACTIVITIES SUCH AS EMPLOYEE SELF-MANAGEMENT & SAFETY PRODUCTION MONTH

The Company issued Guidance on Further Strengthening the Construction of Safety Culture, and held the 2018 Employee Safety Self-management and Safety Culture Construction Site Meeting in Wuhan Steel Group, so as to observe the effective practices and effects of implementing post safety risk description activities and further strengthening safety culture construction in grass-roots units.

SCIENTIFIC PROMOTION, CARRYING OUT A SPECIAL LABOR COMPETITION OF 3D INTELLIGENT MANUFACTURING & A LARGE SURVEY ON THE ESSENTIAL LEVEL OF PROCESS SAFETY

All units were required to adhere to the unity of problem orientation and goal orientation, and promote the implementation of relevant work plans of the Company. Employees were extensively mobilized to participate in special labor competition of 3D intelligent manufacturing, and the video system for observing safety behaviors was applied to the parts with frequent man-machine combined operation and frequent violation behaviors. We continued to make use of intelligent manufacturing to improve the level of safety essence and the safety environment of "3D" position, so as to achieve a significant improvement in safety environment and intelligent manufacturing and promote the continuous progress of enterprise operation.

STRENGTHENING THE FOUNDATION AND CONSOLIDATING THE BASIC CONSTRUCTION OF SAFETY PRODUCTION

Safety production training has been done well. During the year, the second phase of safety management and practice online training was carried out for newly appointed persons and managers responsible for safety production. A total of 1,450 people from 18 units participated in the training, with a qualified rate of 76.62%; the second phase of safety supervision and management online training for construction project supervisors and managers was implemented. A total of 916 people from 13 units participated in the training, and the qualified rate reached 82.21%; the third phase were conducted to improve the safety management ability of newly appointed team leaders, and 3,098 people from 16 units participated in the training; the number of people trained through online occupational health management knowledge increased greatly compared with previous years.

Taking Accident Accountability Seriously & Carrying Out Warning Education Activities

Two subsidiaries and seven management personnel under direct management of the group, which met the Company's accountability standards in 2018 were held accountable. We formulated and issued Safety Process Management Accountability Opinions and required hierarchical process accountability. For accidents of the previous year causing serious injuries, minor injuries and risks, the Company carried out safety accident warning and education activities carefully and had them included in relevant post risk description pertinently, in order to draw lessons from the accidents.

A MAJOR PRODUCTION SAFETY ACCIDENT HAPPENED

At 2:56 am on February 5, a gas leak at the No. 7 blast furnace of SGIS Songshan Co., Ltd. in Shaoguan Steel caused eight deaths, 10 injuries and direct economic loss of 11.75532 million yuan. In May, Shaoguan Municipal Government of Guangdong Province investigated and identified that the gas poisoning accident was relatively large and was a production safety responsibility accident. According to the Approval of the Shaoguan Municipal People's Government on the Settlement of the Major "February 5" Gas Poisoning Accident of SGIS Songshan Co., Ltd., two persons who died in the accident were exempted from accountability; the Public Security Organs took compulsory measures to four persons. In June, according to the suggestions on dealing with responsible persons in the official reply of the Shaoguan Municipal People's Government of Guangdong Province and the provisions of the Accountability Regulations of China Baowu Group Co., Ltd. and the Management Measures on Accountability of Safety Production Accidents, the group imposed relevant punishments on the four leaders directly in charge of Shaoguan Steel.

WORK INJURY ACCIDENTS IN RECENT THREE YEARS

Year	Injuries	Injury Frequency (Injuries In Million Man-Hours)	Injury Severity Rate (Lost Work Days In Million Man-Hours)
2018	34	0.10	198.73
2017	57	0.15	47.10
2016	70	0.18	102.03

Communication with Employees

OPENING FACTORY AFFAIRS & DEMOCRATIC MANAGEMENT

CHINA BAOWU WORKERS' CONGRESS 2018

On January 29, 2018, China Baowu held Workers' Congress. During the congress, the general manager's work report, 2017 Safety Production Management and 2018 Work Plan Report, 2017 Energy and Environmental Protection and 2018 Work Plan Report, and 2017 Report on the Operation and Management of Enterprise Annuity were listened to and deliberated, and 2017 Use of Educational Funds for Employees and 2018 Training Plan Report, 2017 Employees' Needs and Concerns Information Management Report, and 2017 Comprehensive Report on Democratic Management of Opening Factory Affairs were deliberated in the written form. The congress deliberated and adopted Resolution of Group Corporation Workers' Congress 2018.

"EMPLOYEE REPRESENTATIVES VISITING BAOWU" ACTIVITY

The "Employee Representatives Visiting Baowu" activity is an important carrier for workers' representatives to fulfill their duties, an opportunity to promote communication and mutual learning among all units in the group, and an important platform to promote the integrated development of China Baowu.

In October 2018, China Baowu held the Second "Employee Representatives Visiting Baowu" activity with the theme of "Visiting Baowu, Knowing Baowu

and Loving Baowu". All units inside or outside of Shanghai were organized and more than 180 delegates attended the activity. Ten subsidiaries including Wuhan Steel Group, BAOSTEEL, Bayi Steel and Shaoguan Steel also arranged one grassroots representative from outside Shanghai to participate in the activity in Shanghai. During the activity, the representatives listened to the special introduction of relevant units, inspected the scene and discussed with leaders of China Baowu.

SYMPOSIUM ON OPENING FACTORY AFFAIRS

In August 2018, on the occasion of the 20th anniversary of opening factory affairs, China Baowu held a symposium on the opening of factory affairs, and 155 representatives of the congresses at all levels heard such special reports as "business performance", "construction of Party conduct and clean government", "performance treatment and business expenditure of leaders", "safety management", "energy and environmental protection", "opening factory affairs and democratic management" of China Baowu in the first half year. China Baowu Trade Union gave feedback on the implementation of the suggestions made by representatives of China Baowu on the general manager's work report and other proposals during Workers' Congress 2018.

COLLECTIVE NEGOTIATION

China Baowu always put caring for employees in the first place. We listened to employees' opinions and suggestions by holding communication and dialogue meetings for headquarters staff and included strengthening collective contract management into the Company's deepening reform project. The company drew up the Guide for the Work of Collective Consultation to guide grass-roots units to further standardize the work of collective negotiation, improve the quality of collective negotiation and enhance the effectiveness of collective contracts. On March 1, 2018, China Baowu headquarters held an annual collective consultation meeting to review the 2018 collective contract draft of the group headquarters. Chen Derong, the then general manager of China Baowu, talked with the employees face to face. Taking the opportunity of consultation, China Baowu increased the amount of insurance for major diseases of employees and launched the self-purchase insurance plan for employees, which further enhanced employees' sense of acquisition, happiness and security.

In 2018, all independent employers within the group signed collective contracts through equal negotiation, and 100% of the employees were covered.





▲ International Women's Day symposium



▲ Exchange meeting between Group leaders and young employees



▲ Youth learning club

COMMUNICATION WITH FEMALE EMPLOYEES

During the International Women's Day on March 8, the Company held a commemorative symposium themed "Roses blooming, assuming responsibility", and commended the "Rose Cultivation Award" and "Rose Blooming Best Practice Award" for sharing the work experience and achievements of female employees. The women's working committees of trade unions at all levels carried out advanced tree selection activities for female employees to guide them to devote themselves to the integration process, and to support, participate in and fit in reform.

At the meeting, Shanghai Women's Civilization Posts of 2017 was awarded to 15 employees, and "Rose Blooming Best Practice Award" was granted to ten employees; and the 2016-2017 "Rose Cultivation" Award was granted to ten employees.



COMMUNICATION WITH YOUNG EMPLOYEES

EXCHANGE MEETING BETWEEN GROUP LEADERS & YOUNG EMPLOYEES

The 58 young employees spontaneously formed three theme exchange groups "Palace of Heavenly Purity" (mainly discussing the situation of society and the Company), "Imperial Study" (mainly discussing career development) and "Hall of Mental Cultivation" (talking about current living situation), and took turns to ask the leaders questions. The leaders answered 18 questions on such topics as the cultivation of young talents, how to stimulate young people to participate in political activities, and how to let young people share the achievements of enterprise development. Through the direct interaction between senior leaders of the group and young people in various industrial sectors, the Company aims to accurately grasp the situation and tasks of the enterprise for young employees, help them correctly view their career growth, and actively expand and smooth the channels for employees to express their demands.

