



# 2022

## **ANSTEEL GROUP CORPORATION** **LIMITED Sustainability Report**

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## About the Report

Dear readers,

Welcome to read the 16th Ansteel Group Corporation Limited Sustainability Report. We highly value the completeness, materiality, balance, comparability, and readability of the report. Based on feedback information and suggestions from various channels, the report elaborates on CSR concepts, practices and performance of Ansteel in business operation, products and services, environmental protection, staff support and community development. We assure the authenticity, objectivity, and timeliness of the reporting information, and hope to strengthen communication and exchange with stakeholders through this report, and jointly realize sustainable development.

## Reporting Period

The report discloses information dated between January 1, 2022 and December 31, 2022. Part of the report may refer to previous years as needed.

## Reporting Boundary

With Ansteel Group Corporation Limited (hereinafter referred to as Ansteel, the Company or we) as the main body, the report covers Anshan Iron and Steel Group Company Limited (hereinafter referred to as Anshan Iron and Steel Group), Pangang Group Co., Ltd. (hereinafter referred to as Pangang) and BenSteel Group Co., Ltd. (hereinafter referred to as BenSteel) as well as their sector subsidiaries and directly affiliated entities.

## Release Cycle

This report is released annually.

## Reference Standards

GB/T 36001-2015 Guidance on Social Responsibility Reporting issued by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China and Standardization Administration of the People's Republic of China (SAC)

Guidelines for the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities issued by State-owned Assets Supervision and Administration Commission of the State Council (SASAC)

The GRI Sustainability Reporting Standards (GRI Standards) issued by GRI Global Sustainability Standards Board (GSSB)

ISO 26000: 2010 Guidance on Social Responsibility issued by International Organization for Standardization (ISO)

Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 4.0) issued by Chinese Academy of Social Sciences (CASS)

## Report Guarantee

The financial data included in the report conform to Accounting Standards for Enterprises and relevant accounting systems issued by the authority, and have been audited in accordance with Internal Audit Standards of China, thus releasing actual financial indicators and operational conditions of Ansteel. All the sums of money in the report are in the unit of RMB unless otherwise stipulated. The report has been internally audited, which ensures its authenticity, accuracy and completeness.

## Report preparation process

Materials collection	Compilation of the main content	Feedback collection	Design	Translation	Review and approval
<ul style="list-style-type: none"><li>• Collect background information</li><li>• Collect internal materials</li></ul>	<ul style="list-style-type: none"><li>• Confirm the outline</li><li>• Compile the main content</li></ul>	<ul style="list-style-type: none"><li>• Collect feedback from internal and external stakeholders</li></ul>	<ul style="list-style-type: none"><li>• Confirm the design style</li><li>• Design</li><li>• Proofread the report</li></ul>	<ul style="list-style-type: none"><li>• Translate the report</li></ul>	<ul style="list-style-type: none"><li>• Internal review</li><li>• Final draft</li><li>• Report release</li></ul>

## Access to the Report

The report is issued in printed and electronic versions in both Chinese and English. For the electronic version, please visit Ansteel's official website <http://en.ansteel.cn>.

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Secretary of the Party Committee, Chairman of the Board, Ansteel Group Corporation Limited

**Tan Chengxu**

## CSR Message

The year 2022 posed extraordinary challenges to the reform and development of Ansteel. However, guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we fully implemented guiding principles proposed at the 19th National Congress of the CPC and its plenary sessions and the 20th CPC National Congress and the decisions of the CPC Central Committee and the State Council. With the concept of social responsibility integrated into our development strategy and daily operation, we prioritized comprehensive CSR performance in key areas such as strategic security, industrial leadership, technological innovation, green development, and rural vitalization to maximize overall economic, social, and environmental values and effectively play a strategic role in supporting China's state-owned sector.

In 2022, Ansteel achieved four milestones. First, we realized the "double A" goal for the first time. Ansteel was rated A for the first time in the annual performance assessment of the heads of central SOEs, and the Party Committee of Ansteel was again rated A in the assessment of the responsibility system for Party building in central SOEs. Second, the reorganization of BenSteel into Ansteel achieved the effects of "1+1 > 2", a landmark case of the three-year action plan for SOE reform. Third, we started to work on the Xi'anshan iron ore mine, the largest single underground iron mine in China seen as an important project of the cornerstone plan to stabilize the production and supply of the steel industry. Fourth, we completed RMB 6.710 billion yuan of equity financing, successfully attracting strategic investors for the mining industry, which laid a solid foundation for further asset securitization. With a total profit of RMB 8.014 billion, Ansteel ranked 217th in the Fortune Global 500 list, up 183 places from the previous year, the best ranking ever documented.

**Keeping in mind matters of national significance, we put in place the initial pattern of "dual core + third pole".** Focusing on our main business, we steadily promoted the "7531" strategic goal of Ansteel in the 14th Five-Year Plan period (2021-2025). After the reorganization of BenSteel into Ansteel, which achieved remarkable results, our crude steel production accounted for 58.60% in Liaoning Province and 33.50% in the three northeastern provinces and Inner Mongolia autonomous region, increasing the industrial concentration of the top 10 steelmakers in China to 42.80%. We contributed our strengths to a new landscape of the steel industry and high-quality development in China. Highly commended by officials of the State Council, the SASAC, and the Party Committee and the government of Liaoning Province, the reorganization of BenSteel into Ansteel was hailed as a landmark case of the three-year action plan for SOE reform. Seeing it as our responsibility to stabilize the production and supply of China's steel industry, we fully leveraged our possession of mineral resources, established the Ansteel Resources Co., Ltd., and introduced RMB 6.710 billion of equity financing to build a world-class iron ore resources development enterprise. The iron concentrate output of Ansteel, at an all-time high, continued to rank first in China and fifth in the world. The construction of six projects, including the largest single underground iron ore mine in China, Xi'anshan iron ore mine, fully reflects the responsibility and commitment of Ansteel to improving the supply of strategic resources. Aiming to build a world-class vanadium and titanium new material enterprise, we worked hard to promote the all-around and leapfrog development of the vanadium and titanium industry, with greater efforts to serve national strategies.

**Serving national strategies, we highlighted our role as a national key player in sci-tech innovation.** Keeping abreast of the world's sci-tech frontier, we met major national needs of economic priority, contributed to people's life and health, and shouldered the important task of independent innovation as the cradle of original technology that make breakthroughs in "stranglehold" technologies. Our R&D investment intensity increased to 3.88%. Completed on schedule, the first phase of key technology research tasks met high-quality standards. Technical barriers of several key technologies and products imposed by foreign companies were removed. We started building the world's first demonstration project of efficient ironmaking new technology based on green hydrogen zero-carbon fluidized beds. Extra-thick high-strength nuclear power containment steel, hot-rolled anti-oxidation coating-free hot-formed steel, LP thickened steel plates, and other products made



Deputy Secretary of the Party Committee, President, Ansteel Group Corporation Limited

**Dai Zhihao**

their global debut. We received the inaugural award for excellence in low-carbon steel production for our low-CO<sub>2</sub> emission blast furnace charge solution from the World Steel Association, and Ansteel was the only Chinese enterprise to be recognized. We also accelerated the speed of building a digital Ansteel, with RMB 1.9 billion invested in new projects, 41 production lines intelligent, and 30 projects rated as pilot demonstration projects in the industry and the state.

**Deepening SOE reform, we successfully concluded the three-year action plan for SOE reform.** Giving full play to the role of reform as a key maneuver, we completed all tasks specified in the three-year action plan for SOE reform brilliantly, establishing an example for the reform of central SOEs. A total of 106 subsidiaries established their board of directors as required, where external directors made up a majority (two 100% targets), with corporate governance improved. We continued to advance the three reforms by abolishing the practice of lifetime employment and equal pay regardless of job responsibilities and raising the competition-based appointment rate of managers to 76.20% and the exit rate to 9.40%. The proportions of subsidiaries that require managers to be removed and transferred from posts due to incompetence and implement floating salaries stood at 74.80% and 78.60% respectively, with an income gap multiple of 2.23, a remarkable level among all central SOEs. The labor productivity of the main business increased by 18.40% year-on-year. Ansteel was rated A in the key task assessment of the three-year action plan for SOE reform and the evaluations of three reforms. Three reforms and tenure-based contractual management are taught as cases in China Business Executives Academy, Dalian.

**Practicing the Two Mountains Theory, we accelerated green and low-carbon transformation.** Putting into action the concept of "lucid waters and lush mountains are invaluable assets", we advanced the green and low-carbon transformation of the Company across the board. We speeded up the implementation of key energy-saving projects with the proportion of secondary energy power generation up by 5 percentage points year on year. We also expedited ultra-low emission upgrading, with more than 350 projects completed for harmonious coexistence with nature. Remarkable progress was seen in tackling pollution with emissions of sulfur dioxide, nitrogen oxides, smoke (dust), chemical oxygen demand, ammonia nitrogen, and wastewater down by 14.36%, 9.55%, 11.85%, 29.70%, 14.12%, and 11% respectively year-on-year. The three-year plan for mine ecological restoration was implemented with more than 3,800 hectares of land greened and reclaimed, effectively expanding carbon sinks. In response to the call for carbon peak and carbon neutrality, we took the initiative to develop cutting-edge technologies such as hydrogen metallurgy.

**Putting people first, we took strong measures to support people's life.** We ensured that development is for the people and by the people and that its fruits are shared by the people and met the people's yearning for a better life. We continued to advance the key project of the "Serving the People with Concrete Actions" by visiting 29,014 employees in need and sending support funds worth RMB 19.91 million and medical help worth RMB 17.483 million that benefited 9,107 people. Ansteel vigorously implemented the common-interest mechanism and strengthened immediate incentives to improve employees' sense of happiness and security. To fulfill the social responsibilities of a central SOE and support rural vitalization and common prosperity, we donated RMB 43.01 million as assistance funds in 2022, a year-on-year increase of 2.20%, and consumption-driven assistance reached RMB 73.66 million, up by 29.40%. Major indicators reached or exceeded the level of the previous year. Ansteel's paired assistance was evaluated as "good" by the Central Rural Work Task Force for three years in a row.

A new era ushers in a new journey and calls for new responsibilities. The 20th National Congress of the CPC depicts a grand blueprint for socialism with Chinese characteristics in the new era and gives SOEs greater responsibility and mission. Committed to our original mission, we will practice the people-centered development philosophy, shoulder the responsibilities of our times, and fully study and implement the guiding principles of the 20th National Congress of the CPC. Integrating Party leadership into reform and development, we will deliver the new development philosophy faithfully and fully and accelerate the development of a new Ansteel to write a new chapter in building a world-class enterprise. While striving to create economic values and pursue progress, we will comply with high standards in CSR performance and enhance our recognition and reputation as a role model, making new and greater contributions to a modern socialist country in all respects and the great rejuvenation of the Chinese nation on all fronts.



## New-era Steel Industry

- 1 Ansteel hosts a large event on “embracing the 20th National Congress of CPC and building a new Ansteel” .
- 2 The world’s first demonstration project of efficient ironmaking new technology based on green hydrogen zero-carbon fluidized beds is officially launched in the Bayuquan steel base.
- 3 Liu Tie, an employee with Angang Steel Company Limited Main Steelmaking Plant, and Yang Lin, an employee with the coking branch of Xichang Steel & Vanadium Ironmaking Plant, are included in the second central SOE “Great Country Craftsmen” training support program.
- 4 Ansteel Museum is included in the first batch of national industrial culture teaching bases.
- 5 Anshan Iron and Steel Group and the Center of Chinese Studies of Anshan Normal University jointly build China’s first steel-themed museum available for the public.
- 6 Yan Ling, Director of the Ship Steel Research Office of the Offshore Engineering Center of Ansteel Steel Research Institute, receives the title of “Model of the Times” awarded by the Publicity Department of the CPC Liaoning Provincial Party Committee and the Provincial Spiritual Civilization Office.
- 7 Xi'an Shan iron ore mine, the largest single underground iron mine in China, officially starts construction.
- 8 Ansteel independently develops the world’s largest pre-steelmaking integrated and intelligent ironmaking center.
- 9 Ansteel is granted the Commendation Award of the 7th China Grand Awards for Industry.





## About Us

### Company Profile

As a large state-owned enterprise directly under the central government, Ansteel is known as the “eldest son of the steel industry of the Republic”, the cradle of China’s steel industry, and the birthplace of the “Ansteel Constitution”. Ansteel provides the fertile soil for heroic role models and acts as the “steel backbone” of a major country, making great contributions to the development of China’s iron and steel industry and China’s economic growth. In 2022, Ansteel ranked 217th in the Fortune Global 500 list.

Ansteel implements the “Dual-Core” strategy of “steel + mining” with nine production bases in northeast, southwest, southeast, and south China that produce 53 million tons of iron, 63 million tons of steel, 40,000 tons of vanadium products, and 500,000 tons of titanium products. Ansteel has rich iron ore, vanadium, and titanium resources in Liaoning and Sichuan, China and in Carrara, Australia, with an annual output of 50 million tons of iron concentrate. Ansteel is also the world’s largest vanadium producer and China’s largest titanium raw material production base. Our industrial services cover engineering technology, chemical technology, energy conservation and environmental protection, information technology, finance and trade, and modern services. We have 32 subsidiaries and organizations overseas and more than 500 customers and partners at home and abroad. The products of Ansteel are sold to more than 70 countries and regions.

Among China’s first batch of “innovative enterprises”, the Company is the first iron & steel company in China with the capability of complete technology output. The steel products that we launch to the global market for the first time cover nuclear power, shipbuilding, automobiles, bridges, and other fields, and we set international standards for steel rails, structural steel, and pressure vessel steel.

Faithfully fulfilling our social responsibilities, Ansteel continues to promote green manufacturing, establishes an efficient, clean, low-carbon, and circular green manufacturing system, and develops and produces high-performance products with a long life cycle and low environmental burden. We also support education and rural vitalization, engage in community development, protect cultural heritage, and form a volunteer team. Ansteel is known as “China’s most caring enterprise”.

In the new era, committed to our original aspiration of “remembering the responsibility of the eldest son of the Republic and dedicating ourselves to serving the country”, we commit ourselves to the mission of “producing better material, creating more wonderful life”. We follow and strengthen the overall Party leadership, strive to create a new Ansteel with high-quality development based on core values of “innovation, practicality, striving, devotion”, and build a leader in the high-quality development of China’s steel industry and a world-class enterprise with global competitiveness.



Anshan Iron and Steel Group Company Limited was the first largescale integrated iron and steel enterprise and the earliest steel production facility established after the foundation of the People’s Republic of China. It has made great contributions to the national economic growth and the development of the steel industry and was known as the “eldest son of the steel industry of the Republic” and the “cradle of China’s steel industry”.



Pangang Group Co., Ltd. has been on the fronts of the comprehensive utilization of vanadium, titanium and magnetite resources in the world. It is the world’s leading vanadium producer, and China’s largest production facility for titanium raw materials, with the full industrial chain. It is an important production base for railway steel, automotive steel, home appliance steel and special steel.



BenSteel Group Co., Ltd. is one of the first large-scale iron and steel enterprises to resume production after the foundation of the People’s Republic of China. It is a super large iron and steel enterprise that realizes the coordinated development of diversified industries such as trade and logistics, equipment manufacturing, industrial services, and urban services, based on the iron and steel and mineral resources industry. It is a world famous “ginseng iron” production area.

### Business Scope

We have a whole set of advanced iron & steel production equipment covering mining exploitation, sintering, iron-making, steel rolling as well as coking, fire resistance, driving force and transport, etc. We have capabilities of mine, complete steel production technology and management ability output. We have a rich variety of steel products, vanadium products and titanium products, which are widely used in dozens of industries such as railways, construction, automobiles, machinery, shipbuilding, home appliances, containers, petroleum and petrochemicals, and aerospace. Among them, automotive steel, railway steel, shipbuilding and marine engineering steel, bridge steel, nuclear power steel, home appliance steel, container steel, electrical steel, petroleum and petrochemical steel, high-end product steel, and special steel lead the domestic market.

We can see the extensive application of Ansteel products in major projects at home and abroad, including China’s West-to-East Gas Pipeline Project, Qinghai-Tibet Railway, high speed railway construction, Three Gorge Hydro Project, Nanjing Yangtze River Bridge, Hong Kong-Zhuhai-Macao Bridge, Bird’s Nest Stadium, Hualong One nuclear power plant, Blue Whale 1 ultra deepwater drilling platform, Shenzhou series, Verrazano-Narrows Bridge, and Tanana River Bridge in the United States, making Ansteel a global supplier of many internationally renowned companies.

#### Steel product portfolio

A complete steel product portfolio covers hot rolling plates, cold rolling plates, galvanized plates, color coated plates, cold rolling silicon steel, heavy rails, seamless steel pipelines, steel bars, steel wires, steel ropes, and stainless steel.

#### Vanadium products

A series of vanadium products include vanadium oxide, high vanadium ferroalloy, vanadium nitrogen alloy, and vanadium aluminum alloy.

#### Titanium products

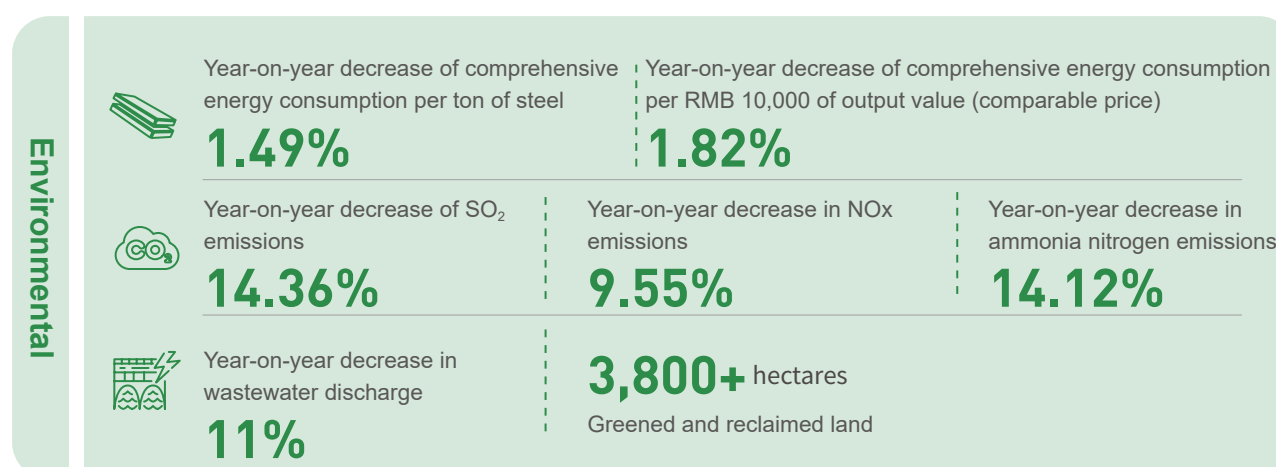
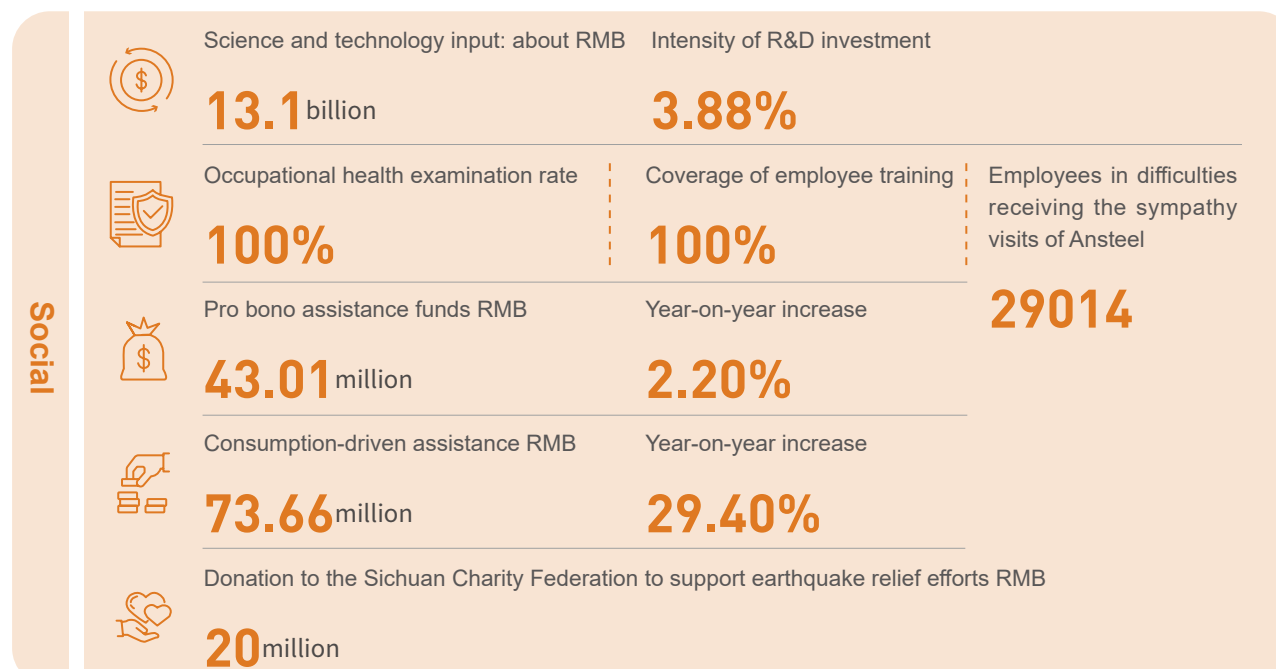
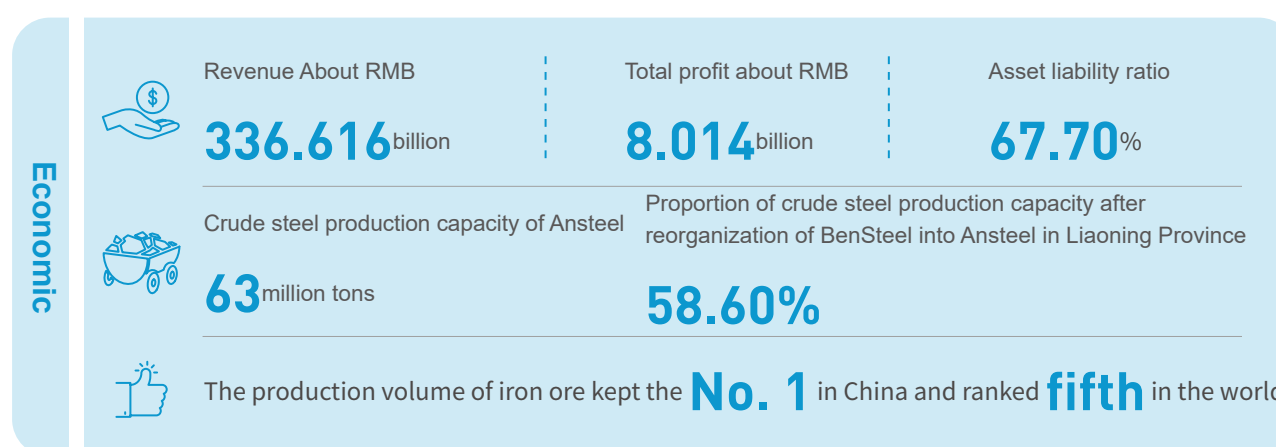
concentrate, high titanium bearing slag, titanium dioxide, sponge titanium, and other titanium products.



## Corporate Culture



## Figures in 2022

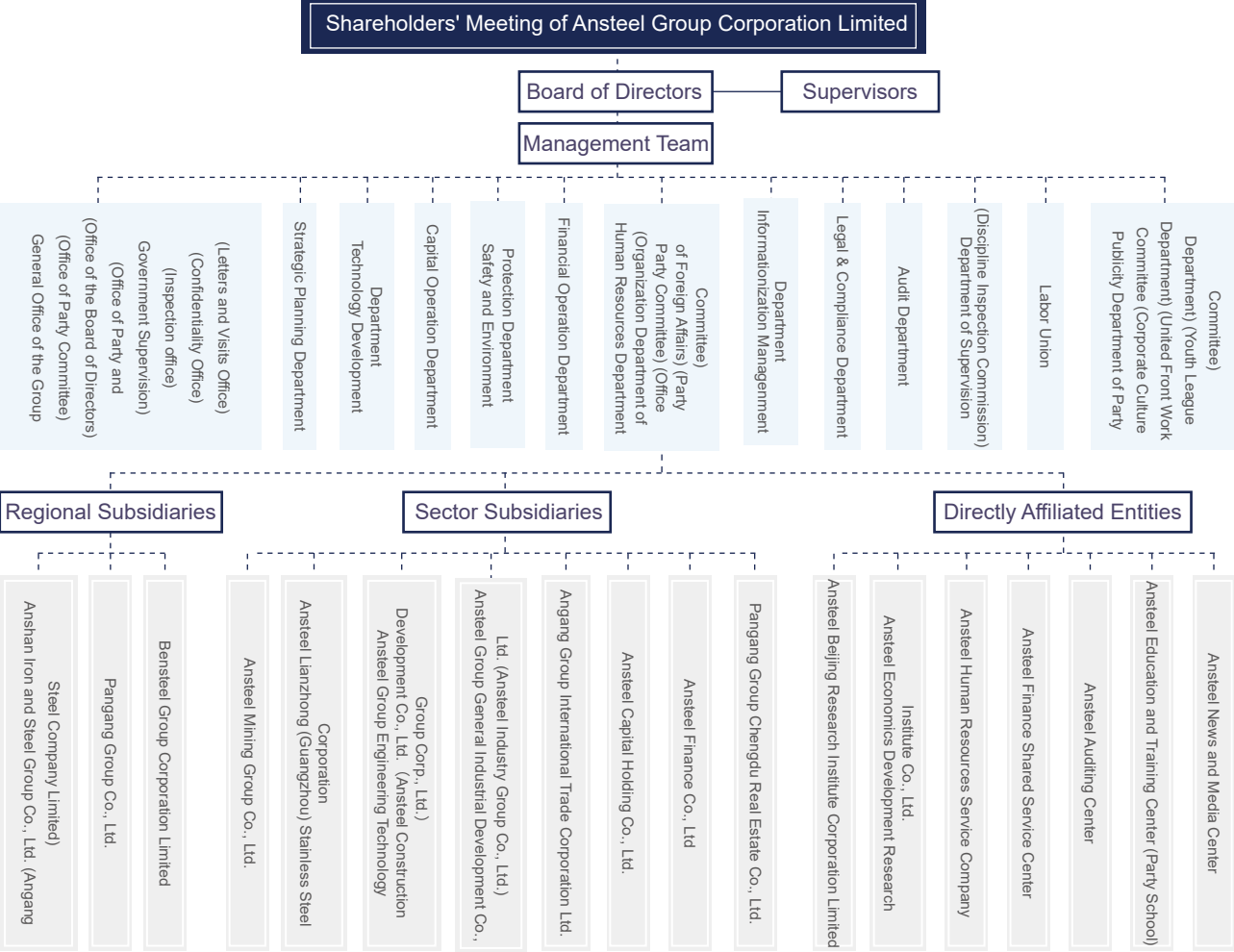




Corporate Governance

Organizational Structure

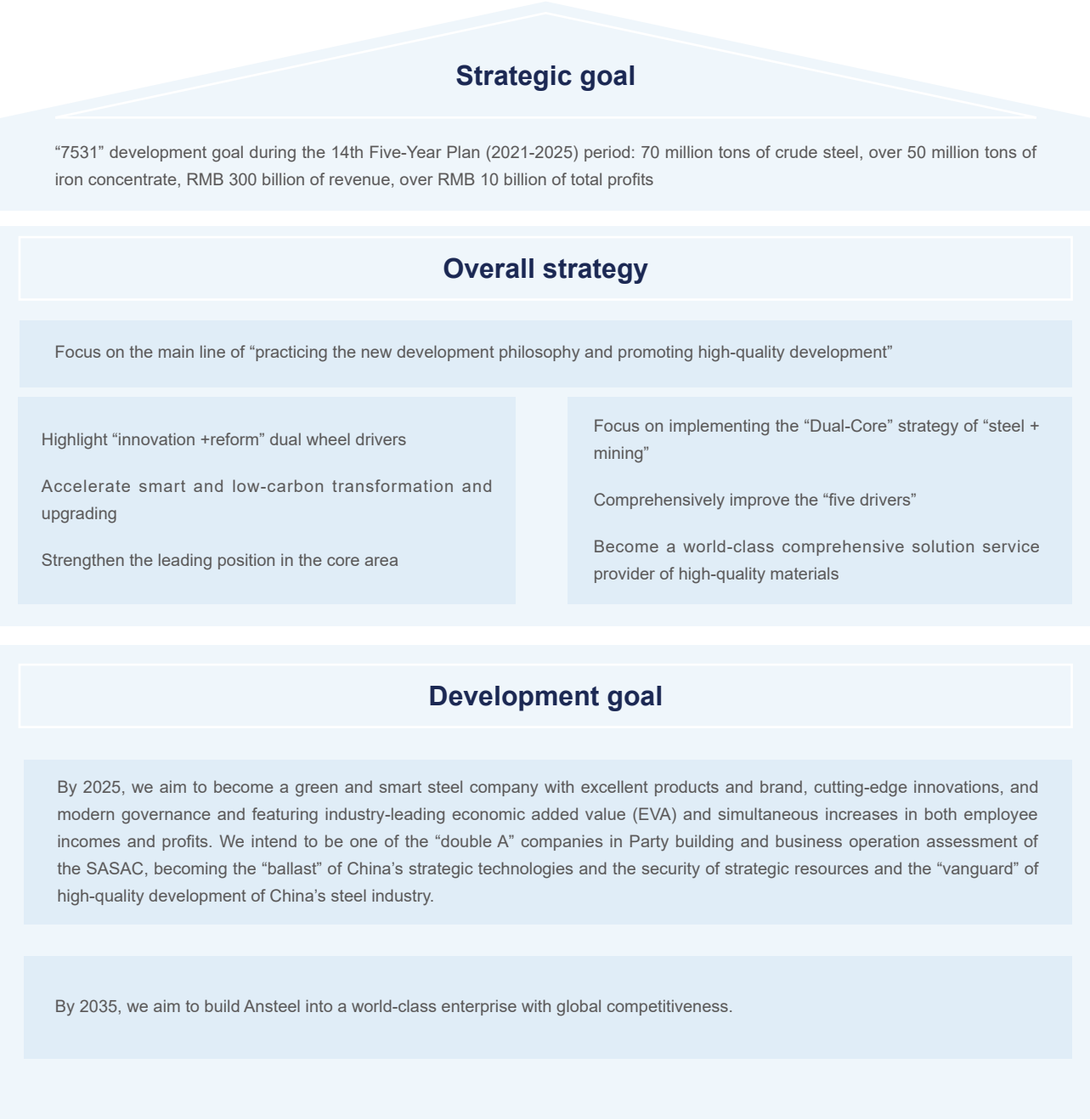
In strict accordance with the *Companies Law of the People’s Republic of China* and other relevant laws and regulations, we implement corporate governance rules and regulations and standardize operations, shaping an internal governance structure consisting of the shareholders’ meeting, board of directors, supervisors, and the management team with clear responsibilities and effective checks and balances. The Company conducts open and transparent communication with investors by holding performance briefings, participating in strategy meetings organized by securities firms and conference calls, welcoming visits of investors, and issuing social responsibility reports to fully protect the rights and interests of shareholders, small and medium-sized investors, and other stakeholders for long-term values. In 2022, Angang Steel Company Limited disclosed 85 announcements and documents, with a compliance rate of 100%. A total of 20 investor relations activities, including conference calls and CSRC investor reception days were organized. Bengang Steel Plates Co., Ltd. won the Award for the Best Board of Directors by the 17th Golden Round Table Award for Boards of Listed Companies in China.



Ansteel is dedicated to building a diverse board of directors. Our board of directors includes eight members with professional skills and experience, and diversity is shown in their professional skills, experience, age, gender, seniority, etc. According to the “532” principle (50% have work experience at second- and third-level subsidiaries, 30% have more than ten years of corporate governance, marketing, and other experience, and 20% have professional backgrounds in finance, auditing, and law), the Company has established and strengthened a talent pool of external directors to enhance the role of the board of directors.

Development Strategy

At the new development stage, Ansteel practices the new development philosophy and contributes to the new development paradigm. In the three-year action plan for SOE reform, we prioritize high-quality development and supply-side structural reform and comprehensively improve the “five drivers” to build a “New Ansteel” in the new era. By doing so, we strive to become the pioneer of the high-quality development of China’s steel industry and a world-class enterprise with global competitiveness.



## Party Building at the Forefront

Upholding Party leadership and strengthening Party building serves as the “root” and “soul” of SOEs. Ansteel holds high the great banner of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and implements guiding principles of the 19th National Congress of the CPC and its plenary sessions. We gain a deep understanding of the decisive significance of establishing Comrade Xi Jinping’s core position on the Party Central Committee and in the Party as a whole and establishing the guiding role of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, enhance our consciousness of the need to maintain political integrity, think in big-picture terms, follow the leadership core, and keep in alignment with the central Party leadership, stay confident in the path, theory, system, and culture of socialism with Chinese characteristics, and uphold Comrade Xi Jinping’s core position on the Party Central Committee and in the Party as a whole and the Central Committee’s authority and its centralized, unified leadership. We continue to improve political judgment, comprehension, and execution, strengthen the Party’s overall leadership, and contribute the new actions, responsibilities, and business performance of Ansteel as our response to the guiding principles of the 20th National Congress of the CPC. We ensure that high-quality Party building supports high-quality development and accelerate the efforts to build a world-class enterprise.

### Ideological guidance

We issue the revised *Implementation Opinions of the Party Committee of Ansteel on Implementing “Several Provisions of the Political Bureau of the CPC Central Committee on Strengthening and Safeguarding the Centralized and Unified Leadership of the CPC Central Committee” Released by the CPC Central Committee*, carry out the activity of re-studying, implementing, and improving the important instructions made by the General Secretary Xi Jinping under the theme of “making contributions in a new era and embracing the 20th National Congress of CPC”. We also expand what has been achieved in Party history education, establish a long-term mechanism for normalizing Party history education, and summarize the new meaning of the Ansteel Constitution in the new era.

Consolidating the responsibility of Party building: We strictly implement Party committee monthly work plans, quarterly meetings by primary-level Party committee secretaries, and other mechanisms, carry out Party organization secretary performance assessments and annual Party building responsibility system assessments. We pilot the implementation of the “1+1” new model of linked promotion, performance presentation, and assessments at primary-level Party committees to get a full picture and effectively combine the assessments of Party building and business performance.

Developing primary-level Party organizations: We deeply implement the three major projects of “strengthening the foundation”, “promotion and upgrading”, and “demonstration of leading players” of Party branches, establish seven demonstration sites for standardizing Party branches in Liaoning Province, and select ten demonstration bases of party branches and 54 model party branches of Ansteel.

Improving the ability of Party members: We put in place the “15351” Party education and training system, hold a training program for full-time deputy secretaries of Party committees within the group to improve their ability to perform their duties, and promote the “10,000 Party members to the Party school” training project, which gives 61,700 Party members access to Party school. Three Party members of Ansteel are elected as delegates to the 20th CPC National Congress through a rigorous process.

Strengthening supervision: Political supervision is strengthened on the implementation of the “7531” strategic goal and “dual-core + third pole” strategic plan, the three-year action plan for SOE reform, and the reorganization of BenSteel into Ansteel. We carry out special supervision on work safety, deepened reform, inspection and rectification assessment, and deeply integrate discipline inspection and supervision into production and operation, reform and development.

Launching special campaigns: We address the problem of “taking advantage of Ansteel”, organize special “integrity projects” and spare parts procurement campaigns, and seriously investigate and deal with violations of discipline and law in project construction, finance, bidding, and procurement.

Fostering integrity through education: We implement the opinions on building an integrity culture of Ansteel, carry out activities such as “continuing the revolutionary legacy and building a clean culture” and “reviewing the two documents in Party membership application and remaining true to the original aspirations”, and deepen the “monthly review” system. We upgrade the Ansteel Party Conduct and Integrity Education Exhibition Hall as an educational base.

### Organization building

### Strict governance over the Party

### CSR Honors

- Ansteel’s two projects, *Research and Practice of Differentiated Ideological and Political Work System in the New Era* and *Leveraging CPC Resources, Inheriting CPC Legacies, and Creating a Red Ansteel*, are granted the highest honor in the field of ideological and political research in China.
- The practice of the Ansteel Party Committee expressed in *Strengthening the Foundation and Building a Fortress and Promoting Comprehensive Progress in the Construction of Party Branches* is published in the *Party Building Research* of the Organization Department of the CPC Central Committee.
- Ansteel’s CPC steel tour industrial tourism base is recognized as a national industrial tourism demonstration base, becoming a new carrier for demonstrating and promoting the culture and brand of Ansteel in the new era.
- Lei Feng in Ansteel* receives the second prize in the 16th National Party Member Education Video Viewing and Exchange Event.
- The Ansteel Department of Supervision (Discipline Inspection Commission) is rated as “excellent” in the 2022 annual assessment of the Central Commission for Discipline Inspection and the National Supervisory Commission.





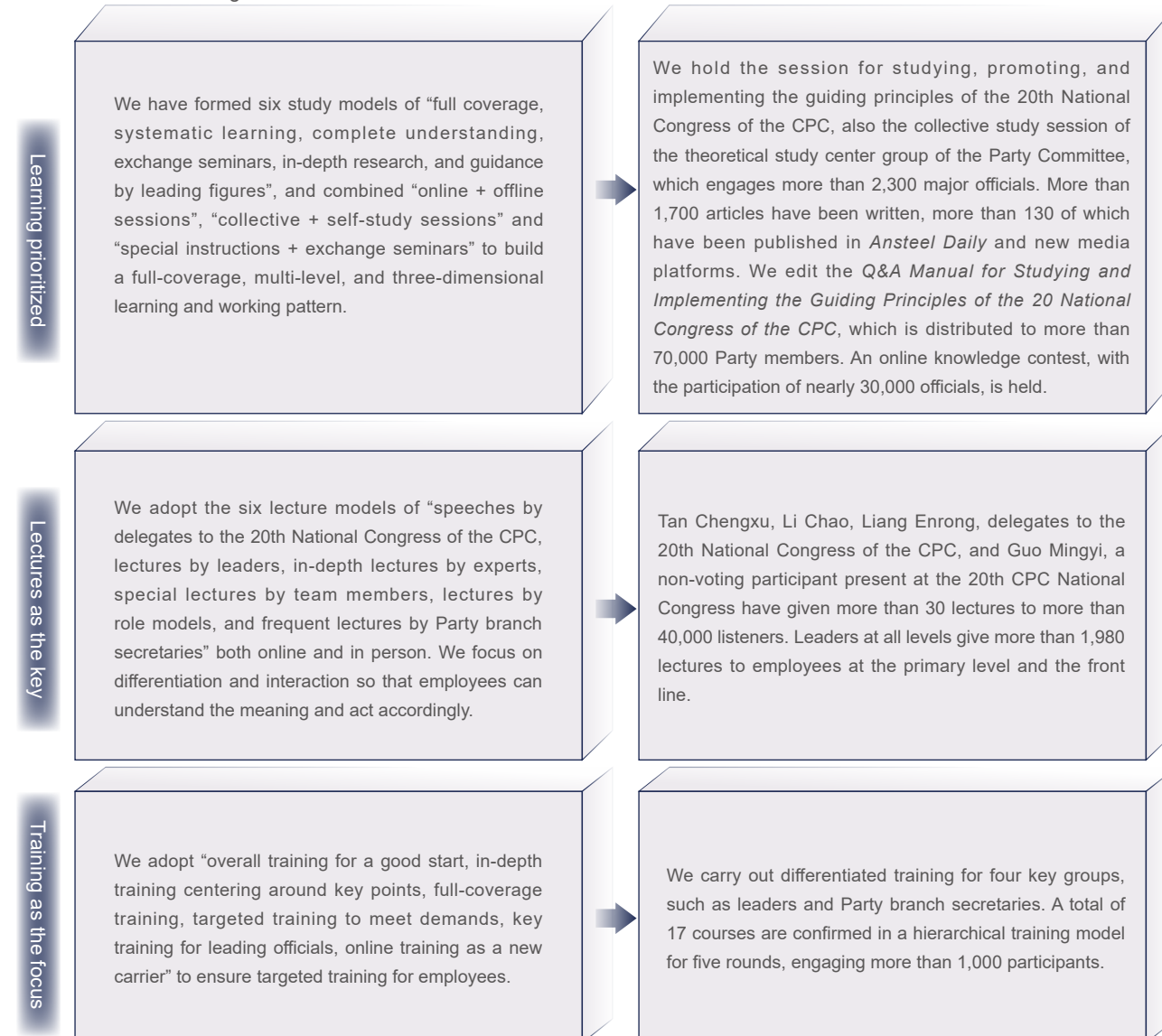
## The base for learning the guiding principles of the 20th National Congress of the CPC



Seeing it as a primary political task to study, promote, and implement the guiding principles of the 20th CPC National Congress, Ansteel convenes the Standing Committee of the Party Committee, the collective study sessions of the Central Group of the Party Committee, the Board of Directors general meetings, high-level study classes, etc. to study the original report to the 20th CPC National Congress and the important instructions made by General Secretary Xi Jinping at the first plenary session of the 20th CPC Central Committee. These activities help us understand the true meaning accurately and unify our ideology and actions through the guiding principles of the Congress to pool all strengths into the high-quality development of Ansteel. We will make every effort to realize the vision of Ansteel becoming the most internationally influential steel company as soon as possible.

### Studying and promoting the guiding principles of the 20th CPC National Congress

To promote the guiding principles of the 20th CPC National Congress, Ansteel implements six study models, six lecture models, and six key measures to send the guiding principles of the 20th CPC National Congress to the primary level and the front line. This helps unify the ideology of all Party members, officials, and staff of Ansteel and guarantees that the guiding principles of the 20th CPC National Congress is well delivered and understood.



From November 17 to 18, 2022, Ansteel held the session of studying, promoting, and implementing the guiding principles of the 20th National Congress of the CPC, also the 9th collective study session of the theoretical study center group of the Party Committee.

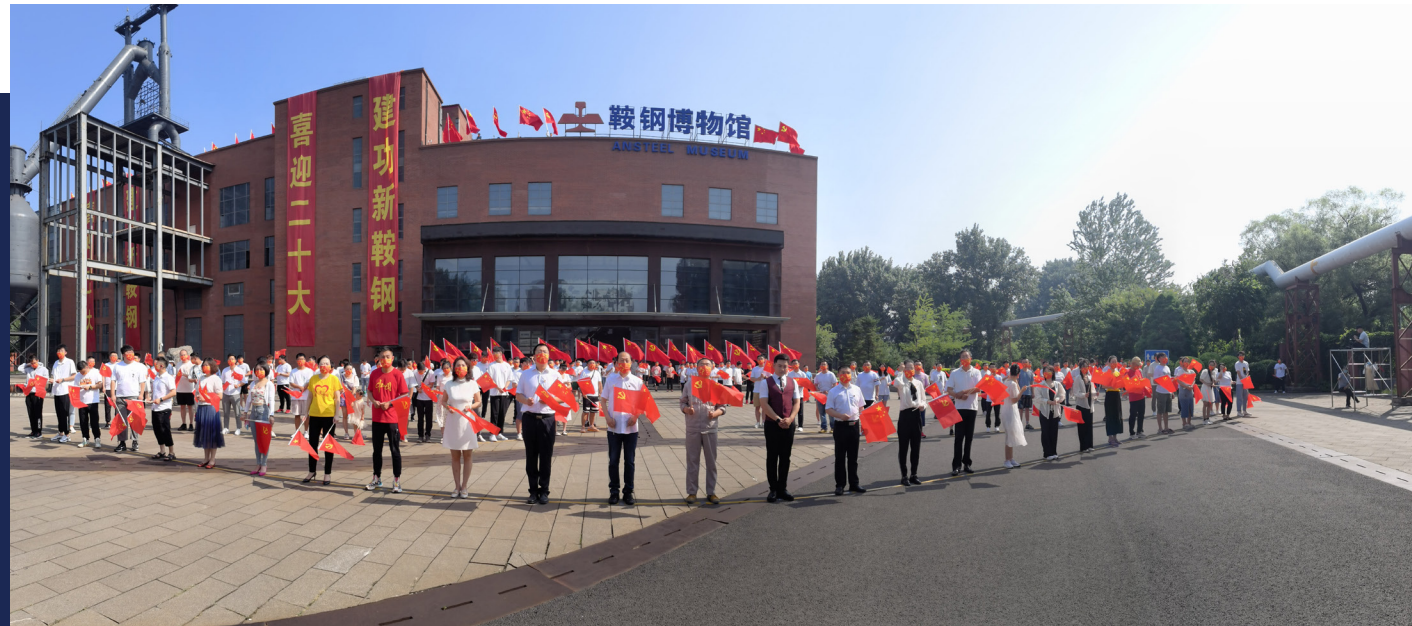
*Study Times* has published the summary of Tan Chengxu's speech at the forum of studying and implementing the guiding principles of the 20th National Congress of the CPC: striving to build a world-class steel enterprise.

*Red Flag Manuscript (Hongqi Wengao)* has published an article written by the Party Committee of Ansteel entitled *Keeping in Mind Matters of National Significance and Shaping New Development Competitiveness*.



## Implementing the guiding principles of the 20th CPC National Congress

Putting theory into practice, Ansteel implements the decisions and the guiding principles of the 20th National Congress of the CPC to help the Company make strides in growing stronger, better, and bigger and achieving high-quality development.



The large event on “embracing the 20th National Congress of CPC and building a new Ansteel” hosted by Ansteel goes viral and is covered by authoritative media, with over 1 million views in six days



“Embracing the 20th National Congress of CPC and building a new Ansteel” – “Mining Cup” staff calligraphy, painting, and photography exhibition receive 881 entries and 167 of them are exhibited



The online themed exhibition of “One Ansteel, One Dream” is hosted



Implementing the decision of the 20th National Congress of the CPC on “working to see state-owned capital and enterprises get stronger, do better, and grow bigger”

The reorganization of BenSteel into Ansteel has increased the industrial concentration of the top ten domestic steelmakers to 42.80%. The Ansteel Resources Co., Ltd. is established and strategic investments for mining are completed with RMB 6.710 billion of equity financing. Iron ore concentrate production has hit another record high.



Implementing the decision of the 20th National Congress of the CPC on “accelerating the implementation of innovation-driven development strategy”

Completed on schedule, the first phase of key technology research tasks has met high-quality standards. Our R&D investment intensity has increased to 3.88%. Breakthroughs are achieved in key technologies and products and our role as a national key player in sci-tech innovation is highlighted.



Implementing the policy decisions of the 20th CPC National Congress on “exercising full and rigorous governance over the Party”

We carry out activities to welcome the 20th National Congress of the CPC, implement the four major projects, and deeply integrate Party building into production and operation. We meet the requirements for personnel selection and employment by the Organization Department of the CPC Central Committee and give full play to the leading and supportive role of Party building.

Implementing the decision of the 20th National Congress of the CPC on “deepening the reform of state-owned assets and SOEs”

We have completed all the reform tasks and measures of the three-year action for SOE reform and improved our corporate governance system. The three reforms have abolished the practice of lifetime employment and equal pay regardless of job responsibilities. The labor productivity of the main business has increased by 18.40% year-on-year.



Implementing the decision of the 20th National Congress of the CPC on “pursuing green development and promoting harmony between humanity and nature”

We promote key energy conservation projects and ultra-low emissions. Xichang Steel & Vanadium has taken the lead in completing the whole process of ensuring ultra-low emissions. The three-year plan for ecological restoration of mines has been completed with remarkable results achieved in green development.



Implementing the decision of the 20th National Congress of the CPC on extensively applying the core socialist values

To commemorate the 60th year since revolutionaries of the older generation, including Mao Zedong, wrote inscriptions for comrade Lei Feng, we carry out the “Lei Feng Spirit Fostered and Growing in Ansteel - Lei Feng's 423 Days in Ansteel” and “Ten Ones” themed activities to write the story of Lei Feng in the new era.





## Risk Control

Ansteel adheres to the requirements of “three changes” to keep improving the internal system of risk control, the capability of risk prevention and control, and the controllability of each major risk.

### Conceptual change of risk prevention

The “5+X” joint review mechanism for risk evaluation and compliance works effectively, with the strict performance of the duty of risk evaluation and compliance review. Besides, we analyze and identify potential risk elements, and research and develop project risk prevention and control measures for projects. Therefore, risk and compliance links of major events have been controlled effectively to speed up the transition of risk prevention from emergency disposal to active prevention.

### Conceptual change of risk handling

We comprehensively carry out the effectiveness inspection and evaluation of the internal control system, reveal a total of 162 problems and defects in 9 major business areas, and form a problem and defect rectification ledger. Meanwhile, we establish a dynamic account cancellation mechanism and solidly promote the implementation of problem rectification work with high standards, strict requirements, and concrete measures. The concept of risk disposal is promoted to transform from special rectification to systematic response.

### Conceptual change of risk management

We have established and operated the “2+N” Working Mechanism for Risk Management and Internal Control, and taken Ansteel’s Legal & Compliance Department and Audit Department as two wings to set up and improve the regular cooperative mechanism of risk internal control and audit-based supervision. A working platform is built for competent authorities and subsidiaries across the entire process of problem disclosure, risk identification, defect judgment, organization rectification and responsibility fulfillment, and the “three lines of defenses” of internal control of risks is enhanced, promoting the transition of the concept of risk management from key breakthroughs to comprehensive improvement.