YOUTH LEARNING CLUB

Relying on the teaching resources of Baowu Party School and Youth League School, the General Association of "Youth Center · Learning Club" in China Baowu was built, and through joint construction with the Communist Youth League Committee of Baoshan District Shanghai, Baoding Culture and Innovation "Youth Center · Learning Club" was established; within the scope of directly affiliated organizations, 19 organizations have set up 26 directly managed "Youth Center · Learning Clubs", which provide exclusive space for Baowu youth to study and exchange Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the spirit of the 19th CPC National Congress.

HEART-WARMING ACTIVITIES

In 2018, China Baowu organized the heart-warming activities themed "Keeping the employees in mind and bringing warmth to their families". During the Spring Festival and on New Year's Day, the Company allocated consolation payments of 1.12 million yuan to 23 units, and each unit invested 21.746 million yuan in the year; and leaders, managers and trade union workers at all levels visited 2,627 households of workers in difficulties, 36,691 workers who stuck to their posts during festivals, craftsmen, model workers, members of the support teams of Bayi Steel and Shaoguan Steel. Temporary cadres were sent to Tibet and Qinghai for poverty alleviation for 400 person-time. In the activity of helping students in autumn, China Baowu distributed 2,274,150 yuan of financial aid to 1,344 children of workers with financial difficulties.

STATISTICS OF ASSISTANCE FOR EMPLOYEES FROM 2016 TO 2018

Year	Total Beneficiaries	Total Amount (million yuan)	Consolation Money		Student Grant		Medical Assistance	
			Recipients	Amount (million yuan)	Recipients	Amount (million yuan)	Recipients	Amount (million yuan)
2016	64170	42.9	58622	31.0	2091	2.3	3457	9.5
2017	57624	37.6	52866	26.4	1817	2.3	2941	8.9
2018	58106	36.8	53070	32.3	348	0.5	4688	4.1

THREE "MOST" PROBLEMS (THE MOST PRACTICAL PROBLEMS OF INTERESTS THAT THE PEOPLE ARE MOST CONCERNED ABOUT AND THAT AFFECT THEM MOST DIRECTLY)

In 2018, the trade union of the group improved the "three most" management system for serving employees and strengthened the tracking and promoting of the system, which required that trade unions at all levels should specify the responsible departments and time nodes, and implement the reconstruction of the projects of "lounges, locker rooms, shower rooms, bathhouses, toilets" for employees and the working environment of the front-line employees. Within the year, 1,005 "three most" projects at the grassroots level were set up and 944 "lounges, locker rooms, shower rooms, bathhouses, toilets" were reconstructed or improved, including 459 lounges, 90 shower rooms, 72 locker rooms, 49 dining halls and 274 toilets.

Society

GATHER FOR KINDNESS AND PASS THE LOVE

Little drops of water make an ocean.
Pay love and harvest hope.
Great love is not an occasional emotional spark,
but a constant responsibility.

China Baowu, active and responsible,
gathers light and heat
and the power for good
to pass on the warmth of great love.



Introduction to Donation

In 2018, China Baowu standardized the approval process of donations and strengthened the tracking of donation projects in strict accordance with Administrative Measures on Outward Donations and Sponsorship and Notice on Strengthening Management of Donations.



China Baowu Made Donations of

107.0 million yuan

In The Year

Classification	Amount (million yuan)
Donations For Public Relief & Welfare	7.6
Poverty Alleviation, Helping The Needy & Construction Assistance	98.9
Donations for Education (helping students)	0.50
Donations for Culture & Sports	0
Other Donations	0
In Total	107.0

Community

SHANGHAI



BIG DATA EDUCATION PRACTICE

Ouyeel opened its exhibition hall resources to communities, universities and other sectors of society and held big data education practice, which have attracted nearly 700 visitors. Through sufficient communication, participants had a more comprehensive and clear understanding of B2B e-commerce, broadened their horizon and expanded their mind.

SERVICE CENTER RESTAURANT FOR THE ELDERLY

Baosteel Development Catering Management Company and Youyi Subdistrict in Baoshan District jointly set up "Service Center Restaurant for the Elderly", providing lunch and delivery services for the elderly at the Service Restaurant and 25 delivery sites in the Youyi Subdistrict. The daily supply involves about 250 customers, including about 120 customers for lunch delivery service. To meet the healthy diet needs of the elderly, the restaurant cook dishes with less oil and salt and pay attention to diverse tastes and reasonable nutrition collocation of meat and vegetables, which is well received by the elderly.

IMPROVING COMMUNITY ENVIRONMENT

BAOSTEEL launched the second round of "Three-year Donation Plan", donating 2.3 million yuan to Yuepu Town to improve its community environment and help the poor residents. The environmental improvement projects mainly included paving asphalt after repair of the main road of Leye Fourth Village, repairing damaged branch roads, greening reconstruction at front and back of the houses, ramps for the disabled, barrier-free handrails, etc. After the project, the roads in the old communities were repaired for convenient travel. Residents can not only have a good place to keep cool in summer and bask in the sun in winter, but also enjoy a public place for rest and recreation in the old communities. The residents sincerely appreciate that BAOSTEEL brings benefits to the surrounding communities and thumb up for BAOSTEEL's fulfilling its social responsibilities.



▲ Farmers are picking spring tea

FUJIAN

According to the requirements of Work Committee for Organizations directly under Fuzhou Municipal Party Committee for carrying out the targeted poverty alleviation of "double contacts and double poverty alleviation", the Party Committee of Baosteel Desheng went to Lingtou Village in Xilan Township and Shengtang Village in Jianjiang Town for poverty alleviation for two consecutive years. It helped Party organizations of poverty-stricken villages clarify their development ideas, explore development potential and find the right path for development, while providing services in starting businesses and employment. At the same time, it visited poor households and poor Party members' homes to learn their expectations and demands and tried to help them realize their "tiny wishes". In 2018, more than 20,000 yuan of living materials were distributed to poor residents.

GUANGDONG

Shaoguan Steel provided counterpart assistance to Zhangwu Village, Nanmu Town, Nanxiong City, Guangdong Province. In 2018, Shaoguan Steel donated one million yuan of industrial development funds to Zhangwu Village Committee and invested in the 137-mu tea planting industry project of Nanxiong Shanyushanjian Ecological Agriculture Comprehensive Development Co., Ltd., which has increased income of the village collective by 85,000 yuan every year. Shaoguan Steel also signed and absorbed 25 people with labor ability in 17 households to engage in agricultural production in the planting base. Through the one-year operation of the model "company + base + village collective + peasant household", a stable and sustainable long-term mechanism of increasing income has been established. Now every person in every poor household in Zhangwu Village can get a bonus of more than 500 yuan every year and realize the dream of being employed near their home. The sense of gain and happiness of poor villagers and households in Zhangwu Village continue to increase.



XINJIANG

The Party Committee of Bayi Steel earnestly implemented the spirit of the CPC Committee of Xinjiang Autonomous Region to carry out the work of "visiting the people, benefiting their livelihood and gathering their support" in the villages. In accordance with the work plan of "getting stable in one year, consolidated in two years, the basic norm in three years and comprehensively steady in five years" and based on the "visiting the people, benefiting their livelihood and gathering their support" village team in 2017, 71% of key team members have been retained and excellent team members have been enriched, with eight newly selected first secretaries for poverty alleviation. In total, 36 outstanding cadres have been stationed in villages. And the Party Committee has won the title of "excellent team of visiting the people, benefiting their livelihood and gathering their support" for four consecutive years.

In 2018, Bayi Steel invested nearly 2.2 million yuan for village work of "visiting the people, benefiting their livelihood and gathering their support", broadening the way to get rich, poverty alleviation through industrialization, subsidies for helping roofing houses for low-income urban residents, education assistance, construction of beautiful courtyards and cultural and sports centers. A total of 52 various specialized cooperatives for farmers were set up, including 12 in the four villages in Yuepuhu and 40 in the eight villages in Yingjisha, and more than 400 people from poor households got jobs. The business scope involves planting, forest and fruit, breeding, agricultural machinery, woodworking, convenient maintenance service, typing and copying, e-commerce, cross-stitch, processing of agricultural and sideline products, etc. The enterprise staff helped the villages sell 100 tons of grey jujube, walnut, mulberry and other crops in a year, contributing to their income increase by millions of yuan, and lifting 6,395 people in 1,277 households out of poverty. In 2019, all villages will be lifted out of poverty.



AUSTRALIA

In 2018, Aquila Resources Co., Ltd., a subsidiary of Baosteel Resources, actively participated in the community public welfare activities in Perth, Australia, donating 7,221.91 yuan to subsidize the activities of children in the community.

Contributions To The Society

POVERTY ALLEVIATION

China Baowu continued to intensify its efforts on targeted poverty alleviation in 2018. Remarkable progress was made in combating poverty with designated investment funds doubled compared with 2017. Ning'er County in Yunnan Province and Dingqing County in Tibet achieved poverty alleviation, and Zhenyuan County in Yunnan Province completed third-party evaluation. China Baowu's efforts on poverty alleviation in 2018 were rated as "Good" by the State Council Leading Group Office of Poverty Alleviation and Development.

For details, please refer to the special report on poverty alleviation (Page 38 in this report).

Baoshan Community and other related communities in Shanghai. To promote the joint construction of the Party, League and society, BAOSTEEL took the lead and signed the Three-year Joint Construction Plan of Social Enterprise Grass-roots Organization Grid with Party Committee of Yuepu Town. The 14 Youth League organizations under BAOSTEEL and the 31 residents' committees in Yuepu Town jointly carried out voluntary services.

PROMOTING THE MANAGEMENT & OPERATION OF "JOINT FUND FOR IRON & STEEL RESEARCH"

In 2018, China Baowu continued to work with the National Natural Science Foundation of China to promote the management and operation of the fifth agreement on "Joint Fund for Iron and Steel Research" and strengthened basic industry research and its application. We funded a number of key R&D projects and cultivation projects at the forefront of the industry, including six key research projects by the University of Science & Technology Beijing as "refining slag - liquid steel - slag inclusion - alloy - refractory materials - basic research on transient phenomena of nonmetallic inclusions in steel under the air multivariate system", and 14 exploratory cultivation projects by Shanghai Jiaotong University such as "research on basis and application of roll forming of ultrahigh strength car body structural members". By 2018, the "Joint Fund for Iron and Steel Research" had funded 254 million yuan (of which China Baowu contributed 127 million yuan).

VOLUNTEER SERVICE

Based on the spirit of "building a social governance pattern featuring joint contribution, governance and sharing" put forward in the 19th CPC National Congress and the work requirements of "unswervingly going to the communities" made by the superior Youth League, we, as an enterprise, carried out voluntary service work with local League organizations and communities to meet the needs of youth volunteer services and fulfill our social responsibilities to the public. We continued to organize grassroots Youth League organizations to provide 18 volunteer service projects in 7 categories, including respecting the elderly and helping the disabled, community service, protecting the environment, skill training, marriage and making friends, helping the poor and students, and financial lectures, to the residents of

SUPPORTING THE CONSTRUCTION OF THE ANTARCTIC SCIENTIFIC EXPEDITION PROJECT

The second phase of Taishan Station under the general contract of Baosteel Engineering is the first Antarctic project under snow in China. The construction started on December 26, 2018, the installation and debugging were completed on January 30, 2019 and the acceptance was completed on February 1, 2019, seven days ahead of the schedule. During the construction, the project team, overcoming the difficulties of extreme weather, short construction window period and limited construction conditions, successfully installed power generation, new energy, sewage treatment, snowmelt, remote unattended power supply and other systems under deep snow, and implemented a number of innovations in the construction process.



▲ The Antarctic scientific expedition project

Ecosystem

VISION MAKES THE FUTURE

New era, new opportunities
Co-growth and multi-ecology
To lead the high-quality development of steel industry,
we need a higher position and a global perspective,
a long-term vision and a more open attitude.

China Baowu creates a steel ecosystem,
driving development by technology,
promoting transformation by innovation,
optimizing competition by coordination,
creating value by service.



Serving The Construction of “Manufacturing Power”

DIRECT ECONOMIC PERFORMANCE

In 2018, the Company fully seized the opportunity of improving the market environment and intensified reform, innovation and transformation development and further deepened integration and exerted synergic effect to achieve high-quality development. The company seized the favorable opportunity to maintain the prosperous operation of the steel market in the first three quarters, gave full play to the advantages of high-end products and continued to promote the work of reducing cost and increasing efficiency, so as to further strengthen the internal integration benefit, promote the turnaround of key loss-making units and maintain steady growth of business performance. In 2018, the company completed steel production of 67.3 million tons, ranking the second among global steel enterprises, with total revenues of 438.6 billion yuan, total profits of 33.8 billion yuan, total assets of 711.8 billion yuan and net assets of 360.9 billion yuan.



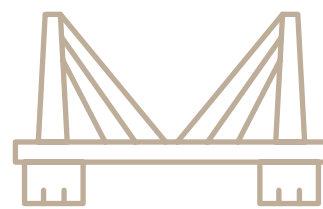
	2016	2017	2018
Total Revenues (billion yuan)	309.6	400.5	438.6
Total Operating Cost (billion yuan)	317.5	398.3	414.6
Total Profits (billion yuan)	7.0	14.3	33.8
Total Assets (billion yuan)	741.7	745.6	711.8
Owner's Equity (billion yuan)	337.2	343.5	360.9
Crude Steel Output (million tons)	58.5	65.4	67.3

KEY TECHNOLOGIES & CORE PRODUCTS



**HONG KONG
-ZHUHAI-MACAO BRIDGE**

The Hong Kong-Zhuhai-Macao Bridge, a national key project, was officially opened to traffic on October 24, 2018.



China Baowu raised the "Dragon on the Sea" with iron and steel, and a unique mark on the "Everest" bridge was left with the company's contribution to the appearance of the bridge.

As early as 2012, Wuhan Steel Group won the "first bid" of Hong Kong-Zhuhai-Macao Bridge. As the main raw material supplier of the steel structure, Wuhan Steel Group undertook the task of supplying 116,000 tons of pipe pile steel and 54,000 tons of "u-rib" steel.

The production, marketing and research teams of BAOSTEEL, Shaoguan Steel and other units increased cooperation and opened a green channel for providing 255,000 tons of thick plates, deformed steel bars, profile steel and other products for the key parts of the bridge, such as steel box girders, artificial islands, steel tower, guard rails, bridge piers and so on.

The cold-rolled enamel steel supplied by BAOSTEEL to Hong Kong-Zhuhai-Macao Bridge was used as decorative panels to adorn the tunnel side walls of the bridge. The product can be exposed to wind and rain for 30 years without fading, and it is featured with corrosion, fire and high temperature resistance, just 0.5 mm coating thickness. The coumarone products of Baosteel Chemical were used as additives on the surface coating of the bridge to make the paint film better in gloss, hardness, water resistance and alkali resistance.

BAOSIGHT took charge of the development and construction of bridge and tunnel system integration software platform of the Hong Kong-Zhuhai-Macao Bridge, providing intelligent core management software for the bridge and tunnel access management. This platform adopted

advanced BIM and routing display technology, and the independently developed integrated monitoring platform iCentroView and real-time database iHyperDB realized the core management of remote disaster recovery of dual management centers. Project monitoring reached 150,000 points.

LOW-TEMPERATURE SHIP PLATES COMPLETELY REPLACED BY DOMESTIC PRODUCTS

The LPG (VLGC) low-temperature steel plates independently developed by BAOSTEEL have broken the monopoly of foreign steel mills and realized the import substitution of low-temperature ship plates. Its control level of ultra-low temperature strength, toughness and bending strength ratio has reached the international level of similar products. It has been approved by 38 low-temperature steel factories of seven classification societies including ABS and obtained the only qualification of supplying 23kg - 40kg series of low-temperature steel in China. In addition, BAOSTEEL has also carried out in-depth research on user-end pyrotechnics, water-fire bending plates, thermoforming, cutting and other applied technologies and provided users with clear pyrotechnics and thermoforming specifications and guidance programs, helping users to use the key technologies.

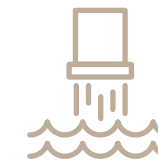
**Harmonious Co-Existence of
Cities & Steel Plants**

China Baowu is committed to redefining "urban steel plant" and making it an important "organ" of the city. In accordance with the principle of "higher than the standard, better than the urban area, and integrating into the city", and focusing on "ultra-low emission of waste gas, zero discharge of waste water, and no solid waste leaving the plant", we launched the "treatment of three wastes -- waste gas, waste water and solid waste", optimized the structure of energy consumption, strengthened innovation in low-carbon technologies, realized emission reduction from the source, and comprehensively improved the essence level of China Baowu's ecological and environmental protection. We also carried out the action of "cleaning, greening, beautification and culturalization" in an all-round way to build green urban steel plants.



ULTRA-LOW WASTE GAS EMISSION

- Transformation of sintering and coke oven flue gas configuration desulfurization and denitrification device;
- closed transformation of raw material field;
- treatment of volatile organic compounds.



ZERO DISCHARGE OF WASTEWATER

- Investigation of basic situation & key technology sourcing;
- comprehensive promotion of conventional wastewater reduction projects;
- pilot demonstration of key ground-breaking technologies.