## CSR Management

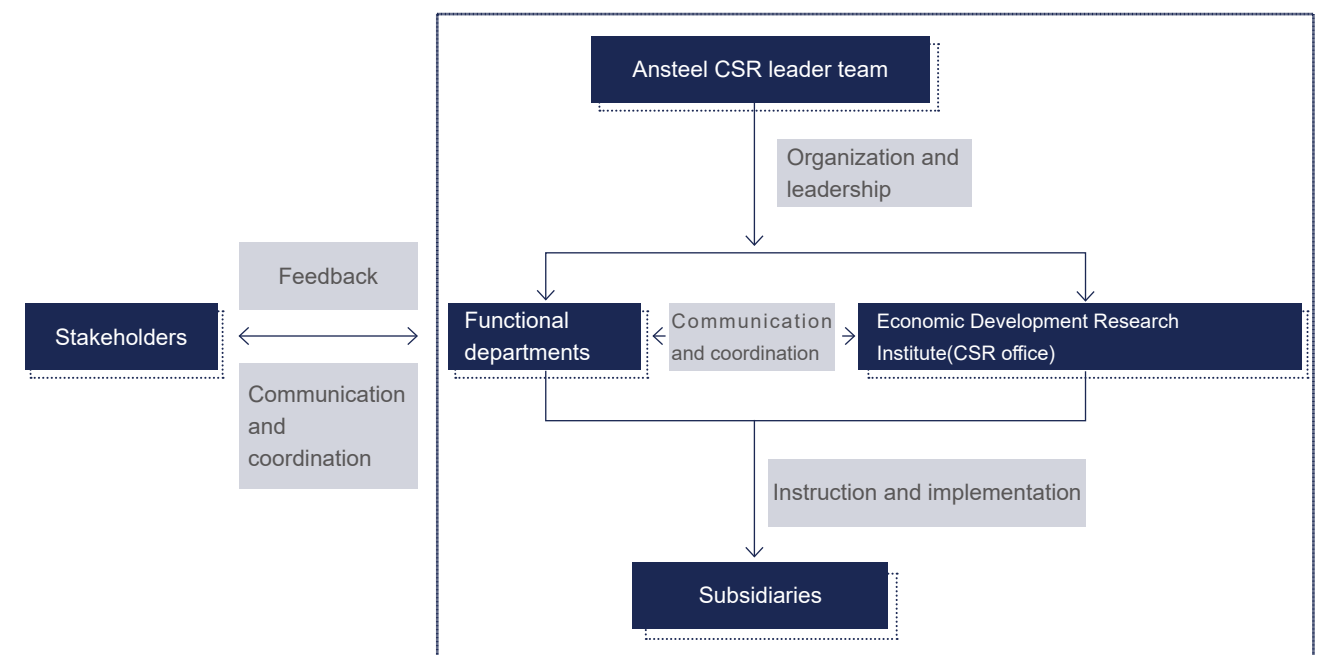
Ansteel always upholds the sustainability philosophy of “Leading Ansteel, Brand Ansteel, Innovative Ansteel, Digital Ansteel, Green Ansteel and Shared Ansteel”, and fully integrates it into all aspects of production, operations, and decision-making. The Company responsibly treats stakeholders such as the government, regulatory agencies, customers, employees, suppliers, and the environment, and works together with them to build a sustainable and harmonious society. In 2022, the Company’s promo “Practicing Social Responsibility and Building a Beautiful Ansteel” was broadcasted on CCTV, SASAC News, and other platforms.

## CSR Management System

Ansteel adopts the core values of “innovation, practicality, striving, devotion” and deepens them in the corporate strategy and daily operation. The Company has built an index system with strategic management, business performance, technological innovation, resource environment, employee protection and social development as the core. It has also implemented an integrated control mechanism of system, process, operation, and assessment. These initiatives have laid the foundation for further promoting corporate social responsibility and sustainability management.

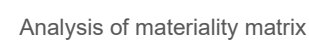
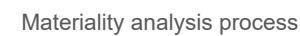
We have carried out social responsibility research for many consecutive years in terms of the international and domestic development trend of social responsibility, and benchmarking of international advanced steel enterprises. We annually prepare the Ansteel Social Responsibility Work Assessment Report which comprehensively analyzes the Company’s CSR management, laying the foundation and pointing out the direction for the improvement of our CSR management system. Meanwhile, we promote CSR information disclosure and CSR management of our subsidiaries, invite external experts to offer social responsibility training for Angang Steel Company Limited, Pangang Group Vanadium & Titanium Resources Co., Ltd, Bengang Steel Plates Co.,Ltd. and other subsidiaries to improve their CSR reporting system and management system.

We have strengthened the CSR and sustainability organization system and management functions, and established and improved the CSR organization work system. All work processes are sorted out from top to bottom, covering the headquarters and subsidiaries and ranging from management to execution. The leadership responsibilities and centralized management departments are clarified, with clear job responsibilities and tasks, thus coordinating and promoting the CSR management and making CSR concepts integrated into the primary-level and routine practices.











Organizational structure of social responsibility and sustainable development

Based on the dynamics of sustainable development, strategic planning, expectations and demands of stakeholders, and following the principles of materiality, integrity and stakeholder inclusiveness, we prioritize relevant topics and form a materiality analysis matrix from the two dimensions of “Impact on Ansteel’s sustainable development” and “Concerns of stakeholders”, providing important references for the sustainability management of Ansteel.



In order to fully track the needs of stakeholders, Ansteel proactively identifies and listens to the expectations and demands of stakeholders. We have created multiple communication channels, including the "Sustainable Development" column on the official website, WeChat official account "Cradle Ansteel" (WeChat ID: agjtwx), feedback on sustainability reports, and annual reports, to develop a real-time, effective and long-term communication mechanism. Targeted actions are taken in responses to stakeholders. Therefore, a harmonious and trustworthy relationship has been established between Ansteel with and stakeholders who, and strive to create new prospects of sustainable development jointly.

Stakeholders	Expectations and Requirements	Means of Communication	Our Response
 Governments	<ul style="list-style-type: none"> <li>Promote employment</li> <li>Pay taxes according to law</li> <li>Compliance management</li> <li>Promote local economic development</li> </ul>	<ul style="list-style-type: none"> <li>High-level meetings</li> <li>Exchange meeting</li> <li>Information submission</li> <li>Attend meetings</li> <li>Consultation with local companies</li> <li>Liaison organization between Ansteel and local companies</li> </ul>	<ul style="list-style-type: none"> <li>Provide jobs</li> <li>Pay taxes</li> <li>Operate according to laws and regulations</li> <li>Promote the development of local related industries</li> <li>Improve local infrastructure</li> </ul>
 SASAC, Shareholders	<ul style="list-style-type: none"> <li>Maintain and increase the value of assets</li> <li>Improve the profitability of Ansteel</li> <li>Improve the rate of return of investment projects</li> <li>Improve quality and efficiency</li> <li>Work safety</li> </ul>	<ul style="list-style-type: none"> <li>Special report</li> <li>Information submission</li> <li>Shareholders' Meeting</li> <li>Management performance assessment</li> <li>Company announcement</li> </ul>	<ul style="list-style-type: none"> <li>Deepen reform</li> <li>Reduce costs and increase profits</li> <li>Informatization</li> <li>Improve technological innovation capability</li> <li>Protect shareholders' equity</li> <li>Strengthen work safety management</li> </ul>
 Employees	<ul style="list-style-type: none"> <li>Salary and welfare guarantee</li> <li>Democratic management</li> <li>Common development</li> <li>Humanistic care</li> <li>Occupational health</li> </ul>	<ul style="list-style-type: none"> <li>Workers' congress</li> <li>Disclosure of corporate affairs</li> <li>Complaint mailbox</li> <li>Rational proposal</li> <li>Symposium</li> <li>Communication through the internet</li> </ul>	<ul style="list-style-type: none"> <li>Provide competitive salaries</li> <li>Establish career development path</li> <li>Offer training and education</li> <li>Care for the employees</li> <li>Provide protective instrument and facilities</li> </ul>
 Customers	<ul style="list-style-type: none"> <li>Honor commitments</li> <li>Provide good-quality products and services at a reasonable price</li> <li>Improve capability for customized services</li> <li>Open communication channels</li> </ul>	<ul style="list-style-type: none"> <li>Daily contact with sales representatives</li> <li>Exhibition</li> <li>Client meeting</li> <li>Regular visits</li> <li>Opinion solicitation</li> </ul>	<ul style="list-style-type: none"> <li>Pay attention to customer needs</li> <li>Improve the quality of products and services</li> </ul>
 Environment	<ul style="list-style-type: none"> <li>Save energy and reduce emissions</li> <li>Conserve resources</li> <li>Cope with climate change</li> <li>Protect ecological environment</li> </ul>	<ul style="list-style-type: none"> <li>Environmental information disclosure</li> <li>Actively accept supervision</li> <li>Promote green ecology</li> </ul>	<ul style="list-style-type: none"> <li>Conduct energy and water resources management</li> <li>Make rational use of solid wastes, surplus heat and clean energies</li> <li>Build ecological mines</li> <li>Plant trees and vegetation in the plant area</li> <li>Practice green office</li> </ul>
 Suppliers	<ul style="list-style-type: none"> <li>Fairness and justice</li> <li>Honesty &amp; integrity</li> <li>Information confidentiality</li> <li>Policy stability</li> <li>Mutual benefit</li> </ul>	<ul style="list-style-type: none"> <li>On-site visit</li> <li>Contract negotiation</li> <li>Regular visits</li> <li>Tendering conference</li> <li>Opinion solicitation</li> </ul>	<ul style="list-style-type: none"> <li>Conduct transparent procurement</li> <li>Consultation on the basis of equality</li> <li>Honor contracts</li> <li>Disclose procurement information</li> <li>Conduct compliant procurement</li> </ul>
 Associations	<ul style="list-style-type: none"> <li>Fair competition</li> <li>Industry development and progress</li> </ul>	<ul style="list-style-type: none"> <li>Join in associations and take on duties</li> <li>Participate in activities organized by the associations</li> </ul>	<ul style="list-style-type: none"> <li>Participate in activities such as standard setting and industry research</li> </ul>
 Community, Media and the Public	<ul style="list-style-type: none"> <li>Improve community environment</li> <li>Respect community culture</li> <li>Support charity cause</li> <li>Disclose corporate information in an open and transparent way</li> <li>Release corporate information timely</li> </ul>	<ul style="list-style-type: none"> <li>Joint community building</li> <li>Joint project development</li> <li>Regular exchanges</li> <li>Convene community communication meeting</li> <li>Press release</li> <li>Media communication</li> </ul>	<ul style="list-style-type: none"> <li>Participate in community building</li> <li>Support culture building</li> <li>Provide volunteer services</li> <li>Disclose information</li> </ul>

## Feature

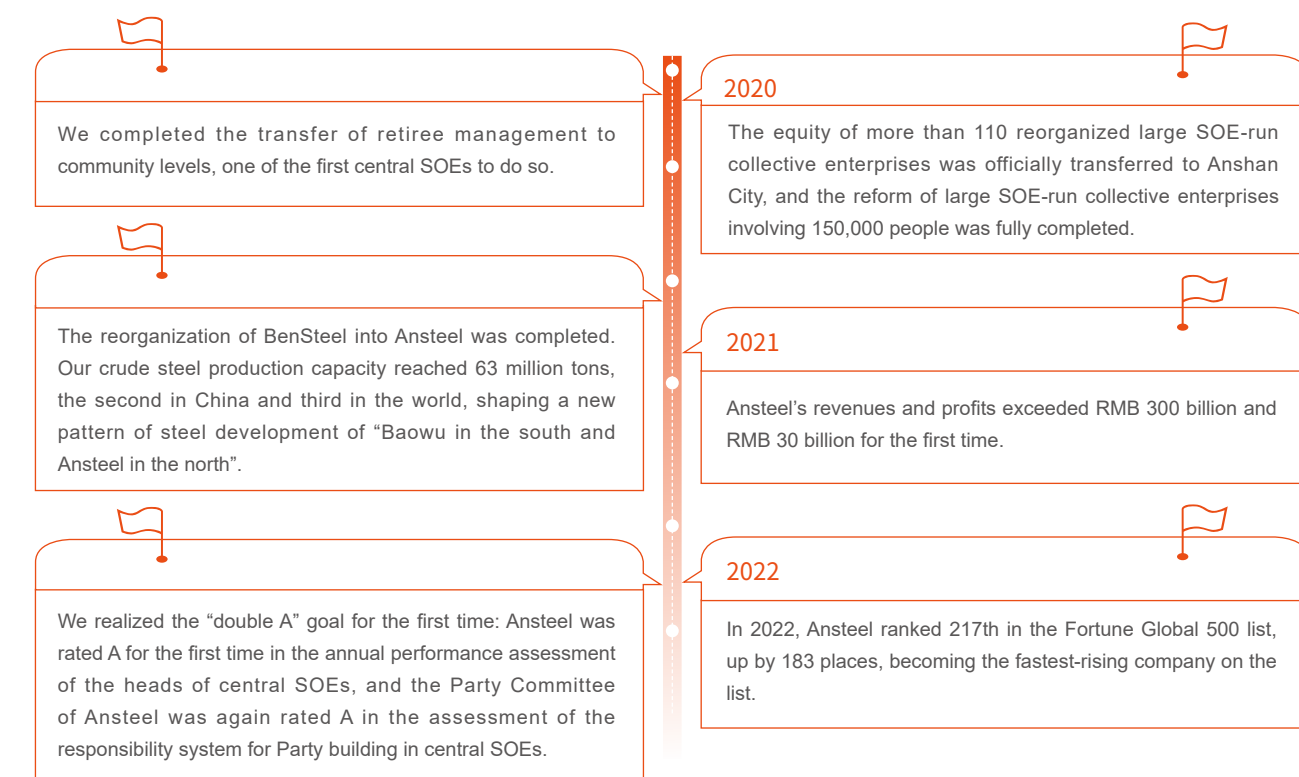
# Winning the Tough Battle of SOE Reform and Activating the Engine of High-quality Development

The three-year action for SOE reform has been promoted by the Party and the state as a priority of symbolic significance in recent years. Grasping General Secretary Xi Jinping's important exposition on the reform and development of SOEs and Party building, we spare no effort to advance the three-year action for SOE reform. Despite obstacles, we always blaze new trails. With strong determination and action, we have successfully concluded the three-year action of SOE reform, consolidating the foundation for building a new Ansteel of high-quality development and a world-class enterprise. In 2021, Ansteel was rated A in the assessment of key tasks of the three-year action of central SOE reform and ranked 9th among all central SOEs.

## Innovative Institutional Reform Cements the Foundation for High-quality Development

On a path of “reform + market”, Ansteel improves governance efficiency with “standardization list + differentiated control”. We shape a new development pattern through the “Dual-Core” strategy of “steel + mining” and fully stimulate vitality with the long-term mechanism of “contract-based” and “value-based” incentives and constraints to build an Ansteel of high-quality development.

### Reform highlights



## Consolidating the cornerstone of governance to translate institutional advantages into governance efficiency

Ansteel insists on strengthening Party leadership in improving corporate governance, constantly consolidating the cornerstone of governance, optimizing the group's management and control system, and modernizing the governance system and capabilities.

### Key performance indicator

- **106** subsidiaries have established their board of directors as required, where external directors made up a majority (two 100% targets)

### Implementing “standardization list + standardized exercise of power” to better integrate Party leadership into corporate governance

With the “standardization list”, we clarify the rights and responsibilities of governance entities to achieve full coverage of decision-making matters. With “standardized exercise of power”, we give play to the role of governance entities, forming a decision-making mechanism of “one must, two things in place, three noes, and four strict measures”. We apply the modern enterprise system with Chinese characteristics with standardized governance lists at all levels of subsidiaries.

### Focusing on the “strengthening teams + bettering mechanisms” to improve the efficiency of the board of directors

We have established and improved the talent pool of external directors, who are visionary, practical, versatile, and professional managers or technical experts working full-time and part-time. The board of directors of subsidiaries is also strengthened.

We improve the research and communication mechanism and enhance the normalized management of “daily research + general discussions + special report + implementation feedback”. With a better follow-up and implementation mechanism, we take the decision-making matters of the board of directors and the opinions and suggestions of the directors seriously and form plans immediately for supervision and promotion purposes. We also improve the evaluation mechanism by combining daily management and annual assessments, quantitative and qualitative evaluations. The two-way communication between full-time directors and current personnel in charge is facilitated.

### Implementing “classified control + six-dimensional delegation of powers” to boost the efficiency of corporate governance and control

We have established and improved the strategic and differentiated management and control model with the six elements of “Party leadership, strategic planning, capital operation, resource coordination, innovation-driven development, and risk prevention and control” at the core, and implemented differentiated control of core business subsidiaries, specialized subsidiaries, and functional service subsidiaries.

We have implemented the “six-dimensional delegation of powers” according to the transformation of functions, needs of market entities, boundary conditions, boundaries of responsibilities, highlighted differentiation characteristics, and regulatory requirements. The right to establish institutions, recruitment, and salary distribution are classified and delegated to the primary level.





## Guided by the corporate strategy to shape a new pattern of industrial development

Ansteel has clarified the “7531” strategic goal during the 14th Five-Year Plan (2021-2025) period and implemented the “Dual-Core” strategy of “steel + mining”, striving to become the cradle of original technology and the leader of the modern value chain and play a strategic role in supporting the state-owned sector.

### Promoting the optimization of the steel industry

We further promote strategic restructuring, improve regional industrial concentration, and reduce homogeneous and disorderly competition within the same region, thus effectively optimizing the structure of the steel industry. We have formed a new pattern of the steel industry of “Baowu in the south and Ansteel in the north”.

### Promoting the great development of mining

In response to China’s political mission of “security in five aspects”, we include the development of mineral resources into the “Dual-Core” strategy of Ansteel. We vigorously promote development in six aspects such as flexible production, green mining, and intelligent management and control. Ansteel Resources Co., Ltd. has been established as a financing and incubation platform for new mines in Ansteel. We advance the 44 “three batches” projects and strive to build a world-class iron ore resource development enterprise. A total of 18 projects are included in the cornerstone plan and six of them have started construction.

To ensure that strong technology supports industrial development, we give play to our role as a national player in sci-tech innovation and work to secure breakthroughs in core technologies. Steel for nuclear power containment structures and weather-resistant and extreme-cold-resistant steel have made their global debut. “Stranglehold” materials such as F-class ultra-high-strength offshore engineering steel and bogie steel for Fuxing bullet trains have achieved breakthroughs, supporting the domestic production of key components in China. Our fine steel products are widely applied in national key projects such as “Blue Whale 1” and “Hualong No. 1”.

### Improving the capabilities of independent innovation

Focusing on industrial digitalization, we build coastal green, smart, and transparent factories represented by the Bayuquan base, with a production line automation rate of 100% and an operation centralization rate of 72%, leading upgraded intelligent management and control in the industry. We also build an intelligent operation system and realize the integrated operation and control of procurement, production, research, and marketing and multi-base manufacturing coordination in the whole process of iron and steel rolling.

### Accelerating digitalization

## Taking market-based approaches to simulate corporate vitality

With an emphasis on establishing a flexible, efficient, and market-based operation mechanism, we pay attention to the thorny issues in the mechanism of ensuring the two-directional appointment of managers, free flow of employees, and floating salaries by putting in place a long-term mechanism of contract-based and value-based incentives and constraints to fully stimulate the potential and vitality of talent as the primary resource.

### Key performance indicator

- The competition-based appointment rate of managers stands at **76.20%** with an exit rate of **9.40%**. The proportions of subsidiaries that require managers to be removed and transferred from posts due to incompetence and implement floating salaries remain at **74.80%** and **78.60%** respectively, with an income gap multiple of **2.23**, a remarkable level among all central SOEs
- The labor productivity of the main business has increased by **18.40%** year-on-year

### Performance-based appointment and solid contract-based management

We fully implement the tenure- and contract-based system for executives and the stint-based system for managers to promote and reward capable personnel and demote or eliminate the inferior, cultivating a good atmosphere of clean conduct and entrepreneurship.

### Efficiency-based employment and meticulous contract-based management

We improve the market-oriented employment system with labor contract management at the core and position contract management as the basis. We have realized the orderly flow of employees and the continuous improvement of productivity by implementing a long-term mechanism for competition-based employment, solid job performance management, and last-place exit.

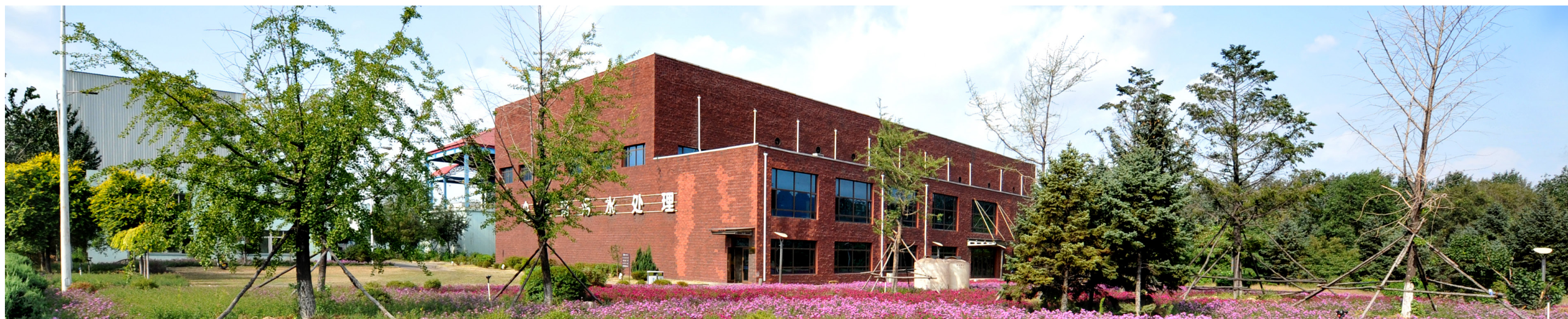
### Performance-based remuneration and rigorous value-based management

By setting high targets supported by strong incentives, we ensure that the annual salary gap of personnel in charge of subsidiaries can reach up to fourfold. Income distribution prefers senior managers, high-tech talent, skilled personnel, marketing professionals, and positions of great challenges, and salaries are set in high, medium, and low ranks. We create a floating salary difference coefficient to ensure a reasonable gap in employee incomes.

### A focus on key talent with diversified and multi-layer incentives

We offer equity incentives to bind the interests of core backbone talent with those of the Company in a common community. We provide medium- and long-term incentives to key R&D, engineering technology, and skilled personnel as well as young talent with great potential. Ansteel implements dividends and equity incentives for nine sci-tech subsidiaries such as the Ansteel Group Engineering Technology Corporation.





## Advancing special actions for SOE reform with the guidance of typical cases

Ansteel promotes special actions for SOE reform such as the “double-hundred action” and “science and technology reform demonstration action”. We also steadily advance the mixed ownership reform to remove entrenched institutional barriers and stimulate the momentum of reform and innovation. The Chengdu Advanced Metal Materials Industry Technology Research Institute Co., Ltd. under Ansteel Vanadium and Titanium (Steel and Iron) Institute and BenSteel Information Automation Co., Ltd. are listed as “science and technology reform demonstration enterprises”.

Implementing special actions for SOE reform such as the “double-hundred action” and “science and technology reform demonstration action”

We promote the comprehensive reform of “double hundred enterprises”. Centering around the requirements of “five breakthroughs and one reinforcement” and “three major mechanisms” by SASAC, Ansteel Mining Group Co., Ltd. has launched the “3+2+N” comprehensive reform and continued to deepen the market-oriented operation mechanism, enhancing the vitality and efficiency of the company.

We build “science and technology reform demonstration enterprises”. Focusing on building a model for the reform of sci-tech enterprises and a pioneer of independent innovation, we have enabled the Chengdu Materials Institute to complete shareholding system reform and give project dividends as incentives to fully unleash innovation momentum.

Deepening mixed-ownership reform

We adopt evaluations to push reform: Comprehensive evaluations from strategic planning, asset quality, industry analysis, and other dimensions are carried out to prudently and steadily advance mixed-ownership reform.

We promote reform through mixed ownership: Taking the “remodeling in three aspects” of Ansteel Group Engineering Technology Corporation as an example, we urge mixed-ownership reform enterprises to change their operation mechanisms completely to realize “qualitative change”. In mixed-ownership reform, Ansteel Group Engineering Technology Corporation highlights reform and reshapes its strategy, organization, and talent teams.

Strengthening Party building in mixed-ownership reform enterprises

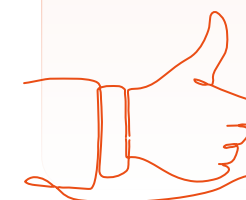
The establishment of Party organizations and Party building are necessary preconditions for mixed-ownership reform. We promote the leadership system of “two-way flow and cross-appointment” at mixed-ownership reform enterprises and ensure that the chairmen of all holding mixed-ownership reform enterprises also serve as Party secretaries.

## Deepened Reorganization and Integration to Unleash Synergistic Potential

Concentrating on the two main lines of “element control + management transfer” and “strategic leadership + resource coordination”, Ansteel promotes high-quality substantive integration, creating a new model of reorganization and integration of China’s extra-large state-owned steel enterprises. Highly commended by officials of the State Council, the SASAC, and the Party committee and the government of Liaoning Province, the reorganization of BenSteel into Ansteel is hailed as a landmark case of the three-year action plan for SOE reform.

Advancing the six-step comprehensive reform, Ansteel has successfully concluded the reorganization of BenSteel into Ansteel. We have built a modern corporate governance system, deepened integration, reshaped our system, and supported development through reform, thus creating a new model of reorganization and integration. One year after the reorganization of BenSteel into Ansteel, a total of 590 target tasks of reorganization have been completed. The 67 rapid-progress projects have generated a cumulative revenue of RMB 2.617 billion, of which RMB 2.059 billion are produced in the Benxi area, realizing comprehensive improvement in scale, quality, and revenues with a new pattern of China’s steel industry.

- We have diversified the equity structure of Ansteel. Two central SOEs, China Chengtong Holdings Group Ltd. and China Refrom Holding Corporation Ltd. increase our capital by purchasing our shares, helping Ansteel establish a diversified corporate governance structure.
- Liaoning Province’s State-owned Assets Supervision and Administration Commission has transferred 51% of its BenSteel shares to Ansteel free of charge, making BenSteel a subsidiary of Ansteel.
- Benxi Iron & Steel (Group) Co., Ltd. completed a debt-to-equity swap of RMB 4.40 billion on December 20, 2021, further optimizing its capital structure.
- The mixed-ownership reform of BenSteel is completed. Jianlong Group, an excellent private enterprise, has become the strategic investor of BenSteel for ownership and institutional reform.
- We advance the reorganization of BenSteel into Ansteel. Concentrating on the two main lines of “element control + management transfer” and “strategic leadership + resource coordination”, we integrate both the management and business of BenSteel and Ansteel.
- We deepen the market-oriented reform of BenSteel. We have formulated the “1+2+N” reform implementation plans and promoted 43 reform tasks.





# Innovation and Efficiency Support High-quality Development

## Our Actions

General Secretary Xi Jinping emphasizes that “innovation is the primary driving force behind development, and innovation holds the key to development and the future”. Ansteel has made “innovative Ansteel” part of the brand new Ansteel as an important driving force for achieving the strategic goals during the 14th Five-Year Plan (2021-2025) period. We have introduced a package of new policies and measures to promote sci-tech innovation, produced major sci-tech achievements, and trained a large cohort of leading sci-tech innovators, injecting strong impetus into the high-quality development of the brand new Ansteel.

## Our Performance

RMB **13.056** billion

R&D investment

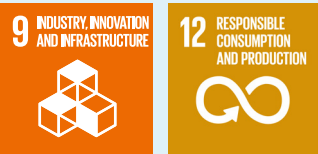
**37**

industry-level and provincial sci-tech awards

**2**

ISO international standards (the release is led by Ansteel)

## Contribution to UN SDGs







# Iron will

Independently developing the world’s largest pre-steelmaking integrated and intelligent ironmaking center

In August 2022, the world’s largest pre-steelmaking integrated and intelligent ironmaking center including sintering, pelletizing, coking, and blast furnace process, with the functions of production control, equipment monitoring, command decision-making, and industrial big data, was developed and applied by Ansteel after technological breakthroughs were realized. It serves as an intelligent production and operation platform integrating data collection, intelligent video, intelligent control, data visualization, and intelligent analysis and decision-making in the blast furnace area. The center plays an important role in improving the quality and efficiency of the ironmaking system, reducing costs, increasing efficiency, and enhancing work safety. Additionally, it lays a solid foundation for achieving new progress in the pursuit of a digital Ansteel.

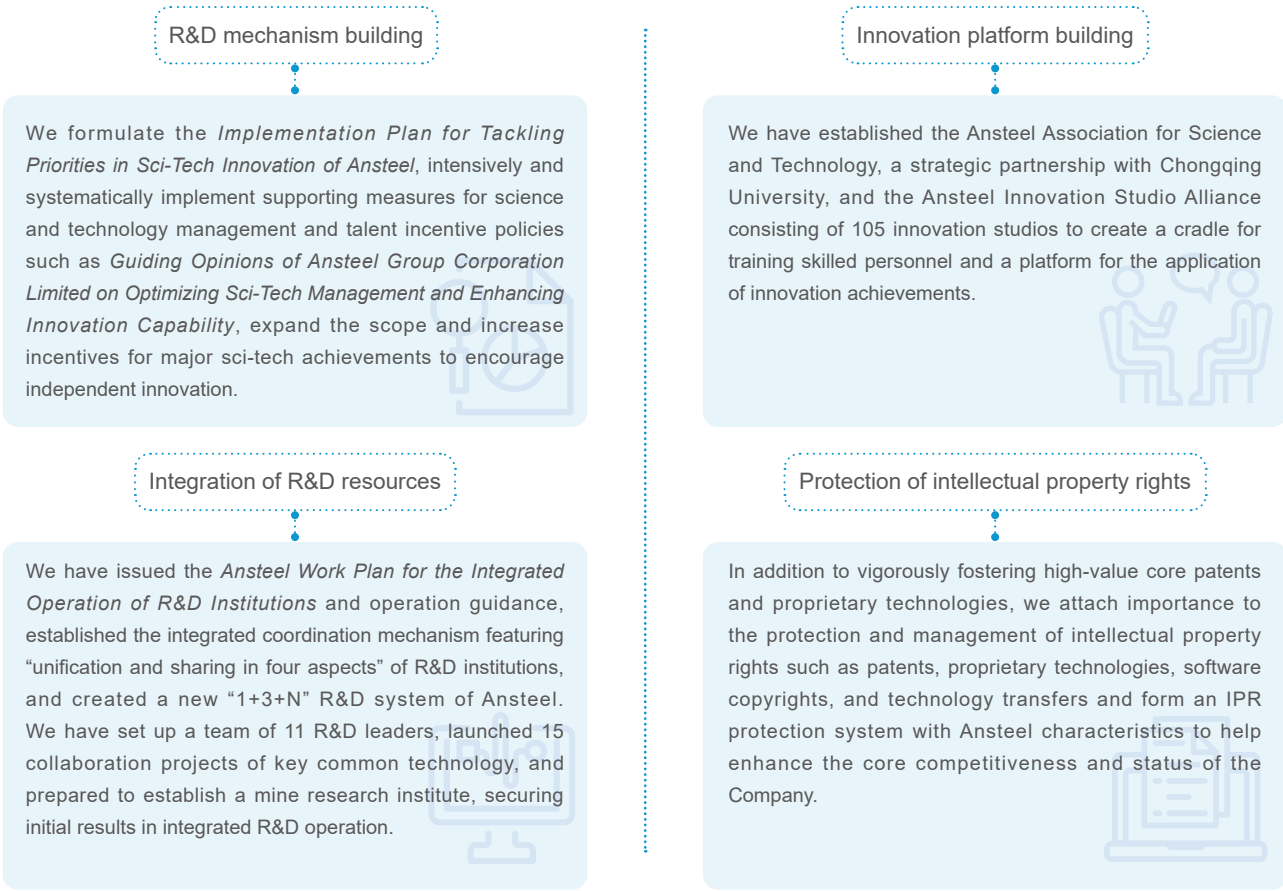
The successful commissioning of this project provides an example for the major steel production bases of Ansteel to move from empirical management toward digital and lean management through digital empowerment. It also offers the steel industry a replicable and highly applicable “Ansteel model” for intelligent and integrated control that is worth promoting.

## Pursuing Sci-tech Self-reliance and Self-strengthening

Highlighting the development of sci-tech talent, Ansteel strengthens the association for science and technology and urges sci-tech professionals to be the vanguard of sci-tech self-reliance and self-strengthening. We aim to build a cradle of technological development, a center for talent training, and a stronghold for the possession of technologies, striving to accelerate the building of a brand new Ansteel featuring high-quality development and contribute to China’s pursuit of a world leader in science and technology.

### Innovation mechanism

According to the requirements of the SASAC for building an incentive mechanism for sci-tech innovation, Ansteel has issued and implemented the *Guiding Opinions of Ansteel Group Corporation Limited on Optimizing Sci-Tech Management and Enhancing Innovation Capability* to improve the efficiency of the R&D system through mechanism, team, and platform building.



### Key performance indicators

In 2022, in Ansteel
• the intensity of R&D investment was <b>3.88%</b>
• the R&D investment was RMB <b>13.056</b> billion



### Case Ansteel Association for Science and Technology is established

To pool sci-tech resources together, in June 2022, the first conference of the Ansteel Association for Science and Technology was convened, marking the official establishment of the Association. Its inception is of great significance for fostering a favorable environment for innovation, bringing together sci-tech talent, popularizing scientific knowledge, promoting sci-tech exchanges and cooperation, and commercializing innovation achievements. It is conducive to giving full play to the talent and organizational advantages of a central SOE, cultivating national strategic sci-tech strength, and realizing sci-tech self-reliance and self-strengthening at higher levels.



### Fruitful sci-tech outcomes

We have gone all out to secure breakthroughs in “stranglehold” technologies and aim to be the cradle of original technologies, presenting the global debut of key technologies and products that contribute to the development of the steel industry.

#### Undertaking state-level scientific research projects

- We take the lead in undertaking several state-level scientific research projects such as the “surface engineering technology and application of key components in the field of metallurgy under complex working conditions” under the 14th Five-Year Plan national key R&D program.

#### Leading the release of ISO international standards

- We lead the release of the ISO 24259:2022 *steel strapping for packaging* international standard, the first ISO international standard in China’s packaging field that fills the gap.
- We lead the revision of the ISO 5451:2022 *ferrovanadium – specification and conditions of delivery* international standard, which raises China’s influence and voice in the field of ferroalloys.

#### Researching and developing innovative products

- The 130mm extra thick containment steel plate is released to the global market for the first time and is first applied in the “Guohe One” demonstration project, alleviating the urgent need for key materials in major national projects.
- The new 590MPa grade low-density, high-formability cold-rolled high-strength automotive steel is released to the global market for the first time, marking that Ansteel is at a leading position in the research and development of low-density automotive steel.
- “The research and development of a brand-new alloy system and oxidation resistant and coating free hot-formed steel” produces the CF-PHS1500 product which is released to the global market for the first time, and the technology is at a world-class level.
- We develop the 1330MPa-grade U95Cr high-strength corrosion-resistant hypereutectoid steel rail, becoming the first enterprise in China to produce ultra-thin and ultra-wide specifications of “hand-torn titanium”, laying a solid foundation for a high-end parts manufacturing industry.





## Key performance indicators

In 2022,

- 17 technical standards were issued after being drafted or revised, including 2 international standards, 13 national standards, and 2 industry-level standards
- We won 37 industry-level and provincial sci-tech awards and led the release of 2 ISO international standards
- We accepted 2,477 patent applications, authorized 1,675 patents and had 6,296 valid inventions
- The accepted invention patents accounted for 67.70%, and the year-on-year increase of authorized patents was 21.10%. The year-on-year increase of PCT international patent applications was 185.70%. We had 11,000 valid patents in total

## CSR Honors

- Anshan Iron and Steel Group and Pangang have been rated as China's most patented and innovative steel enterprises for three consecutive years.
- Angang Steel Company Limited, Pangang Chengdu Materials Institute, and Pangang Group Mining are recognized as enterprises with IPR advantages in China for the first time.
- SteelRanking released the 2022 Technology & Competitiveness Ranking of World Steel Enterprises, where Ansteel ranked 5th, entering the "A+" group for the first time.
- The patent "method for preparing high-strength coke from chemical waste" receives the 23rd China Patent Award.
- ISO 22055:2019 *switch and crossing rails* international standard is granted the 2022 China Standards Innovation Contribution Award.
- Ten leading projects, including "key technologies and applications of green and efficient utilization of Panxi vanadium resources", obtain the 2022 China Metallurgical Science and Technology Award.
- BenSteel 2000MPa hot-formed steel is ranked the first prize in "2022 5th China Automotive Lightweight Design".
- The world's first set of single-winding helical electromagnetic stirring device-related technology independently developed by Ansteel wins the first prize of the 5th China Management and Technology Innovation Achievements.

### Case Leading the revision of the international standard *ferrovanadium – specification and conditions of delivery* on behalf of China

In December 2022, ISO 5451:2022 *ferrovanadium – specification and conditions of delivery*, whose five-year revision was led by Pangang on behalf of China, was approved for publication. Compared with the original international standard for vanadium and titanium, the new version is more suitable for the current production and use of ferrovanadium and the rational use of resources at different levels. The new standard is intended to guide the science-based development and efficient utilization of resources and industrial upgrading, making a huge difference in promoting the overseas application of China's standards and consolidating the status of China as a major producer of vanadium products.

### Case The project *Development of High-strength Containment Plates* passes the national evaluation

In July 2022, the national sci-tech major project led by Angang Steel Company Limited and implemented by Shanghai Nuclear Engineering Research and Design Institute – *Development of High-strength Containment Plates* for large-scale advanced pressurized water reactors and high-temperature gas-cooled reactors passed the national evaluation. The project addressed some key technical problems and established China's standards. It created ultra-thick and ultra-wide high-strength reactor containment steel and developed supporting integrated manufacturing and application technology with the comprehensive performance of steel plates much better than that of similar products elsewhere.

## Continuously Improving Quality and Efficiency

Ansteel places emphasis on lean management, accelerates the conclusion of the benchmarking-for-improvement actions, encourages the setting of major innovation projects, and promotes breakthroughs in management innovation.



- We step up efforts to control production costs by identifying potential operation links where costs can be brought down and benchmarking strengthened and setting differentiated cost and expense reduction targets.
- We strengthen budget rigidities, strictly implement standards, and deepen the evaluation of expenditure efficiency while fully leveraging information technology to vigorously promote online working and reduce travel and conference expenses.
- To enhance the control of account receivables and stock, we have approved the account receivable and stock quota of the three regional companies, namely Anshan Iron and Steel Group, Pangang, and BenSteel, and optimize the account receivables and stock standards of other subsidiaries.



- We enhance the implementation of responsibilities and comply with the SASAC benchmarking action requirements with better process control of special assessment indicators. Ansteel has completed tasks linked to the 103 benchmarking indicators in the benchmarking-for-improvement action list, with a 100% completion rate.
- We establish "three benchmarks" and typical examples and create 21 internal benchmarking enterprises, 16 benchmarking projects, and four benchmarking models. Chaoyang Iron & Steel and Xichang Vanadium Products Company and one human resources project are included in the action list of SASAC.
- The *Implementation Plan for Promoting Lean Management of Ansteel* is issued, with a focus on lean management to improve the overall management level of the Company.



- The List of *Major Management Innovation Projects of Ansteel* in 2022 is issued, including 15 key cultivation projects (Category A) and 26 key cultivation projects (Category B) of subsidiaries.
- We carry out internal achievement reviews, with 71 management achievements declared by various departments and subsidiaries. A total of 37 achievements are granted awards after preliminary and final evaluations.
- Management achievements at the level of industry associations and the state have achieved breakthroughs. Ansteel has secured four national management innovation achievement awards and 13 management innovation achievement awards for metallurgical enterprises.



## Inventing a Smart Future

At a new stage of the digital economy deeply intertwined with the real sector, Ansteel regards the building of a “digital Ansteel” as a new engine to accelerate high-quality development. We seize the opportunities presented by the digital transformation of traditional industries, digital industries, and value-generating data. We continue to expand the new model and path of “digital Ansteel” and accelerate digital transformation with outstanding performance in intelligent manufacturing to empower the transition to a new Ansteel.

### Improving the digital Ansteel promotion system

- The digital Ansteel intelligence index evaluation system is released and the first round of evaluation in the two fields of digital steel and digital industry is completed.
- We hold the third “Digital Ansteel - Digital Ecology” promotion meeting, put into operation the first set of intelligent molten iron transportation system of Ansteel, and share the typical application scenario and construction practice of the Bayuquan smart transparent factory.
- The results of digital Ansteel development are presented at the Global Industrial Internet Conference. We hold a forum on intelligent manufacturing in the steel industry and release three innovation achievements such as the 5G cloud-based PLC application.
- We improve the digital Ansteel standard system and compile one international standard for intelligent manufacturing and two association standards approved and released by the China Iron and Steel Association.
- The first “digital talent training” course is held, and the first group of “digital leadership” trainees support the digitalization of subsidiaries.

### Strengthening digital transformation

- Intelligent management: The Company’s OA system has been upgraded with the comprehensive budget management system and material master data management platform put into operation. The transformation of the treasury system and human resources system has been carried out as planned.
- Intelligent operation: The integrated operation and manufacturing management system of the steel industry is applied to BenSteel. The plate base and the digital procurement system of Pangang are launched. The Ansteel Group General Industrial Development Co., Ltd. ERP system covers all subsidiaries, and Angang Finance Co., Ltd. has built an operation monitoring platform.
- Intelligent manufacturing: Bayuquan and Xichang Steel & Vanadium intelligent manufacturing demonstration bases have taken shape. Ansteel Mining Group Co., Ltd. has built an intelligent operation center and explored a new model of “mine group” management and production. BenSteel promotes the application of mature technologies such as unmanned vehicles and industrial robots. Anshan Iron and Steel Group is included as a member of the Key Laboratory of Big Data Analysis and Integrated Application of the Ministry of Industry and Information Technology. A total of 30 projects such as industrial big data application of Angang Steel Company Limited and Pangang “5G+” remote drilling and mining and unmanned transportation are rated as pilot demonstration projects or granted awards by ministries or industry associations.

### Promoting digital industries

- We strengthen the innovative application of digital technology and develop independent and controllable digital intelligent products and solutions. Proven solutions such as smart energy control and unattended measurement are promoted within the Company.
- We enhance platform service capabilities and connect the fine steel industrial Internet platform to the national nodes of industrial Internet identity resolution, providing a variety of application services for 25 application scenarios such as smart ironmaking, smart steelmaking, smart energy, smart equipment, smart quality, and smart logistics.

### Tapping into the value of data

- We formulate the Company control and supervision index database and implement the state-owned assets supervision index system. Given the Company’s strategic control positioning, we sort out 2,770 control and supervision indicators in 15 aspects such as Party building, capital operation, budget, human resources, compliance management, etc. We unify the definition of indicators and index attributes to ensure the consistency of standards and output.
- We pilot data mining. We include the Company’s control and supervision indicators into the Company’s data lake platform for data governance. Anshan Iron and Steel Group, Pangang, Ansteel Mining Group Co., Ltd., and other subsidiaries focus on topics such as “production, quality, equipment, energy” to dig deep into the value of data.

### CSR Honor



Eight scenarios of four units, including Angang Steel Company Limited, Ansteel Mining Group Co., Ltd. Qidashan iron mine, Chaoyang Iron & Steel, and Xichang Steel & Vanadium were awarded excellent scenarios of intelligent manufacturing in 2022.



Laser cutting robots



Intelligent control center of Ansteel Mining Group Co., Ltd. Qidashan iron mine



# Coordination and Sharing Boost Regional Prosperity

## Our Actions

In response to the Strategy for Coordinated Regional Development and the Belt and Road Initiative (BRI), we contribute industry-best key products to support the localization of steel technologies and equipment and strengthen the ballast stone for industrial and urban development. Joining hands with partners in pursuit of high-quality BRI, we stride towards the development path of common prosperity.

## Our Performance

**3.2971** million tons

export of steel

**2.9999** million tons

signed volume of direct steel  
export

**1st** place

heavy rail export, with 187,200  
tons exported, accounting for  
70% of the total

## Contribution to UN SDGs



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



12 RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



17 PARTNERSHIPS  
FOR THE GOALS





# Iron will

Solidly promoting the cooperation of 100 pairs of subsidiaries of central SOEs and key local SOEs to support the high-quality economic development of Northeast China

Deeply understanding and implementing General Secretary Xi Jinping's important speeches and instructions on the comprehensive revitalization of Northeast China, we faithfully deliver the requirements of the SASAC on the cooperation of 100 pairs of subsidiaries of central SOEs and key local SOEs and promote the cooperation between Anshan Iron and Steel Group and Anshan Metallurgical Industry Group Co., Ltd. as well as between Ansteel Mining Group Co., Ltd. and Liaoning Jigai Construction Engineering Co., Ltd. Leveraging the expertise of central SOE subsidiaries and local SOEs, we focus on building a production and supply cooperation mechanism and a diversified exchange platform to enhance industrial collaboration for the high-quality economic development of Northeast China.

## Deepening Cooperation Between Central and Local SOEs for Cross-regional Sharing

Giving full play to our strengths in technology, capital, and human resources, we coordinate the resources of local governments and enterprises such as China Datang, Dalian Customs District, China North Industries Group Corporation Limited, COFCO, Liaoning Environmental Protection Group in the areas where we operate and deepen the cooperation between central and local SOEs to optimize the steel industry in the western region and Northeast China. We also support local projects to improve people's life, creating a new model of cooperation between the central and local SOEs.

We strengthen organizational leadership and promote overall planning and coordination

We implement measures in an orderly and coordinated manner to achieve real effects

A task force for paired cooperation headed by the general manager of the Company is established for coordination and vigorous promotion. We strengthen design at the top by formulating the *Work Plan for Carrying out the Cooperation Between 100 Pairs of Central SOE Subsidiaries and Local SOEs to Revitalize Northeast China* and clarify the overall architecture, key measures, safeguards, and work requirements. We have established a communication mechanism for regular meetings between the two sides to be held effectively and implemented the coordination list to solve problems.

Given the production and operation of paired enterprises, we devise region- and enterprise-specific policies, work measures, and implementation plans, giving full play to the leading role and brand of Ansteel in the local economy. Centering around the areas of "five focuses", we solidly advance the implementation of collaboration projects.

- Promoting production and supply cooperation to achieve complementary and coordinated development.
- Leveraging the technological expertise of Ansteel to empower the transformation of traditional industries.
- Building a platform for technical exchange and cooperation to facilitate the research of key technology.
- Putting in place a management expertise sharing platform to improve governance capability and management.
- Promoting human resources exchanges and strengthening the building of talent teams.

### Case Seeking a green future together

In November 2022, Ansteel signed a strategic cooperation framework agreement with Liaoning Environmental Protection Group. The two sides planned to conduct in-depth exchanges and cooperation in environmental protection engineering, environmental consulting, solid waste and hazardous waste disposal, sewage treatment, engineering design and construction, supply chain, finance, and other fields to build green, low-carbon, and high-end steel enterprises. Such actions will promote the green and low-carbon transformation of steel enterprises in Northeast China and create a better future of high-quality development.

### Case Jointly building the Xingliao Iron and Steel Industry College to provide talent for the development of the iron and steel industry in Northeast China

By integrating the resources of BenSteel and Liaoning Metallurgical Vocational Technical College, we tap into the talent and resources of BenSteel as well as the industry-university-research cooperation platform and educational foundation of Liaoning Metallurgical Vocational Technical College to build the Xingliao Iron and Steel Industry College. Featuring a diversified education model of "professional college + industrial college", the new college serves steel intelligent manufacturing, green intelligent mines, and the structural adjustment and transformation of the steel industry in Northeast China. The two sides carry out in-depth cooperation in the development of subject groups, talent training, teaching and research commercialization, etc., and lead the high-level integration of personnel, technology, culture, management, and other elements. These practices provide a platform for the talent training reform of the Liaoning Metallurgical Vocational Technical College, add new impetus to the development of the Company, and offer human capital for industrial revitalization in Northeast China.



## Driving Economic Growth to Share Prosperity with Cities

Ansteel supplies high-quality iron and steel products to build China's urban transportation and energy infrastructure, supports a rapid transportation network for the sustainable development of cities, and provides a constant source of driving forces to strengthen urban infrastructure and boost prosperity.



### Contributing to the construction of energy industry infrastructure

- We are the exclusive supplier of the high-end 06Ni9DR steel plates for the Wenzhou Huagang LNG Terminal Project, a key project of national energy development, and the supply is done ahead of schedule, helping the Wenzhou project register the speediest record in the construction of LNG storage tanks in China.
- We have supplied more than 140,000 tons of pipeline steel for China's west-to-east gas transmission project (Turpan-Zhongwei), supporting the artery of green energy for west-to-east gas transmission.
- We provide X7Ni9 steel plates for the Huizhou LNG Terminal project in the Guangdong-Hong Kong-Macao Greater Bay Area to promote socio-economic development and optimize local energy mix.

### Contributing to the construction of transportation infrastructure

- The world's largest 24,000TEU (standard container) container ship Ever Alot adopts crack-arrest steel with a maximum thickness of 95mm produced by Angang Steel Company Limited for coaming and other key parts, the first such application in China that supports China's shipbuilding industry to lead the world through the power of technology.
- We have won the exclusive bid for the Wuwei-Yuexi section of the G42S Shanghai-Wuhan Expressway bridge project that adopts the world's first low-yield-ratio high-toughness longitudinally profiled (LP) bridge steel released by Ansteel in the world for the first time to support the construction of innovative green bridges.
- The Chongqing Jiangtiao Line, China's first dual-powered rail line with its steel rail exclusively supplied by Pangang, is officially put into operation. Our products support the city's urban rail transit development and meet the demand of citizens for fast and convenient travel.
- We provide all high-speed turnout rails and U71Mn steel rails by waste heat quenching for China's first cross-sea high-speed railway, the Fuzhou-Xiamen high-speed railway, helping it achieve full line operation and greatly shortening the travel time.