SOLID WASTE NOT LEAVING THE PLANT

- Formulating the Special Action Plan on No Solid Waste Leaving the Plant;
- setting up an expert database for on-site inspection and assessment;
- building an information sharing platform;
- organizing and implementing special work training and on-site training.



For specific practices of urban steel plant, please refer to the special report—urban steel plant (Page 28 in this report).

Promoting Industrial Transformation & Upgrading

STEEL INTERNET PLATFORM SERVICE

In 2018, Ouyeel continued to further develop steel plants to consolidate the platform's primary resource advantage by greatly promoting the distribution of steel plants' spot resources on Ouyeel E-commerce Platform, while digging into the diversified demand of steel plants and users and promoting the innovative mode of pre-sale production capacity. Meanwhile, Ouyeel Good Steel APP, Liker Circle, Ouyeel Buying Helper, Niuren Selling Helper and other innovative products or models made breakthrough achievements. There were 12,082 cumulative trading users and 8,193 transaction users on Ouyeel E-commerce Platform in 2018.



The construction of logistics service capacity was deepened by focusing on promoting the operation of key logistics nodes, studying the modern technology application of Internet of Things, promoting platform-based operation coordination of transportation demand and resources of finished steel products in golden waterway and coastal areas, serving the "first kilometer", and building the "last kilometer" service capacity.

Direct financing of banks and other financial institutions was vigorously promoted by setting up Hwabao Trust active management projects and realizing direct financing with Huarui Bank. In the whole year, credit granting from financial institutions reached 800 million yuan and the service scale reached 670 million yuan.

Technological innovation and application were vigorously carried out in such fields as artificial intelligence, Internet of Things, big data and blockchain, which effectively supported the

improvement of the Company's operation and management capacity and the growth of business performance.

Shanghai blockchain and supply chain finance application demonstration project was undertaken through combining blockchain technology with supply chain finance of bulk commodity. Taking Baowu industrial chain and Ouyeel ecosystem as the scene, a new financial service platform of industrial chain based on blockchain was developed to provide flexible, efficient and low-cost financial services for customers in the whole process of the industrial chain.

The scene and digital marketing were enhanced. We comprehensively spread the promotion of CRM and other Internet marketing tools in the Company and found out more potential marketing opportunities by embedding key business processes, mining and maintaining information of users, and also started to apply it outside of Ouyeel by optimizing and improving the application.

URBAN INTELLIGENT TRANSPORTATION

BAOSIGHT takes it as its own responsibility to help the construction of intelligent city and adheres to the tenet of intelligence, stability and orderliness, green environmental protection, and efficient collaboration. Intelligent engineering, Internet of Things, cloud computing and other technologies are used to build a full-level intelligent rail transit control system and management platform, a platform for application and service of urban intelligent management, and a practical platform for public security traffic based on big data analysis. The business capacity involves many professional fields and has the leading cross-industry integration ability.

In March 2018, the comprehensive information platform software for Shanghai Pudong Traffic Police No. 1 Brigade undertaken by BAOSIGHT was launched, providing an advanced management platform and technical means for the traffic management in Lujiazui Area, the most important area of Shanghai Pudong New Area. The platform adopts AI video analysis technology to provide new means of intelligent discovery and quick alarm for emergency incidents passing through the five tunnels and one bridge in Lujiazui Area. With big data computing and application platform, new functions as duty management, muck truck management, congestion investigation and judgment, and disordered points management have been realized, assisting traffic police to improve management, work efficiency and guarantee ability.

Developing With Suppliers Together

BUILDING & SHARING THE PROCUREMENT PLATFORM

The connotation of sunshine procurement of China Baowu is further developed and extended in the new situation. It is no longer limited to online purchase or bidding procurement, but an open co-construction and sharing ecosystem integrating buyers, suppliers, bidding companies, third-party trading platforms, third-party payment and other organizations. All parties, market-oriented, follow the principles of efficiency, synergy and win-win and play their respective roles. Each subsidiary independently carries out procurement business on the trading platform. Trading platforms and bidding agencies provide quality services and keep trade secrets for the parties. The group is in charge of system architecture, organization and coordination, evaluation and supervision and does not interfere in the specific procurement of subsidiaries.

THE PROCUREMENT PLATFORM BASICALLY REALIZED FULL BUSINESS COVERAGE OF ALL SECOND-TIER COMPANIES

Ouyeel Procurement Platform is the only sunshine procurement platform in the group, but also the sharing platform integrating superior resources within the group. China Baowu advocates the idea of co-building and sharing and strongly promote business development. By building a unified procurement sharing service platform within the group, a perfect third-party procurement management service system is built to realize sharing and coordination of procurement services within the group. On the premise of authorization and following business rules, the economic benefits of sharing service can be improved through analyzing and mining the procurement business big data in the group.

In 2018, Ouyeel Procurement Platform basically achieved the comprehensive business coverage of all second-tier companies within the group. By the

end of December 2018, the group had 337 domestic subsidiaries (excluding the companies that have been included in the reduction plan and those without substantial procurement business), among which 328 opened accounts, accounting for 97.32% of the total, and 322 carried out online procurement business, accounting for 95.83% of the total. By the end of December, the total turnover of the procurement platform's independent sourcing and bidding reached 83.469 billion yuan, with a year-on-year growth of 68%.

BAOSTEEL HAS MADE NEW ACHIEVEMENTS IN THE CONSTRUCTION OF PROCUREMENT & SUPPLY INFORMATION SYSTEM

The procurement information system of BAOSTEEL covered Wuhan Qingshan Base in the middle of 2018. With the unified information system, the four bases had thus achieved the unification of article code, suppliers and other basic information and the main flows of procurement and supply, and the procurement and supply operating in the same system. The "unified platform, unified language and unified process" of the procurement information system has laid a foundation for the sharing of procurement information and resources. Massive procurement data can be customized to generate various statements including basic management, cost, efficiency, etc.

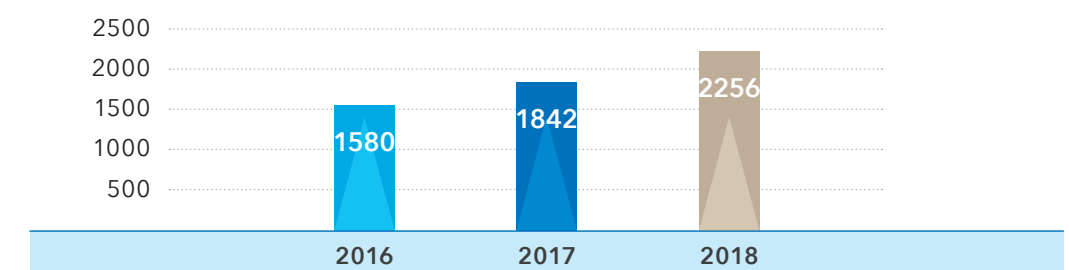
These timely statements not only greatly promoted collaborative procurement and benchmarking management improvement between the bases, but also provided effective support for procurement decisions. In 2018, the purchasing information system continued to improve the function and developed a mobile application (APP) for procurement approval. Ouyeel Mall Baosteel Zone, connecting Jingdong and other well-known external e-commerce companies, not only expanded the procurement channels, but also improved the user experience. More importantly, it achieved the interconnection of internal and external resources, opened the door of the management reform from traditional procurement to Internet + procurement, and started the engine of intelligent procurement construction.

Among the suppliers that quoted prices on the procurement platform of Ouyeel in 2018, 1,724 suppliers obtained ISO14001 System Certification, accounting for 8% of the suppliers that quoted prices in the whole year.

Among the bid-winning suppliers, 1,371 suppliers obtained the System Certification, accounting for **11%** of the bid-winning suppliers in the whole year.

SUPPLIERS' SYSTEM CERTIFICATION

The suppliers on the procurement platform of Ouyeel obtained this certification from 2016 to 2018 are shown in the Figure below:



SUNSHINE PROCUREMENT

China Baowu actively organized the procurement units at all levels of the group to conduct self-inspection on the construction of the purchasing management system, aiming to improve the management system and standardize the procurement behavior. In 2018, the company continued to deepen sunshine procurement in the group, especially in the newly integrated business units. Through Ouyeel Procurement Platform, we realized the public display of procurement resource information in advance, the consistency assurance of supplier qualification and the data record and tracking of procurement information, so as to ensure open, transparent and standard procurement. Meanwhile, information means was introduced to supervise the exercise of power and effectively avoid the moral hazards in transactions to create a more fair and just procurement competition environment for suppliers.