### Case Ansteel products support major infrastructure construction

High-quality, high-strength structural steel is necessary for major infrastructure construction. In 2022, Ansteel won the bid for nearly 70,000 tons of X80M pipeline steel for the Nantong section of the China-Russia east-route natural gas pipeline (Yongqing-Shanghai) of the national pipeline network, contributing to the construction of the China-Russia east-route with the long-distance pipeline of the largest diameter and maximum thickness (32.1×φ1422) in China. The first batch of 105 tons of steel threaded rods from BenSteel was sent to the site of the Benxi-Huanren Expressway Project, a key project during the 14th Five-Year Plan period (2021-2025) in Liaoning Province, which, after being completed, will greatly shorten the distance from Shenyang to Benxi and Huanren and form a three-hour radius rapid transportation network with Shenyang at the center. With high-quality hot-rolled plates, Pangang won the bid for the Liangshan Prefecture Daqiao Reservoir Water Diversion Project. We contribute to the water supply and water safety of people living along the project as a central SOE to improve locals' life.

### Case Blade steel by Pangang Group Sichuan Changcheng Special Steel Co., Ltd. helps China achieve breakthroughs in heavy-duty gas turbines

Heavy-duty gas turbines concern national energy security and national defense, and blade steel is the heart of gas turbines. Back in 2009, Pangang Group Sichuan Changcheng Special Steel Co., Ltd. commenced technical research, and after years of efforts, it eventually addressed the key technical issues that blade steel manufacturers around the world faced: high purity and longevity in service, successfully producing gas turbine blade steel. In 2022, after 13 years of independent development, the first domestic F-class 50 MW heavy-duty gas turbine with blade steel provided by Pangang entered engineering application, marking a breakthrough in the field of heavy-duty gas turbines in China. "Blade steel by Pangang Group Sichuan Changcheng Special Steel Co., Ltd. helps China achieve breakthroughs in heavy-duty gas turbines" was listed as one of the top ten influential events in China's special steel industry in 2022.



## Realizing Connectivity and Cooperation with Global Partners

Ansteel steadily improves international operations and ramps up efforts to expand business in BRI countries, with a focus on gaining global market shares of heavy rail, vanadium, and other leading products. Marketing high-quality products to the world, we cooperate with global partners in pursuit of global connectivity and common development. In 2022, Ansteel exported 3.2971 million tons of steel. Ansteel products are at the forefront of infrastructure building and connectivity in more than 30 BRI countries and regions.

### Expanding international cooperation

We analyze the comprehensive investment environment of BRI countries to explore international production capacity cooperation. In 2022, we studied the feasibility of steel international production capacity cooperation projects covering primary products, short processes, and overseas warehouses in some popular regions, laying a solid foundation for overseas business.

The export of heavy rail continues to maintain the No.1 position in China. In 2022, we exported 187,200 tons of heavy rail, accounting for 70% of the total in China, helping the construction of key railway projects in countries such as Brazil, Australia, Sri Lanka, Pakistan, and Mexico. The overseas markets of vanadium products are mainly concentrated in India, the United Arab Emirates, Turkey, Indonesia, Malaysia, and other countries along the BRI, with an overseas market share of about 10.80%.

### Strengthening international exchanges

We have participated in the China International Import Expo for five sessions in a row, where we signed contracts with nine world-class suppliers of complete sets of equipment and spare parts such as Siemens, SMS group, and Schneider Electric, further strengthening the integration and exchange between Ansteel and our international counterparts.

We attended the 2022 Global Industrial Internet Conference, where we focused on the three main lines of "digital transformation of traditional industries, digital industries, and value-generating data" and shared the achievements of Ansteel in vigorously promoting reform and innovation and smart manufacturing to improve quality, efficiency, and driving forces. Our achievements attracted the attention of many participants, enhancing the brand image and influence of Ansteel.





# Low-carbon Development Protects Natural Ecology

## Our Actions

Known as the “eldest son of the steel industry of the Republic”, Ansteel starts from design at the top, deploys the work of environmental protection, and constantly explores new paths for green development. While in search of new opportunities in the finance field of carbon assets, we continue to promote clean quenching and ecological warehouses as an industry leader, demonstrating the green responsibility of the “eldest son”.

## Our Performance

**1.82%**

year-on-year decrease of comprehensive energy consumption per RMB 10,000 of output value (comparable price)

**5.25%**

year-on-year decrease of CO<sub>2</sub> emissions per RMB 10,000 of output value (comparable price)

Inaugural award of excellence in low-carbon steel production for Ansteel's low-CO<sub>2</sub> emission blast furnace charge solution from the World Steel Association

## Contribution to UN SDGs

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

15 LIFE ON LAND







Sep 2013  
Dongshanbao Mine of Ansteel Group Mining Corporation, Liaoning Province

Sep 2022  
Mine Ecological Garden of Ansteel Group Mining Corporation, Liaoning Province

Through ecological restoration, a beautiful multi-functional ecological garden was built on the rolling tailings pond.

## Iron will

Hua Chunying recognizes the transformation of the rolling tailings pond of Ansteel Mining Group Co., Ltd. into an ecological garden

During China's 2023 two sessions, Hua Chunying, Assistant Minister of Foreign Affairs and spokesperson, posted 5 sets of satellite images in comparison on her social media Twitter account, showing remarkable progress in China's high-quality development and ecological protection in the past decade. Among these images, the mine ecological protection achievements by Ansteel Mining Group Co., Ltd. were included and celebrated by Hua Chunying.

The satellite images in question show the Dagushan iron ore mine Dongshan rolling tailings pond of Ansteel Mining Group Co., Ltd. in September 2013 and the mine ecological garden in September 2022. It can be clearly observed that Ansteel Mining Group Co., Ltd. has transformed the former rolling tailings pond into a scenic garden through ecological restoration, the result of ongoing landscaping efforts by the company under the concept of green development in the past 20 years. Through continuous leveling, filling, and reclamation, the ecological garden is now home to more than 20 varieties of green and ornamental tree species with a pear tree orchard and a plum garden covering 50,000 square meters and 30,000 square meters respectively. Thanks to long-term management, the hidden dangers of dust and soil erosion in the ecological garden have been addressed and the environment restored.

As a central SOE, Ansteel, guided by Xi Jinping's thinking on ecological civilization, has enabled 3,800 hectares of iron ore mines to be relandscaped, and 16 mines have been awarded the title of National Green Mine. We embark on a path of putting the environment first and pursuing green and low-carbon development, contributing to the beautiful China initiative.

## Green Management

Ansteel is committed to making contributions to "bluer sky, greener mountains, clearer water, and better ecological environment". In line with the principle of advancing improvement through management, Ansteel prioritizes green development management by continuously improving environmental protection mechanisms and systems, and raising environmental awareness.

### Environmental protection systems

The Company continuously improves its environmental management mechanisms by setting goals, increasing investment, improving systems, and improving organizations to minimize negative impacts on the environment. In 2022, Panzihua Guotai Science & Technology Co., Ltd., a subsidiary of Pangang, was awarded the title of Green Factory in Sichuan Province, and a subsidiary of Ansteel Mining Group Co., Ltd. in Qidashan was awarded the title of Green Factory in Liaoning Province.

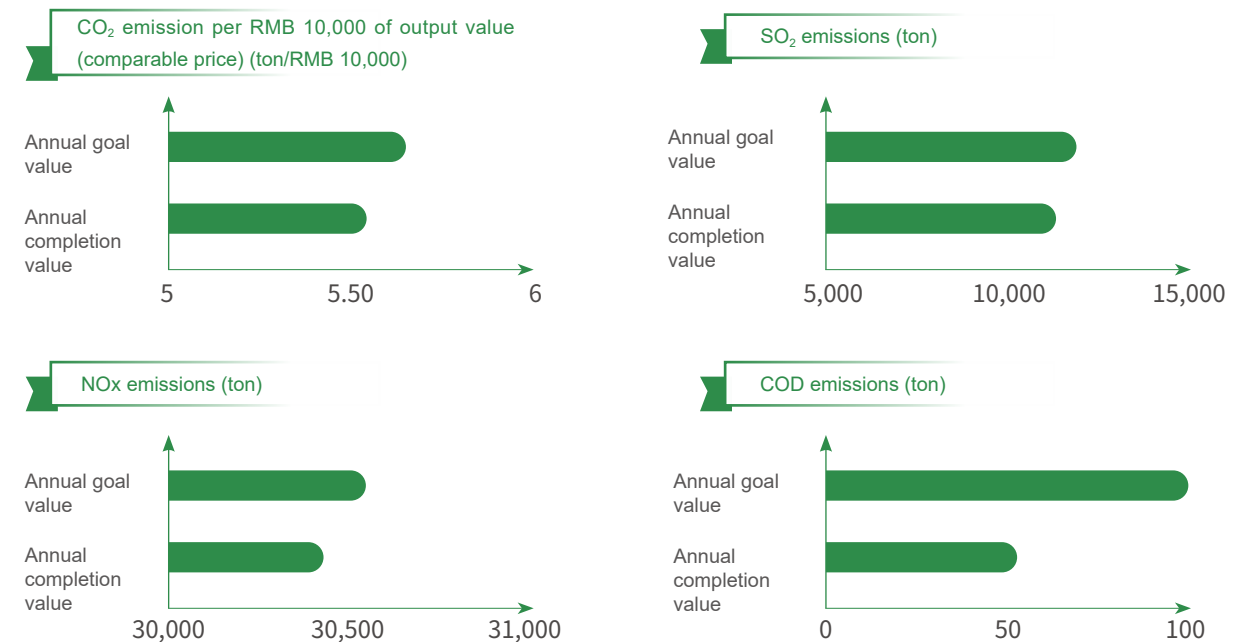
#### Environmental protection organizations

The Company continuously improves its environmental protection organizational structure. We have issued the Notice on Adjusting (Establishing) the Composition of the Functional Leadership Group (Committee) of Ansteel. Accordingly, we adjust the environmental protection organization based on personnel changes and work needs, providing institutional support for green management.

#### Environmental protection goals

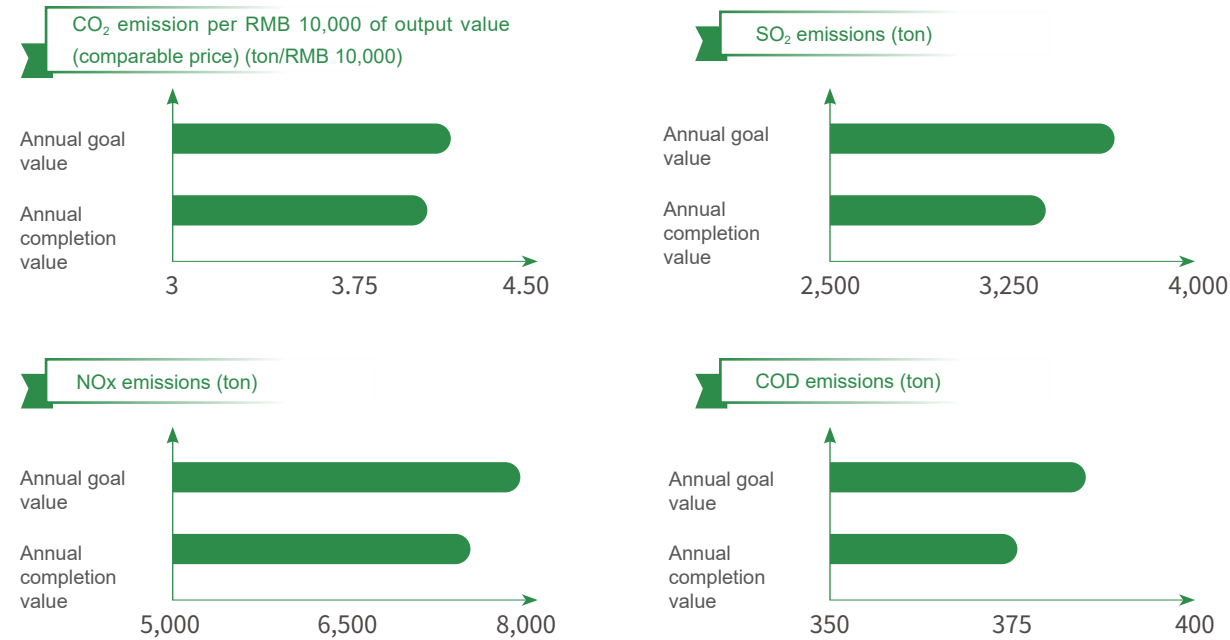
The Company implements environmental responsibility performance assessment management, and each subsidiary sets environmental protection goals, especially for pollutant emissions, and takes relevant measures to strengthen monitoring and control over those environmental indicators, achieving closed-loop management. In 2022, all subsidiaries achieved the annual environmental protection goals set at the beginning of the year.

#### Annual Environmental Protection Goals and Completion of Anshan Iron and Steel Group

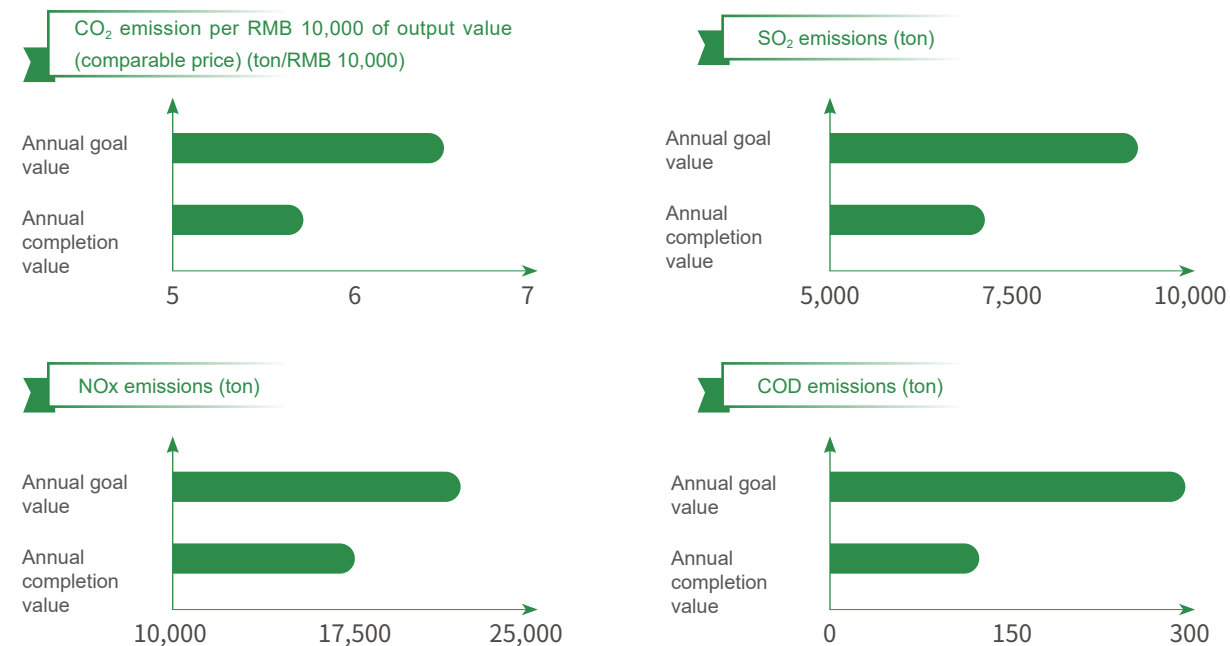




### Annual Environmental Protection Goals and Completion of Pangang



### Annual Environmental Protection Goals and Completion of BenSteel



### Environmental protection mechanisms

The Company keeps optimizing its environmental protection systems. We actively encourage units such as Anshan Iron and Steel Group, Pangang, and BenSteel to improve their own environmental protection mechanisms and emergency management systems, to create solid ecological safety barriers.

#### Environmental protection systems

Anshan Iron and Steel Group has revised environmental protection systems such as the *Environmental Protection Responsibility System* and *Environmental Protection Assessment Rules*. Pangang has revised the *Environmental Protection Management Measures*. BenSteel has revised and issued various management systems such as the *Environmental Protection Management Measures*, *Accountability for Environmental Liability Accidents*, and *Environmental Responsibility System*, and organized each subsidiary to undertake and refine 56 environmental protection systems, thus strengthening institutional guarantees.

#### Environmental emergency response

Anshan Iron and Steel Group has revised and strictly implemented emergency plans for heavily polluted weather and sudden environmental events. Pangang has established a three-level emergency management system for environmental emergencies, and developed a total of 70 environmental emergency plans. BenSteel has organized three major subsidiaries to systematically revise emergency plans for heavily polluted weather and improve their capabilities in environmental emergency response.

#### Environmental protection assessment

Anshan Iron and Steel Group has strictly followed the rule that facilities for environmental protection are designed, built and put into use simultaneously with the main body of the project concerned. Anshan Iron and Steel Group has also carried out environmental assessment on 15 construction projects including Bayuquan Phase II, organized environmental acceptance for 18 completed projects, and completed post assessment on the environmental impact of chemical technology tar upgrading and transformation and needle coke projects. Pangang has conducted internal comprehensive assessments on the building of institutional systems, operation of environmental protection facilities, pollutant emissions, risk prevention, and other aspects of major production units. Bensteel has strengthened environmental protection assessment and certification, carried out environmental protection assessment for new projects, and renewed certification for environmental management systems.





## Environmental protection awareness

In order to raise the environmental protection awareness and ecological concept of all employees, the Company actively provides employees with environmental protection training to raise their awareness and improve their ability in assuming environmental protection responsibility.

### Anshan Iron and Steel Group

Anshan Iron and Steel Group has organized special training on pollutant discharge permit and emergency response plans for sudden environmental events, and invested RMB 225,000 in professional training on radiation safety, raising employees' environmental protection awareness and emergency response capabilities for sudden environmental events.

### Pangang

Pangang has leveraged the environmental protection information platform as the carrier to learn the latest policies, regulations, and standards in real-time. Pangang has also organized to participate in the online training on air pollution control and ultra-low emissions in the steel industry, carried out six special training on ultra-low emission technologies, whole-process emission reduction practices in the steel industry, policies, path planning and prospects related to ultra-low emissions under the background of China's "30-60" decarbonization strategy. These initiatives have further improved the professional level of the environmental management team.

### Bensteel

Bensteel has provided online and offline environmental protection training for various management personnel, with ten centralized training throughout the year. Meanwhile, Bensteel has arranged various training targeted at the company, factories and mines, and teams. The main content includes the Interpretation of the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste, Developing Three Capabilities (accurate control, scientific control, and legal control) for Hazardous Waste, Key Points for Standardized Environmental Management of Bensteel, and Garbage Classification and Disposal. An investment of RMB 130,000 was made in environmental protection training.

### Case Activities on the World Environment Day

In 2022, to celebrate the World Environment Day, Ansteel carried out various activities such as environmental protection policy promotion and knowledge popularization through various forms, committed to raising the environmental protection awareness of employees, community residents and other stakeholders, and embracing low-carbon daily life.

- Anshan Iron and Steel Group released relevant publicity reports on the progress of environmental protection work, actively participated in the first selection activity of "Most Beautiful Ecological Environment Protector" organized by Anshan City on the World Environment Day 5 June, and Ma Guangyu from the technology center of the Angang Steel Company was awarded the title of Most Beautiful Ecological Environment Protector, playing a guiding role in environment protection among employees.
- Pangang carried out the theme promotion activity of "Work Together to Build a Clean and Beautiful World". Pangang distributed environmental protection brochures in the square, set up theme exhibition boards, and patiently promoted environmental protection knowledge such as "electromagnetic radiation", "noise pollution", and "carbon peak" to the citizens, attracting their attention to environmental protection.
- With the theme of "Work together to Build a Clean and Beautiful World", Bensteel carried out environmental protection publicity activities on the World Environment Day, including training, posting posters, and publishing articles. Bensteel publicized the effectiveness of environmental protection and emission reduction more than 100 times in various media, encouraging employees and the public to jointly take actions for environmental protection.

## Actions for 30•60 Decarbonization Goal

Deeply implementing the decisions and deployment of the Party Central Committee and the State Council to peak carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060 (China's 30•60 Decarbonization Goal), we coordinate the efforts to reduce carbon emissions and pollution and increase green areas and growth, and deploy systematic 30•60 Decarbonization Goal actions. Our priorities range from strengthening design at the top, improving system energy efficiency, to developing low-carbon technologies. We work together and solidly to improve green and low-carbon development. In 2022, the Company's CO<sub>2</sub> emissions per RMB 10,000 of output value (comparable price) decreased by 5.25% year on year.

### Devising a blueprint for systematic carbon dioxide peaking

Thinking in big-picture terms, Ansteel strengthens development planning to support carbon dioxide peaking with systematic efforts in implementation.





## Developing cutting-edge technologies to improve carbon reduction

Giving full play to the role of subsidiaries as innovators, we accelerate the R&D of cutting-edge low-carbon metallurgical technologies, which lays a technological foundation to help realize the goal of carbon neutrality.

### The world's first demonstration project of efficient ironmaking new technology based on green hydrogen zero-carbon fluidized beds starts construction

We study and develop hydrogen metallurgy. In September 2022, the world's first demonstration project of efficient ironmaking new technology based on green hydrogen zero-carbon fluidized beds with IPR completely owned by Ansteel commenced construction in the Bayuquan Steel Subsidiary. It is dedicated as a 10,000-ton fluidized bed hydrogen ironmaking demonstration project, with breakthroughs in the technology of low-carbon metallurgy, marking a new stage in the green and low-carbon development of Ansteel.



Ground-breaking ceremony of the hydrogen metallurgy project of Ansteel

### Inaugural award of excellence in low-carbon steel production from the World Steel Association is granted to Ansteel

We develop new-type blast furnace charge. The low-carbon emission blast furnace charge technology based on low-alkali and high-silicon pellets is applied in the Anshan Iron and Steel Group straight grate pellet production line. The project is granted the inaugural award of excellence in low-carbon steel production from the World Steel Association, opening up a new path for reducing sulfide, carbon oxide, and nitrogen oxide from steelmakers.

### Xi'anshan iron ore mine, the largest single underground iron mine in China, officially starts construction

In 2022, cutting-edge technologies such as "deep shaft hard rock excavation and efficient underground filling" by Ansteel Mining Group Co., Ltd. contributed to the construction of Xi'anshan iron ore mine, China's largest single underground iron mine under the cornerstone plan. After being completed and put into operation, the mine is expected to become a world-class underground iron mine producing 10 million tons of iron concentrate annually, employing leading technology, and promoting green and intelligent development without waste and disturbance.



Ansteel's Xi'anshan iron ore mine project



### Read More

Compared with carbon-based metallurgy, hydrogen metallurgy, an essential means to realize low-carbon development in the steel industry, uses hydrogen as fuel and reducing agent, which can wean ironmaking from fossil energy and address the fundamental problem of carbon emissions.



## Promoting clean production practices to improve system energy efficiency

Based on the principle of prioritizing energy conservation, the Company promotes advanced energy-saving technologies and practices, advances efficient power generation projects, and improves energy efficiency within the whole Company. In 2022, Bayuquan Steel Subsidiary, Bengang Steel Plates Co., Ltd., Benxi Beiyang Iron & Steel (GROUP) Co., Ltd., and Pangang Group Xichang Steel & Vanadium Co., Ltd. were awarded the "30•60 Decarbonization Goal Best Practice and Energy Efficiency Benchmarking Demonstration Enterprise" by the China Iron and Steel Association.



We formulate the *List of Advanced Energy Conservation and Carbon Reduction Technologies of Ansteel (2022 Edition)* to provide reference for the application of advanced energy conservation and carbon reduction technologies in construction or renovation projects of subsidiaries. We also improve the efficiency of energy and resources and apply energy-saving technologies and practices such as blast furnace top gas recovery, heating furnace enhanced blackbody radiation, CCPP power generation in Pangang, Anshan Iron and Steel Group, and BenSteel.



We promote the development of efficient power generation projects. The two projects of the 180 MW combined-cycle power plant of Bengang Steel Plates Co., Ltd. and Pangang Vanadium 100 MW (Phase I) waste-heat/energy-to-power project can increase power generation by 0.98 TWh each year and reduce carbon emissions by 760,000 tons.

### Key performance indicators

In 2022, in Ansteel

- 5 percentage points

year-on-year increase of the proportion of secondary energy power generation

- 1.82%

year-on-year decrease of comprehensive energy consumption per RMB 10,000 of output value (comparable price)

- 1.49%

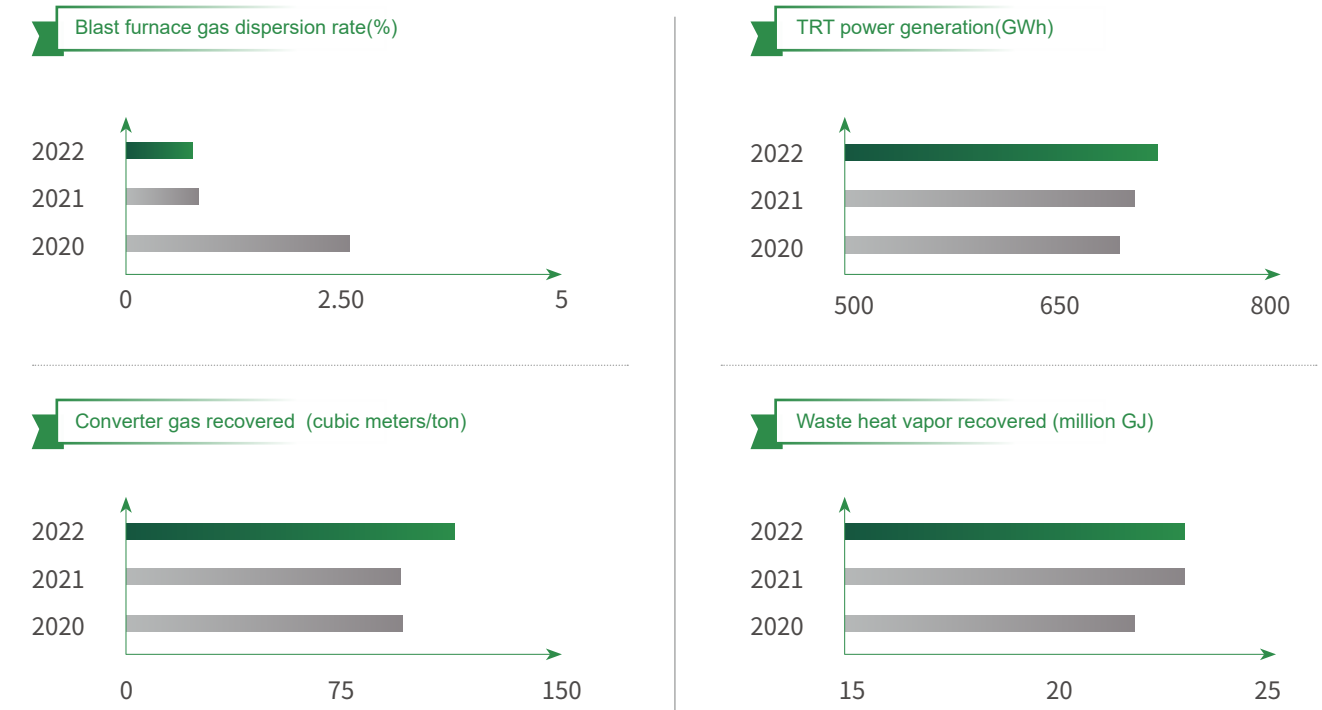
year-on-year decrease of comprehensive energy consumption per ton of steel



### Anshan Iron and Steel Group waste heat and energy recovery data in 2020-2022



### BenSteel waste heat and energy recovery data in 2020-2022



### Pangang waste heat and energy recovery data in 2020-2022



## Developing green finance to reduce financing costs

The Company develops green and low-carbon financial products and services to reduce corporate financing costs and empower green industrial development.

- Angang Steel Company Limited has issued green bonds worth RMB **300** million, with a coupon rate **40%** lower than the benchmark interest rate. The parent company of Anshan Iron and Steel Group has issued **3**-year sustainability-linked bonds of RMB **2** billion, with a coupon rate **35%** lower than the benchmark lending rate in the same period, setting the lowest interest rate for steelmaker bonds of the same maturity in the same period of 2022.
- Ansteel Mining Group Co., Ltd. has issued the first green bonds of RMB **200** million in the national iron ore industry, with a coupon rate **29%** lower than the benchmark lending rate in the same period.
- Pangang has issued low-carbon transformation bonds worth RMB **200** million and sci-tech innovation bonds worth RMB **500** million, with coupon rates **30-58%** lower than the benchmark interest rate.
- Ansteel Lianzhong (Guangzhou) Stainless Steel Corporation has purchased back carbon emission quotas, which brings in RMB **26.30** million of funds for the company and effectively reduces costs.





## Green Quenching

Guided by Xi Jinping's thinking on ecological civilization, Ansteel continuously upgrades pollution prevention and control equipment, seeks ultra-low emissions, contributes to the nationwide battle to prevent and control pollution, and raises overall green production capacity and level, presenting our excellent performance in clean production.

## Exhaust management

To promote ultra-low emissions, we have completed more than 350 transformation projects and implemented 46 ultra-low emission transformation projects, including the flue gas denitrification of the new No. 1 sintering machines of the Pangang Vanadium Ironmaking Plant. We also have organized 27 dust removal upgrading projects, such as the two sets of coke oven desulfurization and denitrification facilities, two sets of machine-side dust removal facilities, and six coke oven and six sintering supporting dust removal projects. In addition, we implement the six VOC treatment projects, effectively dealing with air pollution at great depth and achieving remarkable results in pollution prevention and control.

### Case Anshan Iron and Steel Group carries out in-depth environmental protection

To effectively fulfill the social responsibility of a central SOE and set an example, Anshan Iron and Steel Group has included ultra-low emissions into its 14th Five-Year Plan development blueprint and continued to upgrade environmental protection of key emission outlets according to the requirement of building A-level enterprises. Given issues found in the pre-assessment by third-party environmental impact assessment companies, the feasibility plan is discussed, issues in ultra-low emissions are rectified, and environmental protection is carried out in depth. It is planned that by the end of 2023, particulate matter, sulfur dioxide, and nitrogen oxides per ton of steel will be reduced by 30%, 50%, and 44% respectively from 2017, reaching an industry-leading level to realize the integrated development of steel mills and cities.

### Key performance indicators

- **350+** ultra-low emission transformation projects completed
- The emissions of sulfur dioxide, nitrogen oxides, smoke (dust), chemical oxygen demand, and ammonia nitrogen were decreased by **14.36%**, **9.55%**, **11.85%**, **29.70%**, and **14.12%** year on year respectively

## Water management

To strengthen water resources management, the Company ramps up investments, transforms water-saving and emission-reduction equipment, and enhances research and the management and control system. Leveraging our water resources, we continue to paint a beautiful picture of "green Ansteel". In 2022, new water consumption per ton of steel produced stood at 2.30 tons, a year-on-year decrease of 5.35%, and wastewater discharge decreased by 11% year on year.

### Case Pangang dedicates to recycling sewage

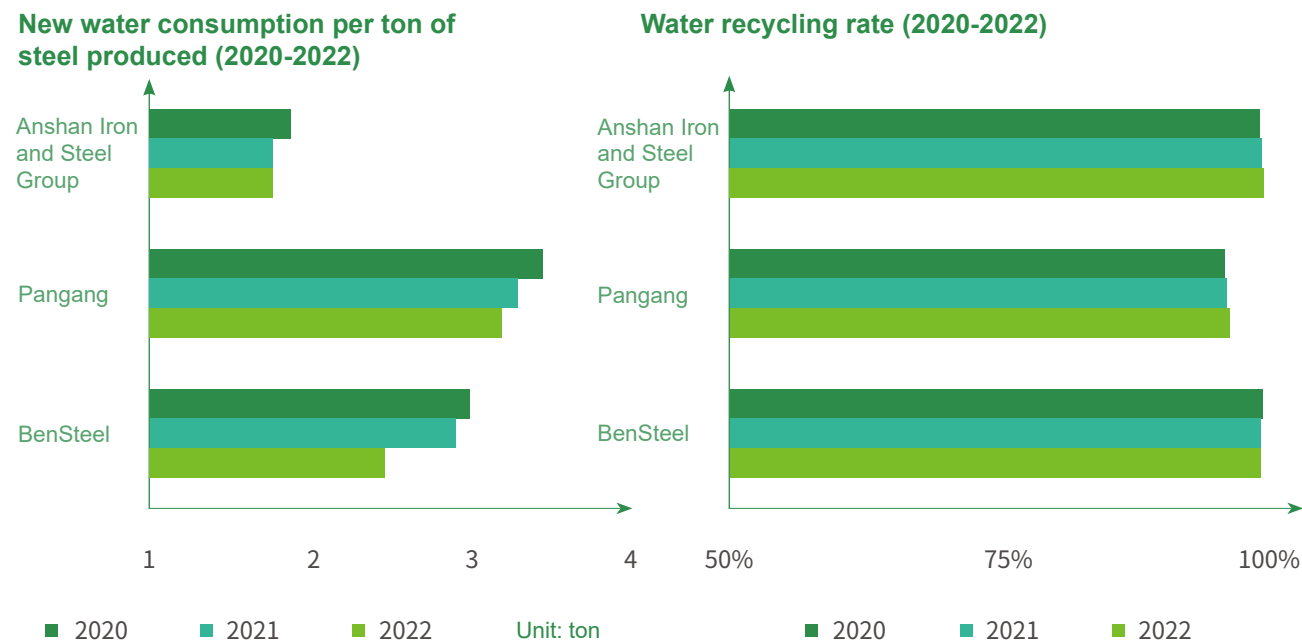
Pangang vigorously carries out sewage treatment and water recycling by establishing the corporate dirty recycled water system, clean recycled water system, wastewater recycling system, and online monitoring system. Production drainage, domestic drainage, and rainwater drainage are separated. Pangang Vanadium and Pangang Group Sichuan Changcheng Special Steel Co., Ltd. are required to verify and formulate their implementation plans for wastewater reduction, transform the sintering flue gas desulfurization wastewater system, and separate rainwater from sewage in the refined chloride area, reducing wastewater by 1.3 million tons. New water-saving technologies, processes, and equipment are adopted. For example, advanced technologies such as blast furnace wet dust removal and coke dry quenching are promoted and key water-saving technology projects are advanced to make good use of every drop of water.



Concentration pool of Pangang Group Panzhihua Xinbaima Mining Industry Co., Ltd.







## Solid waste management

Leveraging our technologies and resources, we standardize management strictly through advanced processes and techniques, reduce solid waste discharge, and improve resource utilization. Ansteel's *Building a New Model of Steel Scrap Recycling and Achieving Green and Circular Development* is listed as an excellent case of the 2022 green and low-carbon development of enterprises by the China Enterprise Confederation.

### Case BenSteel promotes steel scrap recycling

According to the requirements of the *Management Measures for the Recycling of Steel Scrap of BenSteel Group Co., Ltd.*, BenSteel strengthens the management of recycling production and non-production steel scrap. Internally recycled steel scrap is used to replace usable substandard scrap materials, all steelmaking slag is processed for recycling, and production steel scrap in steel mills and hot rolling and non-production steel scrap from decommissioned equipment and facilities are recycled. In 2022, BenSteel recovered a total of 767,900 tons of steel scrap, or a recycling rate of 100%, reducing account receivables and stock by RMB 2.1 billion.

### Case Pangang innovatively promotes the comprehensive utilization of solid waste

Pangang effectively combines platform-based and on-site supervision of environmental protection. According to China's new law on solid waste and relevant requirements, Pangang investigates whether the management, collection, storage, transportation, utilization, and disposal of solid and hazardous waste are standardized. Driven by sci-tech innovation, Pangang continues to enhance research on the comprehensive utilization technology of solid waste such as ferrous materials, vanadium sodium sulfate, and titanium dioxide slag and improve the comprehensive utilization of resources. In 2022, the recycling rate of industrial solid waste in Pangang reached 94.30%. Among them, the recycling rate of blast furnace slag and steel slag both stood at 100%, and 100% of hazardous waste was handled as required.

## Green Factories and Mines

A sound ecosystem is essential for the prosperity of civilization. Sound ecological environment is the most inclusive benefits to people's wellbeing. Ansteel respects nature, follows its ways, and protects it. We have completed the three-year plan for ecological restoration of mines, orderly promoted the project of mine greening and reclamation, and effectively increased ecological carbon sinks, promoting harmonious coexistence of humans and nature. In 2022, Ansteel completed more than 3800 hectares of the greened and reclaimed land. The Company's *Practicing President Xi Jinping's Thought on Ecological Civilization and Building a Model of Green Mines* was selected for the special issue of the SASAC on low carbon environmental protection.

## Mine greening and reclamation

In line with relevant mine governance standards, the Company calls on subordinate units such as Ansteel Mining Group Co., Ltd. and Pangang to continuously strengthen environmental governance in mining areas and construct ecological mines.

- Ansteel Mining Group Co., Ltd. has over-fulfilled the 2020-2022 Ecological Restoration Plan for Mines. From 2020 to 2022, Ansteel Mining Group Co., Ltd. treated 487.80 hectares of mines, of which 243.53 hectares were treated in 2022, and the mine reclamation rate was nearly 100%.
- In line with the principle of simultaneous mining and treatment, Pangang has continuously revised its ecological restoration plan, formulated annual implementation plans, and actively promoted the ecological restoration and treatment of mining slag yards. In 2022, Pangang completed the ecological restoration of a total of 191 hectares of mines, including Majiatian tailings pond and Baguanhe slag yard.



Mining ecological park of Guanbaoshan Mining Co., Ltd.

### Case Creating a greening and reclamation demonstration park in Guanbaoshan by Ansteel and Guanbaoshan Mining Co., Ltd.

The *Guanbaoshan 165 Greening and Reclamation Project of Waste Dumps* is a mining geological environment management project undertaken by Guanbaoshan Mining Co., Ltd. as required in the *2020-2022 Ecological Restoration Plan for Mines of the Ansteel Mining Group Co., Ltd.* This project is carried out with self-raised funds of RMB 9.05 million by Guanbaoshan Mining Co., Ltd.that strives to make the reclaimed mine full of vitality. The actual treatment area of the mine is 22.34 hectares, including slope cutting and shaping, leveling, soil replacement, planting, landscaping, and irrigation maintenance. Guanbaoshan Mining Co., Ltd.

“We need to work year after year, generation after generation, to plant trees on a regular basis and make green become one of the 'requirements' for the high-quality development of Guanbaoshan Mining Co., Ltd.”

——Tan Chengxu, Party Secretary and Chairman of Ansteel, emphasized at the reclamation demonstration park of green mines in Guanbaoshan built by Ansteel and Guanbaoshan Mining Co., Ltd.



## Beautiful ecology

The Company integrating the concepts of ecological environmental protection and biodiversity conservation with its actual situation. Committed to becoming the guardian of natural life, we carry out greening in factory areas and transform saline-alkali lands.

### Case Transforming saline-alkali lands for "green" rice

The Ansteel Mining Group Co., Ltd. actively implements a strategy of sustainable farmland use and innovative application of agricultural technology to increase farmland productivity. Cooperating with well-known domestic universities, Ansteel Mining Group Co., Ltd. has formed a professional technical and on-site management team. After years of research and hard work, the team has developed a prominent technical and management advantage in using iron tailings to improve saline-alkali soil to plant rice. The Ansteel Mining Group Co., Ltd. implements the "1+1" improvement model, the "1+N" saline-alkali land improvement technology model, and the "company+farmers" management model. By utilizing the rich iron tailings resources and leveraging their unique advantages in particle shape and composition, the Ansteel Mining Group Co., Ltd. has transformed the saline-alkali lands into standard farmlands, with 991 acres of rice planted. The self-produced rice meets the standards of NY/T 419-2014 "Green Food Rice".



Ansteel Mining Group Co., Ltd. uses iron tailings to transform saline-alkali lands where green rice is planted, achieving a bumper harvest

### Case Three seasons with flowers and four seasons with scenery

Bayuquan branch of Anshan Iron and Steel Group continues to build garden style factories. In line with the ecological and landscape principles, the Bayuquan branch simulates regional natural community landscapes based on the layout and greening characteristics of factory areas. Specifically, evergreen trees are planted with deciduous trees, slow-growing trees with fast-growing ones, and arbors with shrubs and grass, which not only increases green plant areas, but also makes a patchwork of natural community landscape that is featured by three seasons with flowers and four seasons with scenery. The role of landscape beautification and ecological restoration is highlighted while the functional needs of factory areas are satisfied.



Mountain grapes and small gourds coexist harmoniously in the ecological park of Ansteel Mining Group Co., Ltd.

## Green office

We practice green office in the Company and advocate low-carbon life outside of the Company. We advocate for protecting natural ecology from ourselves, and from trivial things around us.

- **Saving electricity:** The temperature of air conditioners should not be lower than 26°C in summer and not higher than 20 °C in winter. Air conditioners should be turned off when nobody is around, and the doors and windows should be closed if air conditioners are turned on. Natural light needs to be fully used and lights should be turned off when people leave rooms to avoid lighting in the daytime and for a long time. For office automation equipment, their standby consumption should be reduced and a timely close is required after work.
- **Saving water:** We strengthen water-saving awareness and use water-saving equipment. We also improve the maintenance of water equipment to eliminate faults in time, use water in multiple ways to increase the utilization of water resources, and cultivate the habit of turning off the water after use to avoid long-term flow.
- **Saving paper:** We vigorously promote paperless office, advocate for phone and video conferences, and actively introduce electronic systems.
- **Reducing oil consumption:** We strengthen the daily management of buses, take strict checks and repairs and reduce oil consumption. What's more, we improve the management of bus use to make reasonable arrangements and make overall scheduling, pass more stops in one trip, handle multiple affairs in one stop, and take nearby buses to improve efficiency. Private use of public vehicles is prohibited.





# Win-Win Cooperation Contributes to Building a Prosperous Neighborhood

## Our Actions

In line with the principle of “People First, Life First”, Ansteel takes its primary responsibility for work safety and safeguards the security of industrial chain and supply chain in the steel industry. With a business philosophy that prioritizes quality and integrity, the Company promotes the advancement of production technology and product quality to reach international standards, facilitating the transition from a manufacturer to a service provider. We are committed to continuously deepening our strategic cooperation with value chain partners to create a new chapter of high-quality and mutually beneficial development.

## Our Performance

RMB **1.789** billion  
work safety investment

**100%**  
completion rate of occupational  
health examination

Won the **Commendation  
Award** of the 7th China Grand  
Awards for Industry

## Contribution to UN SDGs



8 DECENT WORK AND  
ECONOMIC GROWTH



12 RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



17 PARTNERSHIPS  
FOR THE GOALS







## Iron will

### Delin Land Port successfully builds the largest steel e-commerce and smart supply chain service platform in northeast China

Delin Land Port integrates internal and external logistics and online trading resources to independently build a smart supply chain service platform of the steel industry. This platform covers the business scenarios in the supply chain and develops a new supply chain ecology for the modern steel industry. Since its launch, the platform has cumulatively achieved a transaction volume of 168 million tons, a distribution volume of 480 million tons, and a total transaction amount of RMB 420.6 billion. Delin Circulation, an e-commerce platform of Ansteel, sells all the steel-related recycled materials, with an annual premium rate exceeding 10%.

By vigorously developing warehousing and absorbing high-quality transportation resources, Delin Land Port has established more than 100 licensed warehouses and over 10 licensed ports in key cities nationwide, integrating over 650 carriers with more than 20,000 vehicles. Its business has covered 18 provinces and 4 municipalities in northeast, north, east, and south China, creating an interconnected offline logistics network in China.

Delin Land Port provides customized one-stop services in the whole supply chain covering road transportation, maritime transportation, ports, warehousing, processing and finance, expanding its social market. It has established relationships with over 400 social customers, achieving an integrated service rate of over 80%, and external market revenue accounting for 84%.

In recent years, with significantly increasing social influence, Delin Land Port has been granted the titles of National 5A Logistics Enterprise, National 5A Network Logistics Platform, and one of the Top 100 Enterprises in Comprehensive Strength of Internet Industry in China, becoming the largest steel e-commerce and smart supply chain service platform in northeast China.

## Life and Safety First

Work safety bears on the well-being of the people and the overall economic and social development, and is the most realistic "top priority" of the nation. Ansteel upholds the concept of safe development, implements the *Work Safety Law* and other laws and regulations, and develops a long-term mechanism for work safety to protect the lives and physical and mental health of employees, promoting work safety in a stable manner.

### Key performance indicators

In 2022, in Ansteel

- There was **2** major work safety accidents happened and general accidents were **72%** lower than of 2021
- RMB **1.5** billion invested in work safety
- **100%** coverage of safety training, **265,414** participants in the safety training

## Strengthening safety management

To improve the innovative management of work safety, Ansteel develops the "Yun'an Zhilian" safety management platform, and establishes a working mechanism with safety experts. Aiming at enhancing risk control, the Company advances high-quality hazard investigation and rectification and further improves its safety emergency management system to provide robust safety support for accelerating a new Ansteel with high-quality development.



### Work Safety Management System

- We have formulated regulations such as the *Management Measures for Work Safety Responsibilities at Headquarters* and strive to build a sound work safety management system.
- We integrate safety indicators into the operation assessment system to tie executive pay to safety performance; we also sign the responsibility commitment of annual work safety target with 7 subsidiaries to strengthen incentives and constraints and fulfill safety responsibility.
- We have independently developed the "Yun'an Zhilian" safety management platform to integrate management on eight fronts with the help of big data, including safety responsibility fulfillment, hidden hazards investigation, and major risk monitoring. By building an integrated safety supervision network, we realize visualized management, efficient supervision, and automated warnings.



### Safety Hazard Investigation and Control

- We have compiled guidelines for major hazard investigation, established a team of safety experts to guide hazard investigation work, and innovated in hazard investigation and management mechanisms.
- Based on the principle of "reducing existing risks, controlling new ones, and achieving dynamic zero risk", we conduct comprehensive hazard investigation annually, and check hazard rectification monthly, moving towards dynamic zero hazard.
- We implement mechanic and automated projects to reduce workforce, achieving unmanned daily operation within the radius of major dangerous sources through remote centralized control.
- We carry out "Zero Hazard Campaign in Hundred Days", safety inspections, fire prevention, and special rectification on work safety in the mining sector, ensuring complete and effective production equipment and facilities and enhancing comprehensive risk prevention capabilities.



## Safety Emergency Management Mechanism

- We complete the revision and filing of comprehensive accident plan and special plan on work safety, carry out emergency drills in high-risk areas with such as inflammable and explosive, toxic and harmful, and dust-prone environments to test the applicability of those plans.
- We launch flood prevention drills, pre-flood prevention inspections, in-flood inspections, and post-flood evaluations; we develop the "Yun'an Zhilian" flood warning module, connecting with the national meteorological information network to enhance the information capabilities of flood prevention.

## Key performance indicators

In 2022, in Ansteel

- **100%** hazard rectification
- **2,650+** emergency drills



Bensteel is carrying out flood prevention drill in tailings pond

## Raising safety awareness

Ansteel always puts life safety at the top priority, and fulfills its main responsibility for work safety. The Company implements the philosophy of safe development into all aspects of production and operation to enhance the safety awareness and responsibility of all employees and create a favorable environment for safe development.

### Promoting Safety Knowledge

- We conduct training sessions on work safety laws and regulations for all employees, organize online sessions for the dissemination of the *Work Safety Law* and viewing of the TV special titled *Responsibility of Paramount Importance*. We also display safety flags and slogans, post educational posters, and hold safety knowledge quizzes and prize-based Q&As to enrich employees' safety knowledge and enhance their safety awareness.

### Enhancing Safety Skills

- We have organized more than 4,080 special training sessions on employees' safety skills, and distributed over 46,000 copies of accident case compilations to improve employees' safety skill.
- We conduct comprehensive interpretation and training sessions specifically focused on the eight safety enforcement inspection items for iron and steel enterprises and the six enforcement inspection priorities for dust-related explosives enterprise to improve hazard rectification capabilities of managers at the grassroots level.
- We organize skills competitions of rescue professions and technical competitions of safety officers to enhance the practical abilities of emergency rescue teams.

### Conducting Special Activities

- We launch the "Annual Work Safety Enhancement Action" to promote the ideological awareness, implement work safety responsibilities, consolidate the results of the three-year action plan for special work safety rectification, improve safety control capabilities, and enhance safety at the fundamental level.
- Themed with "Observing the Work Safety Law and Undertaking the Primary Responsibility", we carry out the "Work Safety Month" activity to raise the safety awareness and responsibility of all employees through safety consultation, safety interviews, and safety columns publications.

## Case

### Building a team of professional safety-conscious employees, and creating a harmonious and safety-oriented factory

To build a team of "professional safety-conscious" employees, the main plant of Anshan Iron and Steel Group strictly implements the accountability system for work safety among all employee, and actively carries out knowledge competition activities such as "Work Safety Month" and "Safety Cup". It enlisted safety management experts and professors to conduct 4 special training sessions, produced 6 promotional videos, and presented safety requirements and aspirations to employees through safety messages. With all these efforts, the plant has deepened the concept of "professional safety-conscious", and established a unique safety culture system, ensuring that the safety culture is ingrained in the hearts of employees and implemented in their actions.

## Protecting occupational health

Ansteel strictly adheres to laws and regulations such as the *Occupational Disease Prevention and Control Law*, and implements the *Occupational Health Management Measures*. We continuously improve the occupational health and safety management system, and enhance the occupational health and work-related injury treatment management system, so as to consistently conduct activities such as occupational hazard factor testing, occupational hygiene status assessments, occupational health examinations for employees before, during, and after employment. We also organize targeted training on occupational health expertise, covering over 10,000 employees in total. We conduct Occupational Disease Awareness Week activities to encourage employees to comply with relevant occupational health laws, regulations, standards, and systems, thereby increasing awareness of occupational disease prevention. We also pay attention to employees' psychological well-being, offering regular psychological counseling to positively address employees' psychological stress and help them maintain good mental health. Using the "Ankang Cup" competition as a platform and with a focus on preventing production safety incidents and controlling occupational health hazards, we widely organize safety production activities, which are participated by all grassroots units and frontline teams, effectively safeguarding employees' safety and health rights, preventing and controlling occupational diseases, and continuously improving employees' occupational safety and health quality.