SUNSHINE PROCUREMENT PROMOTES FULL COMPETITION TO ACHIEVE A WIN-WIN SITUATION BETWEEN THE SUPPLYING & DEMANDING PARTIES

China Baowu requires procurement units at all levels to provide open sourcing services to all suppliers of the platform. On the one hand, more high-quality suppliers will get opportunities in the fair competition environment; on the other hand, the competition in

price, quality and service among suppliers will be strengthened. The proportion of public procurement increased significantly in 2018 compared with that in 2017, with the public procurement units increasing from 104 in 2017 to 184 in 2018. In 2018, a total of 19,000 public procurement transactions were made, accounting for 15% of the total (5% in 2017) and 12.506 billion yuan was traded, accounting for 18% of the total trading volume (11% in 2017).

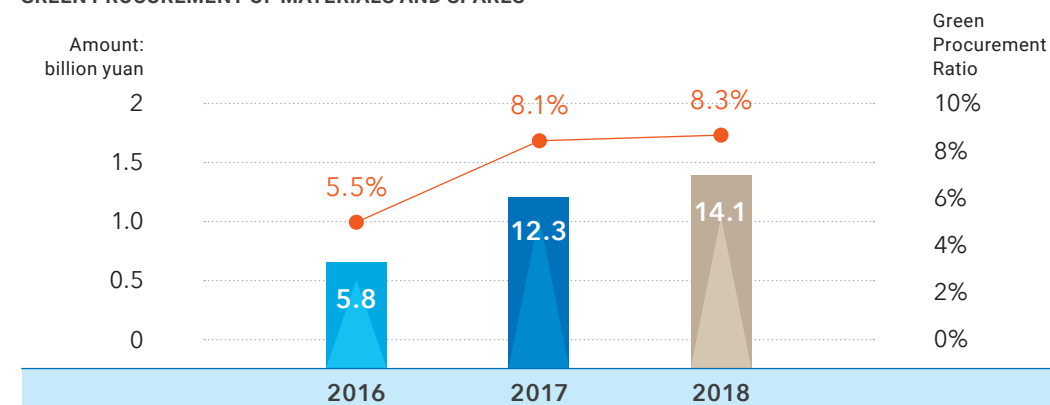
SUNSHINE PROCUREMENT PROMOTES RISK PREVENTION TO KEEP POWER UNDER CONTROL IN THE SYSTEM

Relying on Ouyeel Procurement Platform, China Baowu has realized tracing management and digital monitoring of the procurement process, and ensured that all resources are controlled in the system, all businesses are operated in the system, all powers are realized in the system, and all information is traceable in the system. The precaution and analysis functions provided by the platform can effectively prevent risks. For example, the functions of examination and recognition provided by the platform can prohibit two or more enterprises from quoting for the same inquiry sheet with the same legal person; the platform records and analyzes the quotation of suppliers to prevent the risk of colluding behavior in bidding; the platform provides online coordination between the procurement departments and suppliers in the whole procurement process, which not only improves the procurement efficiency, but also strengthens the monitoring of procurement behavior.

GREEN PROCUREMENT

In 2018, the green procurement ratio of materials and spares of the three bases of BAOSTEEL was 8.3%. The identified materials and spares through green procurement can be checked in the column of "green procurement" on Baowu Electronic Procurement Platform. In the past three years, the ratio of performance data of green procurement of materials and spares at the three bases of BAOSTEEL are shown in the figure below:

THREE BASES OF BAOSTEEL: BAOSHAN BASE, DONGSHAN BASE, MEISHAN BASE
GREEN PROCUREMENT OF MATERIALS AND SPARES

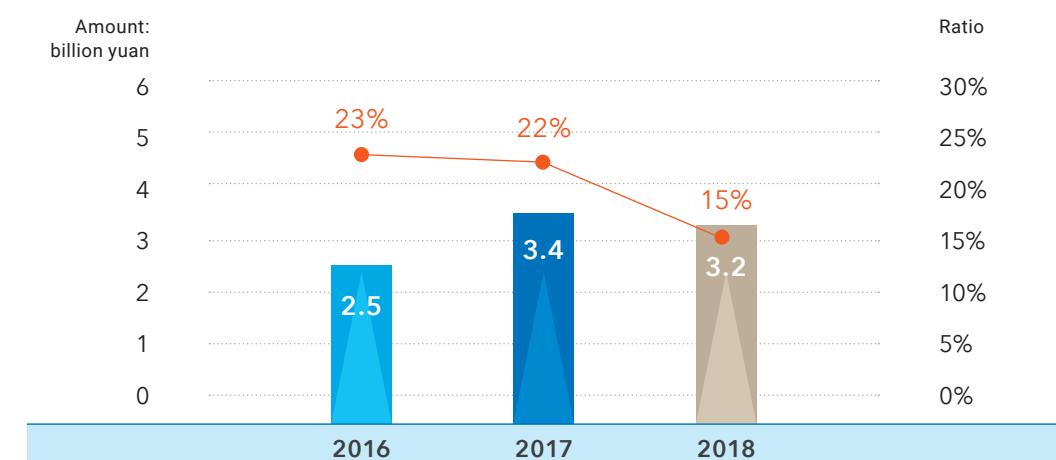


① Meishan Steel is not included in the data in 2016.

PROCURING FROM SMALL & MEDIUM-SIZE ENTERPRISES & LOCAL PROCUREMENT

In 2018, BAOSTEEL incorporated engineering equipment into the procurement management of small and medium-size enterprises for the first time. In the past three years, the performance data of the three bases of BAOSTEEL purchasing equipment and materials from small and medium-size enterprises are shown in the figure below:

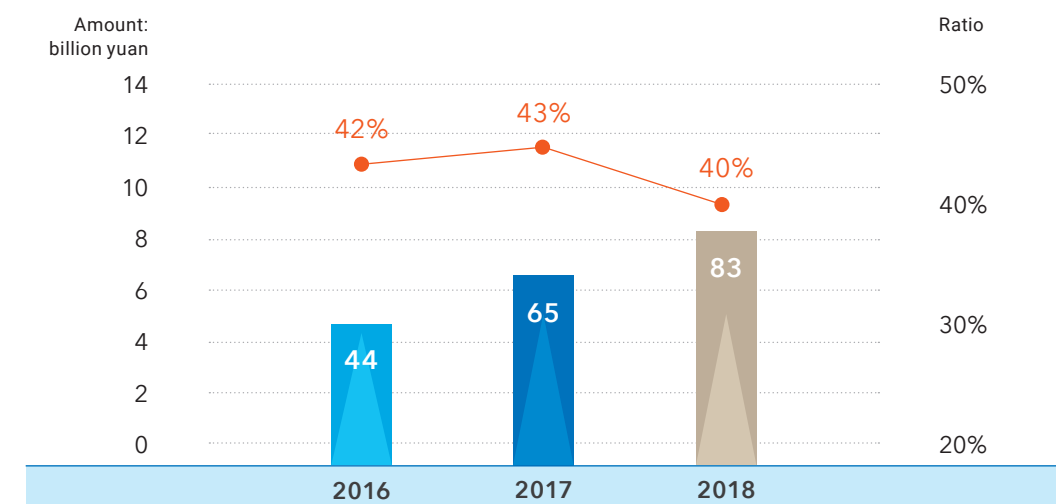
THREE BASES OF BAOSTEEL: BAOSHAN BASE, DONGSHAN BASE, MEISHAN BASE
PROCURING EQUIPMENT & MATERIALS FROM SMES



① With reference to Provisions on Classification Standards for Small and Medium-sized Enterprises (MIIT LQY (2011) No. 300), the enterprises with a registered capital of less than or equal to RMB 10 million yuan shall be defined as SME suppliers.