## Key performance indicators

In 2022, in Ansteel

- **100%** occupational disease hazards detect
- **100%** occupational health examination
- RMB **123** million invested in special funds for occupational health
- **2** new cases of occupational diseases





## Quality Foremost

Product quality is the foundation of a company's long-term survival and the key to business development. Ansteel follows a development path of "Intensive, Reduction, Intelligent @ Customer", and adheres to the principle of fair trade. While comprehensively improving product quality, the Company continuously optimizes its customer service system and creates value for customers, realizing green and sustainable development of products and building a world-class Ansteel brand.

### Providing quality products

Following the philosophy of "Prioritizing Quality and Creating Quality", Ansteel improves quality management system, diversifies steel varieties, and optimizes production process and technical equipment with continuous efforts, so as to steadily level up the product quality and provide steadfast support for the high quality development of China's iron and steel industry.

#### Key performance indicators

In 2022,

- Pangang's quality management system covered **100%** of all employees
- Anshan Iron and Steel Group conducted **84** quality management training programs for **8,512** trainees
- Bensteel achieved **99.70%** of products qualification rate



#### Strengthening Quality Management

- We have established a scientific, advanced and operable quality management system based on ISO 9001:2015, IATF 16949 and other standards.
- We have set up a whole-process quality big data platform to enhance quality management in the whole process of product production and strengthen product quality control and monitoring through internal audits, product audits, process audits, special audits and external audits. By launching an integrated control platform of intelligent operation, Anshan Iron and Steel Group has realized whole-process tracking and online data analysis.
- We highlight process quality management, intensify inspection, improve on-site execution and strictly control product quality to ensure that defective products do not leave the factory.
- We work proactively to solve quality issues and improve the physical quality of products to reduce the loss of quality objections.

#### Promoting Quality Certification

- We have obtained several international certifications, including CE certification for our medium and thick plate products in the European Union, BIS standard for 9 products such as hot rolled and silicon steel in India, S1R1M for hot rolled and cold rolled products in Malaysian, and SCS Global Services for cold rolled steel scrap recycling in the US. Additionally, we have domestic certifications such as CRCC for heavy rails and renewal of certification for seamless special equipment. Our heavy rails won the award of 2022 Golden Cup Quality Product of Metallurgical Product Physical Quality with Enterprise Cultivation, and 5 of our products such as cold rolled interstitial-free steel were recognized as Golden Cup Quality Product in the same program.

#### Raising Quality Awareness

- We carry out activities such as quality improvement, quality benchmarking, collection of rational suggestions for the "Quality Month", development of small-scale enterprises in the Five Categories (small coal mines, small steel mills, small cement plants, small machinery enterprises, small hydropower plants), and quality management knowledge contest to accumulate quality experience and solve quality problems. We launch the special "Management Work for Overall Product Quality Enhancement" to improve the quality awareness and operational skills of all employees.
- We initiate various online activities, including cloud QC team results presentation, speeches on technological innovation for quality management as well as recognition and awards for trustworthy quality teams and outstanding individuals, to encourage the sharing of quality achievements and foster a culture where everyone prioritizes quality.

#### CSR Honors

- Ansteel won the Commendation Award of the **7th China Grand Awards for Industry**.
- Pangang was awarded the Industrial Quality Benchmark **in Sichuan for its lean Six Sigma management experience**.
- Pangang's vanadium nitrogen alloy product was honored as Champion **Product in Manufacturing Industry**.
- Bensteel was granted the title of Quality Supplier by SAIC Passenger Vehicle Branch for its plates, and **Bensteel Beiyong** won the **Class A Excellent Supplier by Bekaert** for steel cords.
- Anshan Iron and Steel Group received the **2022 Strategic Mutual Trust Award of Hisense Home Appliances Group**.
- The Chemical Inspection Center of Ansteel Lianzhong (Guangzhou) Stainless Steel Corporation, Quality Inspection and Metrology Center of Angang Steel Company Limited, Inspection and Metrology Center of Xichang Steel & Vanadium and Plates Quality Inspection and Metrology Center of Bensteel were honored the **2021-2022 Quality Award for Proficiency Testing**.



### Case Promoting quality management system certification and enhancing product quality and efficiency

The C78D2 and C82D2 prestressing steel wires and steel strand wire rod developed by Bensteel Beiyong conform to the ISO standard and boost the advantages of high steel purity and stable mechanical properties, which are widely recognized by downstream users in the prestressing material industry. The products have also passed the audit of quality management system by Certification Authority for Reinforcing Steels (CARES) in UK and obtained the certification, making the company the second prestressing steel manufacturer in China with this qualification, further expanding the development space of the wire rod market.

### Case The converter slag tank, the largest in terms of volume and capacity and the heaviest in Asia, passes its inspection at Ansteel Group's Steel Casting Company

Ansteel Group's Steel Casting Company has produced three sets of converter slag pots for a Japanese steel company. These slag pots are 4.60 meters high, have a maximum diameter of 5.90 meters, and weigh 68.80 tons each, making them the largest in the world in terms of volume and capacity. To ensure that the products pass the first inspection, the company strictly controlled quality throughout various processes, including modeling, steelmaking, and casting. It also actively tackled various challenges during the production process, such as limited space for on-site hood-type kiln heat treatment, the potential for misalignment in two-section thin-walled hollow wooden molds, and the difficulty in demolding the wooden reinforcing plates for the slag pots. In the end, the company completed the production of the first slag pot in just two months. After inspection, all technical specifications of the slag pots met the customer's requirements, showcasing the high-quality manufacturing capabilities of Ansteel in practice.



## Improving customer services

Ansteel practices the core value of "putting customers first", and tailors personalized product solutions for customers, so as to addresses their concerns and enhance their experience.



### Better Services

- Putting customer first, we have developed personalized management and service strategies to provide one-on-one technical support.
- To integrate marketing and service, we have established a customer service center, and assigned staff to other places to respond to customers' needs throughout the sales process.
- We organize customer appreciation meetings, customer service year and other events. For specific technical issues, we coordinate with production, research and development, and product application technical personnel to jointly provide service.



### Customer Privacy Protection

- We strictly comply with confidentiality protocols and assign dedicated personnel to manage customer information. We identify personnel with access to sensitive information, clearly define their rights, job responsibilities and requirements, and sign confidentiality agreements with them.
- We organize and coordinate confidential review activities, oversee and guide the management of confidentiality for computer and information systems, communication, and office automation equipment.
- We conduct regular confidentiality knowledge training and quality education for customer representatives and customer technical service personnel.



### Customer Satisfaction

- We establish a robust customer complaint handling process, initiating investigation procedures within one work day, conducting on-site inspections, engaging in negotiations and communication with customers, and resolving issues promptly.
- We hold special quality meetings to address quality issues raised by customers and actively implement improvement measures.
- We formulate the *Customer Service Weekly Report* to ensure that production bases receive timely feedback from customers and market information, and continuously track improvements, ensuring smooth communication and the implementation of customer needs.
- We continuously improve recall and compensation systems and procedures for product quality issues to safeguard customer rights and interests.

### Key performance indicators

In 2022,

- Pangang conducted customer satisfaction surveys quarterly, covering **100%** of strategic customers
- Customer satisfaction of Ansteel Mining Group Co., Ltd. reached **100%**



## Integrity and Stable Supply

Ansteel adheres to the business philosophy of “pursuing for development with credibility”. We encourage all employees to embrace the value of integrity and compliance, and uphold the spirit of competition and cooperation, consolidating a solid foundation of legal guarantees for the Company’s high-quality development. We strengthen resource sharing with suppliers and partners and strive to lead the modern industrial chain, creating a new pattern of synergistic development throughout the industry chain.

### Compliance operation

Ansteel strictly complies with relevant laws and regulations and resolutely implements the decisions and arrangements of the Central Committee of the Communist Party of China. We focus on building the overall framework of the “1+3+4+N” compliance management system and take every effort to build a law-based Ansteel work system - “Three Verticality and One Horizontality” (namely, the management in laws, risk control, and compliance, and the construction of informatization), being a precursor, practitioner and guardian of operation in accordance with law. We maintain the positive momentum of a honest political ecology and create a favorable atmosphere for compliance operation for the building of a world-class steel enterprise. In 2022, Anshan Iron and Steel Group received an AAA from China Chengxin International Credit Rating Company Limited (CCXI).



#### Rule of Law System

- In accordance with Ansteel’s development planning during the 14th Five-Year Plan period, we have formulated the *Implementation Plan on Deepening the Building of Law-based Ansteel* and built a law-based Ansteel work system. The system takes the management in laws, risk control, and compliance as the pillars, and the construction of informatization as the chain. The system, therefore, can be referred to as “Three Verticality and One Horizontality.”
- We implement the Eighth Five-Year Plan for the publicity of and education in laws in Ansteel, and conduct comprehensive, multi-level and diversified legal publicity and education, continuously improving legal education in a comprehensive, targeted and effective manner and enhancing the legal awareness of all employees.



#### Compliance Management

- We have formulated the *Work Plan for Strengthening Compliance Management in Ansteel Group Corporation Limited*. We launch special campaigns to promote compliance culture, advance compliance system building, and improve compliance management capability, systematically boosting compliance management.
- We focus on one goal at all levels, in all areas and on all fronts, implement a three-tier mechanism, where the headquarters take the lead, second-level subsidiaries grow stronger and grassroots units participate thoroughly, build four systems in terms of organization, regulation, operation and guarantee, and concentrate on several key business areas such as safety and environmental protection, product quality, intellectual property rights. Thus, we have built a new “1+3+4+N” compliance management pattern with effective connection vertically and comprehensive elements horizontally.

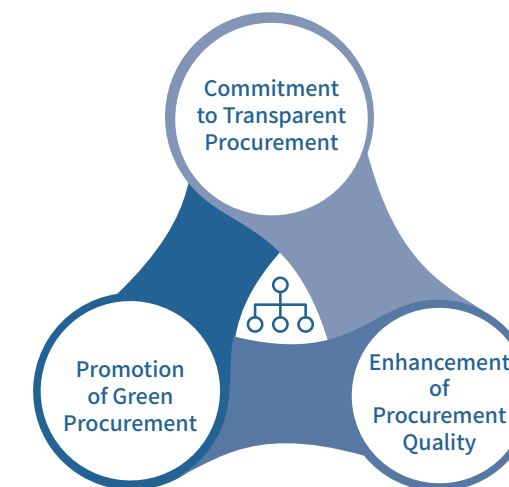


Meeting on Strengthening Compliance Management

## Procurement management

Ansteel has formulated the *Management Measures of Bidding* and the *Management Measures of Procurement* to establish a “transparent, compliant, efficient, and green” procurement supply chain management system. We promote the intensification, standardization, digitization, collaboration, specialization, and rule of law in procurement supply chain management and actively create a just, fair, and open procurement environment.

- We publish tender information such as supplier admission criteria and bid evaluation rules on platforms like Ansteel E-bidding Transaction Platform and China Bidding website, providing equal competition opportunities for all market participants.
- We implement the whole-process procurement management with the digital bidding and procurement system. We conduct compliance and risk control to reduce cost and enhance efficiency, and improve the procurement risk perception and management capabilities.
- We sign commitment of honesty with suppliers, stand firmly against corruption, monopoly, and other unfair competition behaviors, and urge suppliers to operate legally, complying with regulations, and with integrity.



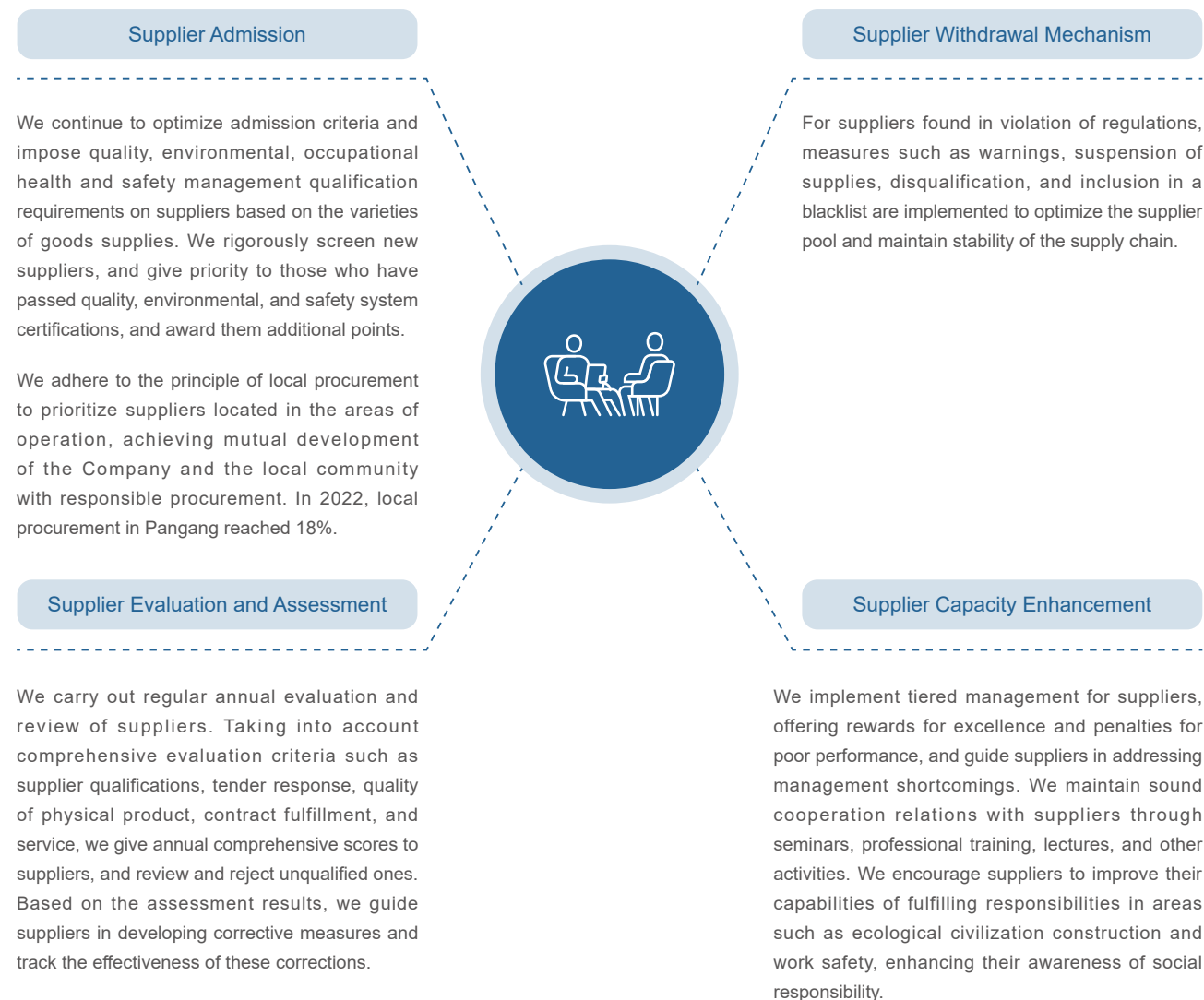
- We have established a long-term and sound mechanism and assessment system for green procurement. We purchase more scrap steel, as well as low-sulfur and green materials that meet standards. We give priority to energy-saving motors, energy-efficient air conditioners, and electrical equipment such as LED lights that meet green environmental requirements. The concept of green procurement had been integrated into our business strategy.

- With equipment management information system and material lifecycle management information system, we conduct quality control and assessment management of purchased products, as well as whole-process analysis based on the process information, such as entry and exit of equipment spare parts, changes of equipment components, and equipment operation data, so as to ensure the procurement of high-quality and qualified products.
- We organize technical exchanges on the quality of purchased products with the production department and the chemical test and analysis department on a regular basis to improve procurement quality.



## Responsible supply chain

Ansteel has formulated the *Measures of Supplier Management* and the *Implementation Rules for Supplier Assessment and Evaluation*. Based on the principles of "strict admission, classification and grading, appropriate quantity, dynamic monitoring, quantified evaluation, and timely replacement, the Company has incorporated the requirements for ethics, safety, health, labor standards, and environmental protection into the supplier admission, assessment, evaluation, and withdrawal mechanisms, ensuring efficient and collaborative development in the supply chain.



### Key performance indicators

In 2022,

- Pangang conducted **4** special training sessions for supplier, with a total duration of 4 hours, covering **4,098** participants, achieving a coverage rate of **100%**
- Anshan Iron and Steel Group reviewed **2,334** suppliers, and suspended cooperation with **126** suppliers due to non-compliance
- 78%** of suppliers for Ansteel Mining Group Co., Ltd. passed quality, environmental, or occupational health and safety management system certifications

## Seeking for Win-Win Cooperation

Ansteel always maintains an open mindset to enhance the synergy between domestic and international markets and resources. We collaborate with partners to build a low-carbon and modern industrial chain of metallurgy, and strengthen communication and exchange in green energy, technological innovation, and corporate management. We empower new value creation through digital and intelligent solutions, jointly achieving more fruitful cooperation results.

### Cooperation with Government

- We deepened strategic cooperation with Yingkou City to facilitate the smooth implementation of hydrogen metallurgy projects, providing strong support for the high-quality development of the steel industry in Yingkou.
- We worked together with the Committee and the People's Government of Shanghai Municipality to contribute to the successful hosting of the Fifth China International Import Expo.

### Cooperation with University and Research Institution

- We collaborated with universities and institutions such as University of Science and Technology Beijing and Chongqing University to advance joint projects and promote the transformation of scientific and technological achievements.
- Pangang signed strategic cooperation agreements with Nanjing University of Science and Technology, the Institute of Metal Research, Chinese Academy of Sciences, and Jiangsu Zhi Ren Jing Xing New Materials Research Institute, forming a collaborative innovation alliance of enterprise, university, research institute, and application.
- Bensteel signed a strategic cooperation agreement with China Metallurgical Information and Standardization Institute for in-depth cooperation in branding and information intelligence fields.

### Cooperation with other Enterprises

- We initiated the first financing lease business jointly with China Baowu Steel Group Corporation, leveraging the role of financing to promote production and development.
- We signed a strategic cooperation agreement with China Unicom to explore new technologies, new business forms, and new models, actively developing the digital economy and boosting industry quality and upgrading.
- We entered into a strategic cooperation framework agreement with China Datang Corporation Ltd., fostering in-depth cooperation in supply chain and new energy resource development to promote green and low-carbon transformation and upgrade.
- We signed a strategic cooperation framework agreement with China North Industries Group Corporation Limited to jointly promote strong collaboration between defense and military industry enterprises and steel enterprises, achieving mutual benefit.
- We concluded a strategic cooperation framework agreement with COFCO Corporation, reaching deep cooperation consensus in areas such as product procurement and project construction.

### Cooperation with Banks

- We engaged in close communication with financial institutions such as BOCOM Financial Asset Investment Co., Ltd. and ABC Financial Assets Investment Co., Ltd., strengthening cooperation in capital operations and asset securitization businesses.



Pangang signs strategic cooperation agreements with Nanjing University of Science and Technology, the Institute of Metal Research, Chinese Academy of Sciences, and Jiangsu Zhi Ren Jing Xing New Materials Research Institute



Bensteel signs strategic cooperation agreement with China Metallurgical Information and Standardization Institute



# Joint Efforts Realize a Better Life

## Our Actions

On the journey of high-quality development, Ansteel regards all employees as valuable assets and builds a diverse, equal, and inclusive platform for their development. The Company engage in charity cause, provides more community services, and comprehensively promotes rural vitalization, to contribute to sustainable social development with its own efforts.

## Our Performance

5.13%	RMB 120.12 million	
intermediate and senior female managers	investment in employee training	
RMB 81.5494 million	RMB 43.01 million	and RMB 38.5394 million
donation funds, including	pro bono assistance fund for rural vitalization	other donations

## Contribution to UN SDGs

3

GOOD HEALTH AND WELL-BEING

4

QUALITY EDUCATION

5

GENDER EQUALITY

8

DECENT WORK AND ECONOMIC GROWTH

11

SUSTAINABLE CITIES AND COMMUNITIES







# Iron will

Ansteel inherits and promotes Lei Feng spirit to push social civilization forward in the new era

In 2022, the detachment of Guo Mingyi's volunteer team at Angang Steel Company Limited Main Coking Plant was awarded the title of Best Volunteer Organization by the Publicity Department of the Communist Party of China and the Civilization Office of the Communist Party of China Central Committee. The plant was established in 2011 and now has 20 Guo Mingyi's volunteer teams and Guo Mingyi's dedication teams, with over 360 members. Over the past 11 years, they have always based their positions to contribute to social harmony for the plant and society by building volunteering systems, promoting Lei Feng spirit, and continuously launching volunteer activities. They have launched a total of over 50 times of volunteer services with over 1,000 participants.

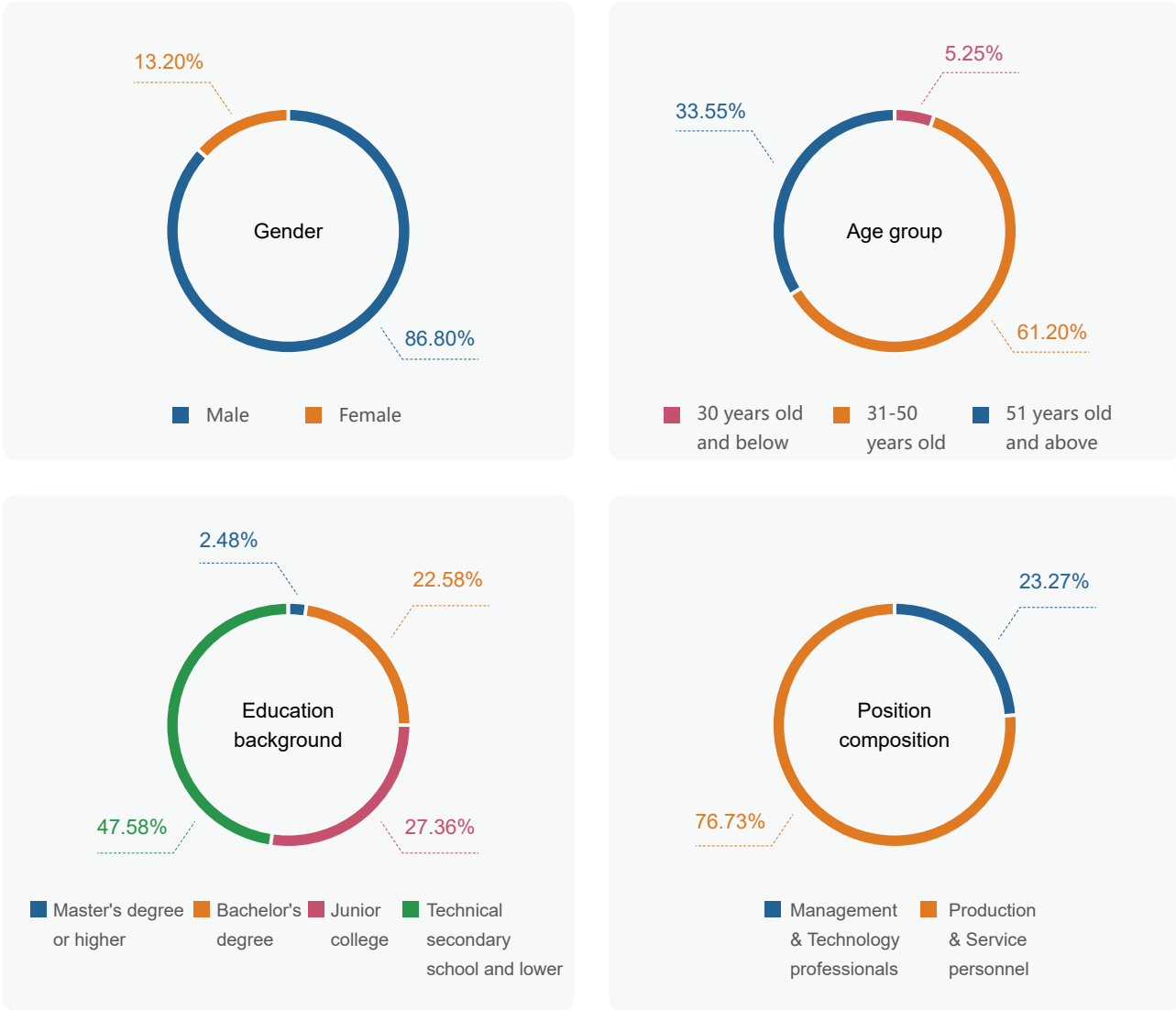
- Strengthening systems for better learning from Lei Feng: We have formulated the Decision on Further Building Lei Feng Culture to incorporate the activity of learning from Lei Feng into the assessment and evaluation of Party branches, and establish a regular mechanism for and continuously increase the depth of the learning.
- Offering volunteer services to inherit the red gene well: We have established alliances with communities and nursing homes to carry out annual caring activities such as visiting nursing homes, children's welfare homes, and community households in financial difficulties.
- Enhancing publicity and education for good use of red resources: We learn and experience the growth of Lei Feng and promote Lei Feng spirit by means like shooting special videos such as *Going Forward along the Footprints of Lei Feng and Calls from Lei Feng Spirit*, holding culture forums about Lei Feng, visiting Ansteel Lei Feng Memorial Hall, and giving speeches about learning from Lei Feng.