In 2018, BAOSTEEL incorporated engineering equipment into local procurement management for the first time. In recent three years, the overall performance data of local procurement of materials and spares of the three bases of BAOSTEEL are shown in the figure below:

THE OVERALL PROCUREMENT OF EQUIPMENT AND MATERIALS OF THREE BASES OF BAOSTEEL:
BAOSHAN BASE, DONGSHAN BASE, MEISHAN BASE



Service Creates Value

OVERSEAS NETWORK LAYOUT

22

Countries
& Regions

28

Service
Outlets

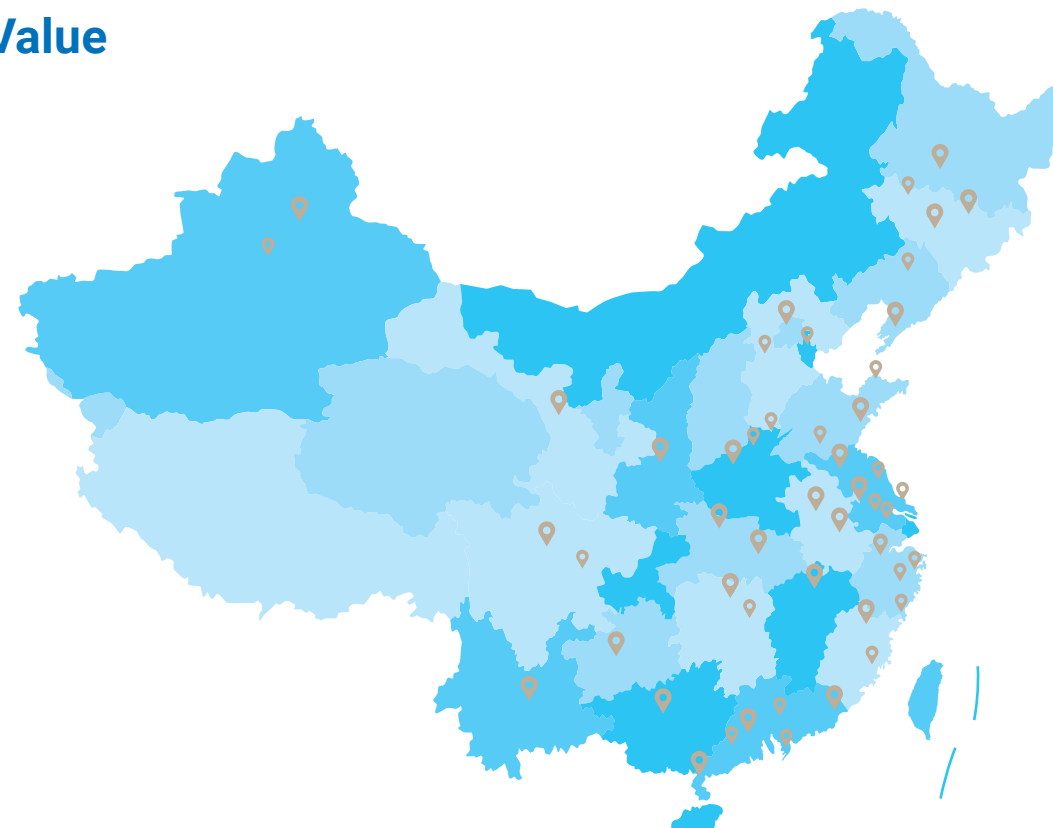
DOMESTIC NETWORK LAYOUT

51

Large
& Medium-Sized
Cities

117

Marketing
Outlets



User Service Tools

CUSTOMER SATISFACTION SURVEY

In 2018, BAOSTEEL's satisfaction management of domestic customers adopted a comprehensive evaluation system combining subjective and objective factors to comprehensively reflect customers' satisfaction with Baosteel products and services, which aims to continuously improve customer's satisfaction and enhance its capability on production, R&D, and marketing.

The overall evaluation of domestic customer satisfaction of BAOSTEEL in 2018 was good, with an annual average score of

92.29 points

higher than the annual target value 91 points.

	Objective	Performance In The 1st Quarter	Performance In The 2nd Quarter	Performance In The 3rd Quarter	Performance In The 4th Quarter
2016	91	91.72	91.54	91.15	91.97
2017	91	91.96	91.63	91.97	91.99
2018	91	92.45		92.12	

! From 2018, the frequency of the customer satisfaction survey of BAOSTEEL has been changed to once every half a year.

CUSTOMER SERVICE HOTLINE

Through continuous improvement, BAOSTEEL Call Center has gradually evolved from a traditional service hotline into a "one-stop" service center integrating customer information collection, service instruction triggering and service process monitoring. With the advent of the era of all-media, BAOSTEEL has timely upgraded the call center seat software and the access channels of voice and WeChat and diversified multimedia service means have been realized. The newly added service functions and rich service means effectively provide customers with high quality, high efficiency and all-round services, which makes BAOSTEEL Call Center gradually expand from business consulting to service value-added and technical marketing. And the business scope has covered the products of Baoshan, Dongshan, Meishan and Qingshan Bases.

In 2018, the Call Center received 19,395 calls from users in 250 working days. The average number of calls from users was about 78 per day, with an average connection rate of 98.55%; the immediate satisfaction rate of the hotline was 100%, all satisfied.

HONOR BESTOWED BY USERS

Awarded by	Award Name	Awarded to (unit/product)
General Motors	Global Supplier of 2017 (for the 5 th time)	BAOSTEEL
Zhengzhou Nissan	Excellent Supplier (13 consecutive year)	BAOSTEEL
Great Wall Motor	True Partnership Award (6 consecutive year)	BAOSTEEL
Haier	"Gold Rubik's Cube" Award (3 consecutive years)	BAOSTEEL
Daikin Air Conditioning	Chinese Partner (the only domestic supplier of steel raw materials with Daikin Global Partner)	BAOSTEEL
German Benz	China's first supplier of steel materials to Mercedes-Benz Headquarters in Germany	BAOSTEEL
Jiangxi Isuzu Automobile	Excellent Supplier (4 consecutive year)	BAOSTEEL
Haier Water Heater	Best Partner Award of 2017	BAOSTEEL
BENTELER	Best Supplier of the Year	BAOSTEEL
Lingyun Industrial	Best Supplier of the Year	BAOSTEEL
FAW Hongqi	Hongqi Award	BAOSTEEL
Jiangling Motors	Excellent Supplier of 2018	BAOSTEEL
Dongfeng NISSAN	Excellent Supplier of 2018	BAOSTEEL
Ruizhi Group	Strategic Partner Award	BAOSTEEL
DONGFENG Commercial Vehicle	Best Supplier of 2018	BAOSTEEL
Changan Ford	Excellent Supplier Award of 2018	BAOSTEEL
Honda Motor	Excellent Supplier of the Year	BAOSTEEL
PSA Peugeot Citroen	Excellent Supplier of 2018	BAOSTEEL
Midea	Sincere Cooperation Award of 2018	BAOSTEEL
GAC TOYOTA MOTOR	Special Contribution Award of 2017	BAOSTEEL
GAC TOYOTA MOTOR	Excellent Quality Award of 2017	BAOSTEEL
Liuzhou Wuling	Excellent Supplier of 2017	BAOSTEEL
Southeast Automobile	Excellent Supplier of 2017	BAOSTEEL
Wuling Automobile	Excellent Supplier of 2018	Shaoguan Steel
Heineken	Best Partner of 2017	Shanghai Baoyi Can Making
Shanghai Shen-Mei	Best Supplier of 2017	Shanghai Baoyi Can Making
Zhongwang Holding	Excellent E-commerce Service Platform	Ouyeel Resources
Dongling Group	Excellent E-commerce Service Platform	Ouyeel Resources

Appendix

Focusing on 2018

MAIN AWARDS

- ★ China Baowu ranked 12th on Fortune's "Most Admired Chinese Companies" All-star List of 2018, greatly improved from last year's 65th. Meanwhile, China Baowu is at the top of the Metal Industry List.
- ★ China Baowu won the honorary title of donation enterprises of the 10th "China Charity Award".
- ★ China Baowu's poverty alleviation efforts were rated as the first ranking "Good" by the State Council Leading Group Office of Poverty Alleviation and Development.
- ★ In the activity of recommending the "China Enterprise Reform Medal of 40 Years of Reform and Opening up and Enterprises with Outstanding Contributions to China's Reform and Development" by China Enterprise Reform and Development Society, CHINA BAOWU STEEL GROUP CORPORATION LIMITED was awarded as an enterprise with outstanding contributions to China's reform and development in the past 40 years of reform and opening up.
- ★ The office district of Meishan Steel, Meishan Steel Energy and Environmental Protection Department, and Meishan Steel Iron Works of BAOSTEEL and Baosteel Chemical Meishan Branch Company were awarded "Shanghai Garden Unit" of 2015-2017.
- ★ Wuhan Steel Group Gas Company and Baosteel Packing Yintie Branch Company won the title of "National Safety Culture Construction Demonstration Enterprise" of 2017.
- ★ The Ministry of Commerce of the People's Republic of China issued Publicity of Evaluation Results of National Pilot Cities and Enterprises for Supply Chain Innovation and Application, and Ouyeel was the only steel e-commerce businesses selected.
- ★ The development and application project of Baosteel Car Body (BCB) won the "Service Manufacturing Demonstration Project" Award by the Ministry of Industry and Information Technology.
- ★ BAOSIGHT was awarded the "Top Ten Innovative Software Enterprises of 2018" by China Software Industry Association.
- ★ BAOSIGHT was awarded "Information System Integration and Service Industry Major Backbone Enterprises of 2018" by China Electronic Information Industry Association.
- ★ BAOSTEEL is listed on the "Top 50 Boards of Directors in China" jointly conducted by Fortune and Aon Hewitt China for the first time.
- ★ BAOSTEEL won the first place in the "Best Investor Relations Company" of the Basic Materials Group of the "Asia-Pacific Corporate Management Team" selected by the authoritative financial magazine Institutional Investor in 2018.
- ★ In the International Federation of Consulting Engineers (FIDIC, Fédération Internationale Des Ingénieurs Conseils) Global Infrastructure Conference held in Berlin, Germany, BAOSTEEL Zhanjiang Steel Base's project won FIDIC "Excellence Award", which was the only industrial project in China (excluding Hong Kong, Macao and Taiwan) to win the award.
- ★ Hwabao Securities won Best Targeted Poverty Alleviation Program Award of 2018 by the China Securities and Futures Industry.
- ★ BAOSTEEL Trade Union was awarded the title of "2018 Yunnan Province Poverty Alleviation Advanced Collective".
- ★ Baosteel Packing won the title of "Excellent Packaging Enterprise in Shanghai" issued by Shanghai Packaging Technology Association.
- ★ Baosteel Resources Holding (Shanghai) C., Ltd. was awarded the title of "The Second Batch of Trading Headquarters Enterprises in Shanghai" by Shanghai Municipal Commission of Commerce.

Chronicle of Events

JANUARY

2018

January 1

The world's first ultra-clean equipment that can realize dry cooperative treatment of many pollutants in sintering flue gas—No. 3 Sintering Machine of Meishan Steel passed the operation examination and entered the formal operation stage.

January 8

2017 National Science and Technology Award was announced and three cooperation projects of China Baowu won the Second Prize of 2017 National Science and Technology Progress Award, including "Research and Application of Key Anti-seismic Technology for Industrial Buildings" mainly developed by Baosteel Engineering, "R&D and Application of High Efficiency, Energy Saving and Environmental Protection Sintering Technology and Equipment" mainly developed by BAOSTEEL, and "Research and Application of Island Main Equipment Material Technology of Pressurized Water Reactor Nuclear Power Plant Nuclear" mainly developed by Baosteel Special Steel.

FEBRUARY

2018

February 6

The railway for Zhanjiang Steel was officially opened, marking the completion of Donghai Island Railway in Zhanjiang. The total investment of Zhanjiang Steel Base railway supporting project is 690 million yuan and the railway line is 1.6 kilometers. The project began in December 2016 and the whole railway line was completed in December 2017 and the acceptance inspection was completed in February 2018.

MARCH

2018

March 15

The signing ceremony of university-enterprise cooperation between China Baowu and Wuhan University of Science and Technology was held in Wuhan University of Science and Technology. The "China Baowu · Wuhan University of Science and Technology Joint Engineering Research Center for Carbon Materials" jointly built by China Baowu and Wuhan University of Science and Technology was unveiled.

March 23

The 2017 Shanghai Science and Technology Awarding Conference was held at the Friendship Hall of Shanghai Exhibition Center for commending the scientific and technological workers who have made outstanding contributions to Shanghai's scientific and technological innovation and economic and social development. The project of "R&D and Application of Digital Precise Detection and Alignment Technology for Power Generation Control Equipment of Power Plants" led by Hong Hua, an expert of BAOSTEEL Power Plant and the project of "Longevity Comprehensive Maintenance Technology and Application of Blast Furnace Hearths" led by Miao Weiliang, an expert of Blast Furnace Technology of BAOSTEEL Iron Works won the Third Prize of Shanghai Science and Technology Progress Award. The "Key Technology and Application of Soil Pollution Control and Remediation in Urban Redevelopment Sites", jointly developed by Baowu Environmental Technology and Shanghai Academy of Environmental Sciences won the First Prize of Shanghai Science and Technology Progress Award. "Research and Application of Key Technology for Abnormal Operation Security of Urban Rail Transit" jointly developed by BAOSIGHT, Shanghai Shentong Metro Group Co., Ltd. and other companies won the Second Prize of Shanghai Science and Technology Progress Award. The "Technology and Application of Economic Operation and Load Dispatching Optimization of Large Thermal Power Units" cooperated by BAOSTEEL and Shanghai University of Electric Power won the Third Prize of Shanghai Science and Technology Progress Award.

March 27

China's first intelligent liquid molten metal traveling crane in Steel Works of Meishan Steel was put into production.

March 28

The world's first large-scale blast furnace control center independently built by BAOSTEEL was put into operation in the Iron Works, which successfully realized the centralized operation control and production management of the four blast furnaces, and it can provide remote technical support for the blast furnaces at the other three bases (Meishan Steel, Zhanjiang Steel, and Wuhan Steel Group).

APRIL

2018

April 19

Baosteel America Technical Service Center was established in the Headquarters of Baosteel America Co., Ltd. in Montville, New Jersey. America Technical Service Center focuses on five major aspects: technical marketing, assisting in product certification, assisting in ultra-high strength steel assessment, dealing with customer service and complaints and objections, and tracking new development of steel manufacturing and application in North American.

April 29

The largest and most intelligent steel product warehouse in China with complete intellectual property rights, independently developed by the Transportation Department of BAOSTEEL and BAOSIGHT science and technology personnel and covering an area of more than 60,000 square meters, was put into use in the factory directly under BAOSTEEL.

April

Baosteel Elegant Art Award was terminated. The award, established in 1993, with investment of 8.428 million yuan, awarded or supported 61 outstanding works, 249 outstanding literary and art workers, 19 outstanding literary and art groups and 10 relevant units.

In the same month, BAOSTEEL's 1580 Hot Rolling Coiling Temperature Control Model with "intelligent decision-making ability" was put into use. In May, the precision of 1580 Hot Rolling Coiling Temperature Control exceeded the international first-class benchmarking enterprises and reached the world's leading level.

MAY

2018

May 8

The 2018 Paris International Invention Exhibition came to an end and all the eleven innovation achievements by front-line staff brought by China Baowu's delegation were awarded, including 4 silver awards and 7 bronze awards.

On the same day, Hao Peng, Party secretary of the State Council SASAC came to China Baowu Headquarters in Wuhan for investigation and survey.

May 23

Li Qiang, member of the Political Bureau of the CPC Central Committee and secretary of Shanghai Municipal Party Committee, accompanied by Chen Derong, general manager and deputy secretary of the Party Committee of China Baowu, visited the factories directly under BAOSTEEL and heard the report on "intelligent manufacturing" and "urban steel plant". Li Qiang affirmed the enterprise's efforts to overcome key technologies and equipment, implement intelligent and clean transformation, and encouraged BAOSTEEL to play a role as a benchmark enterprise to do a good job in energy conservation and environmental protection with the highest standards and best levels in the international steel industry and to make new achievements for Shanghai's green mountains and rivers, reform and development.

May 31

The signing ceremony of the strategic cooperation framework agreement between China Baowu and Fuzhou Municipal People's Government was held in Fuzhou, Fujian Province. In the future, the two sides will give full play to their respective advantages to build a mutually beneficial and win-win strategic partnership of sustainable development and jointly build a world-class and domestic leading high-end steel manufacturing base of stainless steel and special steel.

JUNE

June 1

The production line of the steel mill of Baosteel Stainless was shut down.

June 6

The hot rolling mill of Baosteel Stainless was shut down after rolling the last piece of steel.

June 20

The (15th) "World Brand Conference" sponsored by World Brand Lab was held in Beijing, where the analysis report of China's 500 Most Valuable Brand of 2018 was released. China Baowu's brand value was 68.615 billion yuan, ranking the 52nd, the most valuable brand in the steel industry.

June 29

Shanghai Ore International Exchange Center controlled by Baosteel Resources, together with Xiben New Line Stock Co., Ltd. and Shanghai OTC Commodity Derivatives Association, jointly released the price indexes of imported iron ore of China (Shanghai) Free Trade Zone. After the launch of the indexes, it will give full play to the authority, scientificity and practicality of iron ore pricing in RMB and help build a domestic iron ore trading market for China's steel industry chain inside the territory while outside the customs.

June 30

China Baowu issued a document to clarify the establishment and operation mode of China Baowu Headquarters in Wuhan. As the regional headquarters of China Baowu, Wuhan Headquarters performs regional development, regional supervision, regional communication, regional service and regional special work on behalf of China Baowu Headquarters.

JULY

2018

July 10

The US Fortune's Chinese website released the 2018 List of Top 500 Listed Chinese Companies. BAOSTEEL ranked 24th with operating revenue of 289.4 billion yuan in 2017, Shaogang Steel Songshan ranked 283rd, and Bayi Steel ranked 430th.

July 19

China Baowu ranked 162nd among the World's Top 500 Companies with revenue of \$59.255 billion dollars in 2017, up 42 places from the previous year, ranking the second among global steel companies, according to Fortune Global 500 List.

On the same day, the management right of Guangxi Steel Group Co., Ltd. was transferred to Guangxi Liuzhou Iron and Steel Group Co., Ltd by Wuhan Steel Group, which marked that the Guangxi Fangchenggang Steel Base project changed owners. On the same day, the Management Right Transfer Confirmation Meeting was held and the registration with the industrial and commercial authority was completed.

On the same day, the Hot Dip Aluminizing Zinc Unit of BAOSTEEL Huangshi Company Xingang Project was put into operation. The first roll of 55% aluminized zinc finished products successfully rolled off the production line. The unit has an annual capacity of 200,000 tons, product thickness of 0.25 ~ 1.2 mm, width of 700 ~ 1250 mm, and coating of 60 ~ 180 g/m².

AUGUST

2018

August 1

The newly built secondary cold rolling unit and tin-chrome collinear unit of BAOSTEEL Tinplates Plant successfully trial-produced secondary cold rolled rollers and chrome-plated rollers and entered the thermal load test phase.

August 20

The groundbreaking ceremony of the 100,000 tons of ultra-high power graphite electrode project jointly built by Baosteel Chemical and Fangda Carbon New Materials Technology Co., Ltd. in Lanzhou Economic and Technological Development Zone of Gansu Province was held. The project covers an area of 66.67 hectares (1,000 mu) with a total investment of 2.7 billion yuan (among which Baosteel Chemical holding 51% and Fangda Carbon New Materials Technology Co., Ltd. holding 49%). It is planned to be fully completed and put into production in 2020.

August 24

Baosteel Engineering signed a contract with the China Polar Research Center under the Ministry of Natural Resources, and Baosteel Construction System Integration Co., Ltd. under Baosteel Engineering contracted the construction of Phase II of Taishan Station in Antarctica.

August 27

Li Liang, an employee of the Department of Energy Management and Environmental Protection, Meishan Steel, won the gold medal with his teammates in the Bridge Mixed Team Event of the 18th Asian Games in Jakarta, Indonesia, with a total score of 122.67 to 70 over Thailand Team. It was the first gold medal of Chinese bridge game in the history of the Asian Games.

SEPTEMBER

2018

September 2

China Enterprise Confederation and China Entrepreneurs Association released the list of "Top 500 Chinese Enterprises of 2018" in Xi'an, Shaanxi Province. China Baowu ranked 38th, up six places from the previous year, and ranked first among 47 companies in the steel industry.

September 6

Hao Peng, Party secretary of the State Council SASAC, went to Jiangdang Township, Sangzhu District, Xigaze City to conduct field investigation on the plateau fabricated steel structure model house project built by China Baowu and listened to the report by China Baowu' cadre Fan Guangjie on China Baowu's aid to Tibet.

September 13

The first professional capital operation platform focusing on metallurgical industry in China—Hwabao Metallurgical Assets Management Co., Ltd., jointly set up by China Baowu, China Orient Asset Management Co., Ltd. (hereinafter referred to as China Orient), Ansteel Group Corporation Limited (hereinafter referred to as Ansteel Group) and Masteel Group Investment Co., Ltd. (hereinafter referred to as Masteel Investment) under Masteel (Group) Holding Co., Ltd. (hereinafter referred to as Masteel Group), was unveiled. The four shareholders contributed a total of 2 billion yuan, with China Baowu holding 37.5%, China Orient and Ansteel Group holding 25% each, and Masteel Investment holding 12.5%.

On the same day, the Ministry of Civil Affairs issued the Decision about Commending Recipients of the 10th China Charity Award and China Baowu won the 10th China Charity Award (donated enterprises). China Charity Award is the highest government award in the field of public charity in China.

September 15

The Xingang Project No. 1 Color Coating Unit of BAOSTEEL Huangshi Company began thermal load operation.

September 25

The US Fortune (Chinese Edition) released the results of "Most Admired Chinese Companies" of 2018, and China Baowu ranked 12th on the "Most Admired Chinese Companies" All-star List and ranked first in the metal industry list.

OCTOBER

2018

October 26

Harvard Business Review Chinese Edition held the Fifth Annual Meeting in China and the Second Ram Charan Management Practice Award in Beijing themed "New Technology and New Management" and BAOSTEEL won the "Special Award for 40 Years' Management Practice of Reform and Opening up".

October 30

The 7th BAOSTEEL Academic Annual Conference themed "Green Steel, Intelligent Manufacturing" opened at the Central Research Institute of China Baowu, and more than 350 business leaders, industry elites, experts and scholars from industry associations, steel enterprises, research institutes and universities from 21 countries and regions attended the conference.

NOVEMBER

2018

November 1

The first-phase project of Wuhan Steel Group's manufacturing management system was put into operation, marking the integration of Wuhan Steel Group's manufacturing system (strip steel production line, iron area resources) and transportation management system into BASOSTEEL's integrated system.

November 3

The appraisal meeting of 2018 Baosteel Education Award was held. A total of 467 students recommended by 75 universities and two evaluators (Shanghai Municipal Education Commission and China Association of Metallurgical Education) were awarded Excellent Student Award, Tang Yuanyuan and other 24 students won Special Award for Excellent Students, 245 teachers won Award for Excellent Teachers, eight teachers including Chen Tingguo won Special Award for Excellent Teachers, and 13 teachers including Liu Xijun won Nomination Award of Special Award for Excellent Teachers.

November 5

Moody's, one of the world's top three rating agencies, upgraded China Baowu and BAOSTEEL by one from Baa1 to A3, with a "stable" outlook.

November 19

Baosteel Engineering signed a contract with India's Tata Steel Company for a new steelmaking system roller slag treatment project. This has been the largest single supply contract since Baosteel Engineering set up its Indian subsidiary.

November 20

Standard & Poor's, one of the world's top three credit rating agencies, upgraded China Baowu and BAOSTEEL by one respectively from BBB+ to A-, and the rating outlook remained "stable". China Baowu and BAOSTEEL maintain the best rating level of global comprehensive steel enterprises.

November 22

The thermal load operation of No. 2 Color Coating Unit of BAOSTEEL Huangshi Company's Xingang Project marked full production of the first phase of Xingang Project of Huangshi Company.

November 28

Baosteel Desheng held the commencement ceremony for its fine stainless steel green industrial base project in Luoyuanwan Development Zone, Fujian Province. The first pile of the project—1,780 mm hot rolling project was driven.

November 30

China Baowu held the signing ceremony of strategic cooperation agreement with Jiangsu Provincial People's Government, Nanjing Municipal People's Government and Yancheng Municipal People's Government. According to the agreement, China Baowu would work with Jiangsu Province to promote inter-regional industrial transfer and transformation development of BAOSTEEL Meishan Steel and build 20 million tons of high-quality steel production base in Binhai Port Industrial Park in Yancheng City.

DECEMBER

2018

December 2

Hao Peng, Party secretary of the State Council SASAC, visited China Baowu for investigation.

December 6

Zhanjiang Steel held the project launch meeting of No. 3 Blast Furnace System. After the project is completed, the total annual output of Zhanjiang Steel will be 12.25 million tons of molten iron, 12.528 million tons of molten steel and 10.81 million tons of steel. The project is scheduled to be put into production in July 2021.

December 9

Qizhala, deputy secretary of the CPC Committee of Tibet Autonomous Region and chairman of the Government of Tibet Autonomous Region, and his delegation paid an exchange visit to China Baowu, and the two sides held a joint meeting to discuss further efforts to help Tibet.

December 27

China Baowu issued a document to decide to establish the Urumqi Headquarters as an extension of the department functions and responsibilities of China Baowu Headquarters, in charge of regional development, regional supervision, regional communication, regional service, etc. China Baowu Headquarters in Urumqi was colocated with Baosteel Group Xinjiang Bayi Steel Co., Ltd..

December 28

BAOSTEEL oriented silicon steel product structure optimization (Phase I) project was put into production. The project, which started on February 15, 2017, is an important project of BAOSTEEL for independent R&D technology and large-scale production transformation of products. The products are positioned at extremely low loss and thin specification oriented silicon steel to provide guarantee for the development of green, clean and efficient materials in the industry of power transmission and distribution.

Profile of Subsidiaries

Scan the QR code for more information.

Survey on Concerns of Interested Parties

Thank you for reading 2018 China Baowu Social Responsibility Report. China Baowu attaches great importance to your valuable comments and suggestions. Please scan the QR code below to log on to our official website and fill out the Questionnaire on Concerns of Interested Parties.



China Baowu Steel Group Corporation Limited

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