## Maximum Value Co-created with Employees

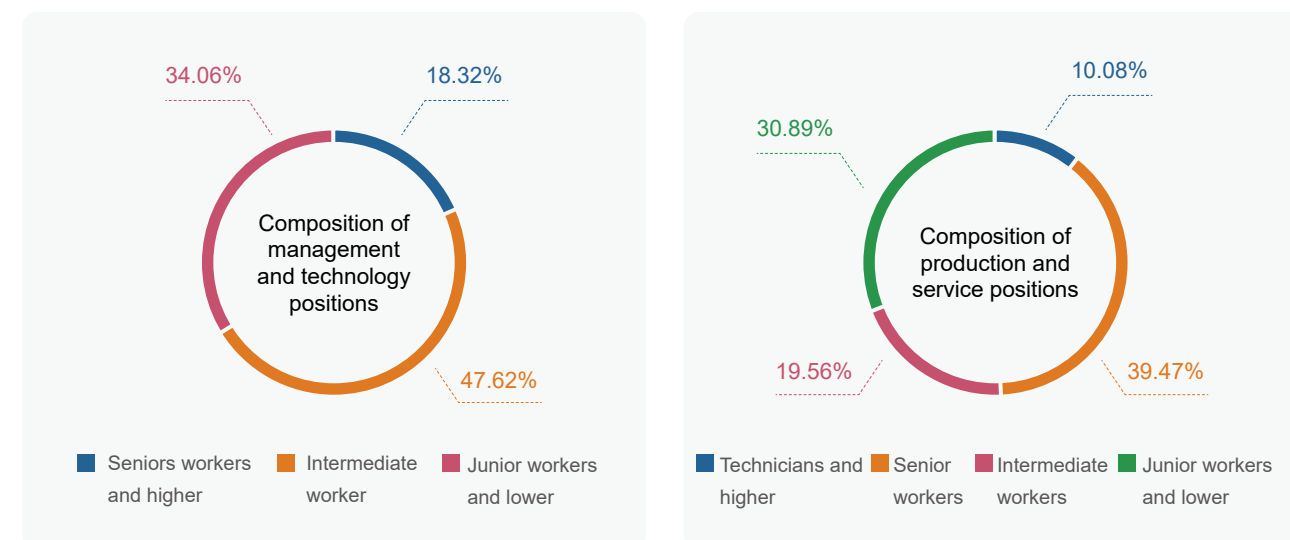
Adhering to the talent development concept of "sincerity, respect, progress, and win-win results", Ansteel strives for the common development with employees. By continuously improving and innovating on the system and mechanism to prioritize talents, we provide a strong talent team for its high-quality development.

### Protecting the basic rights and interests of employees

In strict compliance with laws and regulations, such as the *Labor Law of the People's Republic of China*, and committed to equal recruitment, we actively promote talent localization policies and fairly treat employees regardless of their nationalities, races, genders, religious beliefs, and cultural backgrounds, building a diversified talent system. In 2022, the Company had 164,003 employees, including 1,040 new hires. The proportion of intermediate and senior female managers stood at 5.13%, and the staff turnover rate was 0.80%.







## Cultivating a high-quality talent team

The Company provides diversified career development opportunities for employees and work to establish a sound training management system that matches its development with employees' growth to fully activate employees.

### Career development

We keep constructing the career development channels for employees, optimize the allocation of human resources, and mobilize the enthusiasm and creativity of employees, to enhance the internal driving force for our development.



We improve a position management system based on job qualifications, guided by ability and performance, and covering management, technology, operation, etc., form an H-type talent promotion and exchange model, and promote the development of various talents.

We keep implementing a talent tier policy and selecting top-tier talents.

We develop career plans for employees and provide them with mentors in career planning, ability, theory, and practice to teach them and solve their doubts.

We establish and improve an empowerment transfer mechanism, develop management measures for empowerment centers, and allocate employees through competition for jobs, participation in empowerment training, etc.



### Respect for human rights

- We resolutely prohibit child labor and forced labor.
- We respect employees' freedom of association and rights of collective bargaining.
- We strengthen strict management and confidentiality of employee information and privacy.
- In 2022, the labor contract coverage rate and collective contract coverage rate were both **100%**.

### Democratic management

- We improve the four-tier disclosure system consisting of the Company, primary-level units, working areas, and teams, and explore and expand democratic management channels for disclosing corporate affairs.
- We standardize the convening of workers' congresses at all levels and vote on matters such as the use of welfare funds, business performance evaluation methods, and management measures related to employment, work-related injuries, and vacations, thus effectively protecting employees' rights to stay informed about, participate in, express views on, and oversee corporate operations.
- In 2022, the worker's congress membership rate was 100%.

### Remuneration and benefits

- We work to establish a sound remuneration distribution system combining positions, skills, and performance, so as to achieve an organic combination of the value and performance of employees' positions and staff skills with enterprise efficiency, and further improve the diverse and multi-level incentive mechanism.
- We provide endowment insurance, medical insurance, unemployment insurance, employment injury insurance, maternity insurance, and housing provident fund for employees and pay premiums in full. We also promote the establishment of supplemental medical insurance and employment injury insurance, and a corporate annuity system, guaranteeing the basic needs of retired employees. In 2022, our social insurance coverage rate of employees was 100%.
- We strictly abide by the *Special Provisions on Labor Protection for Female Employees* and relevant laws, and provide female employees with benefits for giving birth and health care.



## Employee cultivation

The Company deeply implements the strategy of strengthening itself with talents in the new era by better cultivating high-quality talents in the steel industry and promoting the building of talent teams for management, skills, and science and technology.

<div>Training management system</div>	<ul style="list-style-type: none"> <li>• We issue systems such as the <i>Guiding Opinions on Optimizing the Education and Training System</i>, the <i>Construction Plan of Internal Trainer Teams</i>, and the <i>Management Measures of Competency Models</i>, to lay a solid foundation for managing training.</li> <li>• We have established <b>212</b> sets of competency models for employees, with the development of <b>71</b> courses, a question bank of <b>250,000</b> questions, and an online exam system, and built an integrated platform for skill enhancement.</li> <li>• We improve the selection and cultivation of internal trainers and build a team of <b>227</b> internal trainers with the main body of officials, experts, and model workers. We also organize special training and improve the professional level of course development, teaching, etc.</li> </ul>
<div>Characteristic training projects</div>	<ul style="list-style-type: none"> <li>• We held a class for improving political ability at the Party School of the Central Committee of the Communist Party of China for the first time, with <b>45</b> top leaders participating, to effectively improve their political judgment, understanding, and execution.</li> <li>• We continuously promote the “Cradle Program”, conduct innovative competency assessments, carry out special training in strategic thinking, systematic thinking, and other aspects, and systematically cultivate <b>332</b> excellent employees of the 70s, 80s, and 90s, significantly broadening employees’ vision and improving their abilities.</li> <li>• We collaborate with China Executive Leadership Academy, Yan’an to conduct political ability enhancement training for <b>47</b> leading technical and skilled talents, so as to enhance their patriotism and love for enterprises, and boost their confidence and determination in self-reliance on technology.</li> </ul>
<div>Vocational skilled talent training</div>	<ul style="list-style-type: none"> <li>• We organize a financial capability improvement course together with Shanghai National Accounting Institute, with the participation of over selected 700 employees, to enhance their ability of financial monitoring, risk prevention, and accounting information application.</li> <li>• We carry out a training course for leading digital talents to fully interpret national policies and digital transformation paths, share the experience of digital and smart construction of excellent enterprises, and promote the building of digital Ansteel.</li> <li>• We conduct special training on writing skills to effectively improve employees’ writing level of official documents by university professors teaching theories, internal “writers” sharing experiences, external experts improving thoughts on writing, and other methods.</li> <li>• We organize professional training on delicacy management, sci-tech innovation, China’s ‘30•60’ Decarbonization Goal, compliance, confidentiality, and so on, to enhance related competence.</li> <li>• We practice skilled talents and provide platforms for their skill exchange by conducting regular and practical job training and technical competitions, organizing vocational skills competitions for multiple levels and types of work, including the Craftsman Cup and the Talent Competition, and creating model worker innovation studios and skill master studios.</li> </ul>



Competitions

## Key performance indicators

In 2022, in Ansteel

- Coverage of employee training was **100%**, training projects were **1,739** in total with **350,000** employees participating, average training hours for each trainee were **60**, and investment in training was RMB **120.120** million with the average for each trainee of RMB **872**.

## Case “Horse Racing” symposium inspires officials to work hard and move forward bravely

Ansteel consolidates and deepens the “horse racing” mechanism by formulating systems for the competitive selection of managers, employee competition for positions, and selection of young leaders and professional managers, with clear selection methods and standards. In 2022, we held a “horse racing” meeting for business reporting of newly appointed leaders and a “horse racing” symposium for financial officials, to showcase their work effectiveness, develop new ideas about work, and promote growth and improvement. They guide and motivate young financial officials to spare no efforts to prevent and solve financial risks and business crises and strictly enforce financial discipline, providing a strong guarantee for building an excellent official team for a world-class enterprise.

## Improving employees’ sense of well-being

The Company persists in putting people first, regularly promotes the “Serving the People with Concrete Actions” campaign, and meets the needs of employees in a diversified way and from multiple levels, boosting vitality for its development and enhancing employees’ sense of happiness and gain. In 2022, we promoted livelihood projects and carried out a “dual evaluation” for them, getting the overall satisfaction from employees of 95%.



### Caring for employees in needs

- We care for employees in needs and help to solve their difficulties in life, with a visit of 29,014 such employees, a distribution of relief funds of RMB 19.91 million and medical relief funds of RMB 1,748.3 million, received assistance for 9,107 employees, including 3,137 seriously ill ones, and an obtainment of compensation limit of RMB 19.03 million.
- We carried out the “Golden Autumn Educational Subsidies” activity in 2022, with a distribution of RMB 1.5766 million for 3,092 children of employees with family difficulties.

### Caring for female employees

- We care for the physical health of female employees, with a provision of group health insurance for over 8,900 current female employees in Anshan region.
- For female employees, we improve the physical examination standards and Bensteel adds ovarian cancer screening and HPV test.

### Caring for frontline employees

- We visit employees who work under high risk and temperature, with a distribution of 14,500 cool drinks and health care products.

### Caring for retirees

- We regularly provide retirees with various care services such as blood pressure testing, psychological comfort, and electrical maintenance, thus building a work pattern that enterprises caring for elderly employees and the latter consciously support the development of the former in return.
- On the eve of July 1st, we visited over 2,600 Party members and elderly officials with difficulties in life, with holiday greetings and blessings.



Bensteel customizes buses and designs bus routes in the plant to improve employee commuting

## Enriching employees' leisure life

The Company carries out various sports and cultural activities to gather the spiritual strength of united and strived employees and achieve the most balance between the work and life of employees.



Anshan Iron and Steel Group carries out a football league, a volleyball match, and etc.



Pangang carries out a swimming match, a rowing race, and etc.



Bensteel carries out a basketball competition, a table tennis match, and etc.



## Harmony Shared with Communities

Ansteel keeps giving back to society during its development. We fulfill our responsibilities as a central enterprise by encouraging and supporting our employees to participate in community construction, charities, and volunteer services, striving to establish open, sincere, and harmonious relationships with local communities, and comprehensively promoting their sustainable development.

### Assisting community development

The Company insists on the common development with communities. We fully utilize our resource advantages to go deep into communities with a series of co-construction activities that benefit people's livelihoods, improving the production and living standards of residents for effective enhancement of well-being.

#### Case Karala actively integrates into overseas communities

As a Chinese-invested enterprise of Ansteel in Australia, Karala Mining Limited actively promotes community construction, continuously meets the social needs of residents, improves the quality of life of indigenous people, and promotes community development through various community services.

- Improving health level: Karala assists governments in providing dental services to residents in remote areas.
- Creating jobs: Karala develops community farms and innovative farms, carries out grain growing and the establishment of chicken farms and horticultural enterprises in a "user investment/benefits" manner, and provides skill training for residents to drive employment.
- Promoting cultural dissemination: Karala sponsored the 8th Biennial Art Awards & Exhibition in 2022, providing a platform for showcasing the high-quality artistic and cultural heritage of the Shire of Morawa.
- Strengthening community communication: Karala maintains good relationships and close communication with stakeholders such as local governments, indigenous groups, local people, local Chinese consulate generals, and Chinese enterprises through meetings, chambers of commerce, etc.



A modern mobile dental clinic provides oral health care for residents

#### Case Steel Art Museum creates a new height of literature and art with the soul of steel

In 2022, co-built by Anshan Iron and Steel Property Company and the Chinese Traditional Culture Center of Anshan Normal University, Steel Art Museum was open to the public, as the first one to take steel as the main element in China, contributing to the construction of public cultural and educational infrastructure. Since its opening, the museum has had various high-quality art exhibitions and cultural and artistic activities and become a venue for exhibitions, exchanges, artistic symposiums, and cultural salons for art professionals, non-art enthusiasts, students, and other groups, fully promoting public welfare such as carrying forward excellent Chinese traditional culture and providing public cultural service venues. Thus, the museum is now a new base for improving the artistic quality of the mass of citizens and the education on culture and art, and makes public cultural service facilities truly accessible to citizens.



### Devoting to public welfare

The Company promotes its spirit of volunteer service of "dedication, friendship, cooperation, and progress" to deeply carry out the practice themed "Following Guo Mingyi to Learn from Lei Feng" and promote the sustained, healthy, and vigorous development of volunteering cause in the new era.



Pangang carries out public welfare activities of the "Run" campaign, "A Loving Children's Day", and "Warm Winter" to deliver supplies worth about RMB 150,000 to 307 teenagers in needs





Bengang carries out 16 regular characteristic volunteer services, including blood donation themed “Shouldering the Responsibility of Saving Life” and traffic guidance themed “Leading Civilized Travel”.

### Key performance indicators

In 2022, in Ansteel

- **67** youth volunteer teams and **363** youth irregular service teams were established, with a total of **4,334** youth volunteers, and **825** volunteer activities were carried out, with **11,015** participants
- RMB **20** million was donated to the Sichuan Charity Federation for earthquake relief
- RMB **5** million was donated to special groups of Anshan Public Security Bureau
- RMB **3.3** million was donated to special groups of Benxi Public Security Bureau
- RMB **1** million was donated to special groups of Anshan Veterans Affairs Bureau
- RMB **3** million was donated to the group with difficulties of the original subsidiaries

### CSR Honors

- **4** youth collectives won the One-star Youth Model Unit Award, **1** Youth League branch was honored the National Railway Upward Good Youth Collective, **1** youth volunteer team was awarded the Outstanding Youth Volunteer Organization for the Era of Innovation in Liaoning in 2022, and the “Run” Campaign Volunteer Project received the Excellent Award of the 6th China Youth Volunteer Service Project Competition in Panzhihua.
- **12** youths were awarded “The Most Sparkling Star” of May Fourth Youth of China Metallurgical Newspaper by the Committee for the Guidance and Promotion of the Communist Youth League in National Steel Industry, **5** youths won the National Railway Upward Good Youth Award, **3** youth volunteers were honored the Outstanding Youth Volunteer in Liaoning, and **2** outstanding youth volunteers were awarded the 6th “Youth Volunteer Star” in Panzhihua, **1** outstanding youth volunteer won the title of “Outstanding Individual in Sichuan Youth Volunteer Service”.

## Harmonious and Beautiful Villages Co-built with Residents

In 2022, guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Ansteel studied and implemented General Secretary Xi Jinping’s important instructions on issues related to agriculture, rural areas, and farmers and on paired assistance. Taking paired assistance as a major political task, we followed the work requirements of maintaining consistency in responsibilities, policy implementation, assistance, and supervision and focused on vitalization in five aspects, showing our mission as “the eldest son of the Republic” in promoting rural vitalization on all fronts.



Scan the QR code:  
Ansteel Rural  
Revitalization White  
Paper 2023



Scan the QR code:  
Ansteel White Paper  
on Precision Poverty  
Alleviation 2021

## Strengthening design at the top

Seeing paired assistance as a priority, we step up efforts in paired assistance. In 2022, we held eight special meetings on paired assistance to study and discuss new policies and requirements to promote the implementation of paired assistance. The 2022 Paired Assistance Work Plan of Ansteel Group Corporation Limited is formulated with greater support of funds, policies, talents, and innovative methods to promote rural vitalization on all fronts.

### Key performance indicators

In 2022,

- RMB **43.01** million of pro bono assistance funds input, a year-on-year increase of **2.20%**
- RMB **85.61** million of assistance funds by other donors, a year-on-year increase of **694%**
- RMB **73.66** million of consumption-driven assistance funds, a year-on-year increase of **29.40%**
- RMB **5.54** billion of targeted purchase of Panzhou coal, a year-on-year increase of **38.80%**
- **64** assigned officials to rural areas, an increase of **13** over the same period last year
- **60,000+** beneficiaries from the assistance projects of Ansteel

### CSR Honors

- Ansteel’s paired assistance has been evaluated as “**good**” by the Central Rural Work Task Force for three consecutive years
- Sanjiaotian Village and Huajiashan Village are rated as pilot projects of rural vitalization in Liupanshui City and Panzhou **City respectively**
- Bositebandier Village of Taxkorgan Tajik Autonomous County is rated as Xinjiang Uygur Autonomous **Region Poverty Alleviation Model Village**, Xinjiang Uygur Autonomous Region **Beautiful Courtyard Demonstration Village**, and Xinjiang Uygur **Autonomous Region Civilization of Times New Village**





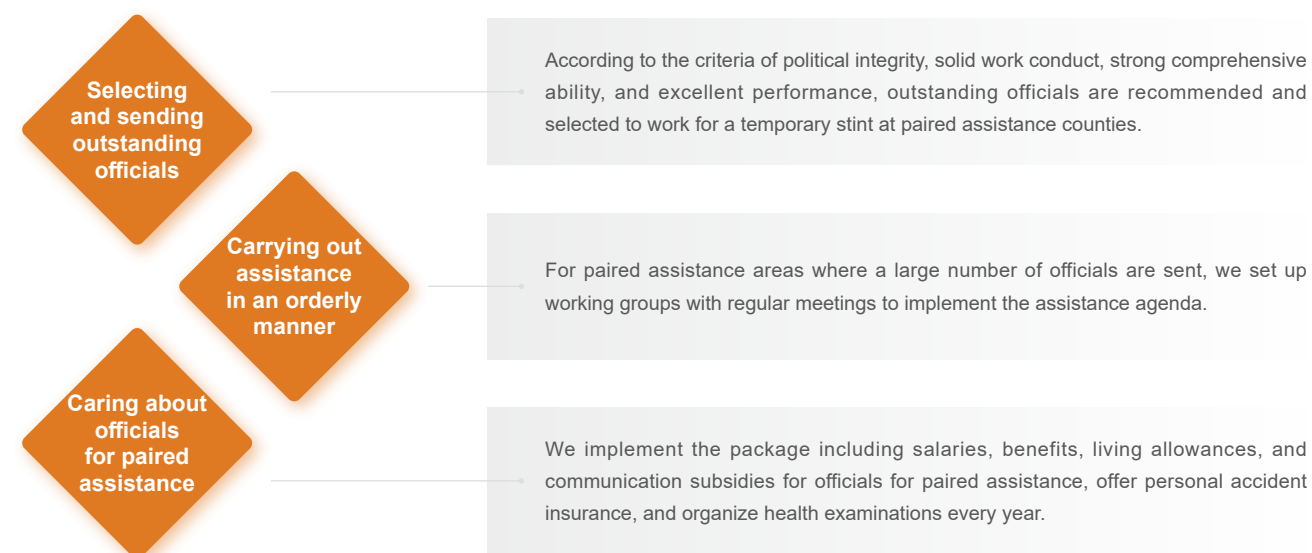
In June 2022, Tan Chengxu, Secretary of the Party Committee and Chairman of the Board, Ansteel Group Corporation Limited, visited a cattle farm in Abati Town, Taxkorgan Tajik Autonomous County



In June 2022, Dai Zhihao, Deputy Secretary of the Party Committee and President, Ansteel Group Corporation Limited, visited the Sanjiaotian Village in Panzhou City, Guizhou Province

## Sending elite officials

Based on the principle of “sending the best people to where they are needed”, Ansteel carefully chooses the officials for paired assistance with the best support to fully stimulate the vitality and cohesion of the officials as leaders in rural vitalization.



### Case The task force of Ansteel in Taxkorgan Tajik Autonomous County, Xinjiang, contributes to the construction of the modern industrial park in the Gobi Desert area

To support the real sector of Taxkorgan Tajik Autonomous County, the task force of Ansteel sent to Taxkorgan Tajik Autonomous County of Xinjiang entered the industrial park of Taxkorgan Tajik Autonomous County in 2021 and offered its assistance immediately. Despite difficulties such as a tight construction schedule and challenging conditions in the Gobi Desert, our task force gave play to their expertise by improving more than 10 systems in organization building, stability maintenance, work safety, and project management. They brought advanced management concepts to the industrial park to accelerate its construction. They also took the initiative to learn how to attract investments and innovatively adopted both online and in-person channels to reach potential investors so that investments into the industrial park and its construction could be speeded up in an orderly manner. They provided strong support through the power of talent for the rural vitalization of Taxkorgan Tajik Autonomous County.

Through the joint efforts of officials sent to Xinjiang, in May 2022, the Taxkorgan Tajik Autonomous County industrial park, with a planned construction land of around 420,000 m<sup>2</sup>, a construction area of 286,000 m<sup>2</sup>, and a total investment of RMB 1.08 billion, was completed and put into operation. The Taxkorgan Tajik Autonomous County industrial park welcomed the visits of more than 30 enterprises and had enterprises settling in the industrial park start production. The construction of this project marked the end of the era when the county had no industrial foundation. It became another driving force for the rural vitalization of Taxkorgan Tajik Autonomous County, which could have a far-reaching impact on optimizing its economic structure, adding jobs, and increasing fiscal revenues.

## Focusing on “vitalization in five aspects”

The Company has solidly promoted the vitalization of industry, talent, culture, the environment, and organizational structures to contribute to the high-quality development of paired assistance areas and unleash vast rural vitality.

### Vitalization of industry

#### Key performance indicators

In 2022,

- Ansteel invested in RMB **22.28** million of pro bono industrial assistance funds, accounting for **79%**



#### Developing industries with Panzhou characteristics

- We assist in building the edible fungus plantation, mushroom spawn processing workshop, open-air vegetable plantation, marigold planting base, and fine vegetable planting greenhouse to increase rural collective incomes effectively.
- The Huajiashan edible fungus plantation is rated as the national primary-level “Agricultural Science and Technology Demonstration Base”.
- Panzhou’s “one county and one industry” *rosa roxburghii* Tratt industry integrated development and “*rosa roxburghii* Tratt original liquid” are included in the “national special agricultural products” list. The typical practices of the *rosa roxburghii* Tratt industry have been promoted by the SASAC in the Central SOE Social Responsibility in Rural Assistance and Support.





### Extending the value chain of Taxkorgan Tajik Autonomous County

- We implement the Tatikuli relocation planting project to provide feed for the development of livestock raising.
- We donate Simmenthal cattle and introduce the investments of **two** enterprises to inject vigorous impetus into the development of the livestock industry in Taxkorgan Tajik Autonomous County.
- We implement the greenhouse renovation project of the Tizinapu village fruit and vegetable base and develop the supply chains of local vegetables, melons and fruits, aquatic products, and poultry to solve the problems of the lack of access to vegetables and high prices in Taxkorgan Tajik Autonomous County.



Assisting in building a fine vegetable planting greenhouse in Sanjiaotian Village



Assisting in building an edible fungus plantation in Huajiashan Village

## Vitalization of talent

### Key performance indicators

In 2022,

- Ansteel trained **2,817** primary-level officials, rural vitalization pioneers, and professional and technical personnel



### Conducting training on specific themes

- In Panzhou, based on the teachers and external agricultural technology experts of the affiliated mechanical and electrical college, we involve primary-level officials, prosperity effort leaders, and vegetable growers in **12** special training sessions.
- We organize and implement **seven** training courses of **three** types in Taxkorgan Tajik Autonomous County, including special planting, basic management, and professional technology, to help stimulate the driving force of rural vitalization in Taxkorgan Tajik Autonomous County.



### Innovating training

- We organize Taxkorgan Tajik Autonomous County officials to work at the subsidiaries of Ansteel for a temporary stint.
- We organize the heads of local SOEs and competent departments in Panzhou City to participate in the leadership improvement training at Ansteel.



Offering on-site training to help villagers learn vegetable planting techniques

## Vitalization of culture



### Implementing the "cultural support to Xinjiang" project

- We ensure the full coverage of patriotic education bases and Chinese studies lectures in primary and secondary schools in Taxkorgan Tajik Autonomous County to improve students' sense of pride in the nation.



### Carrying out activities to improve rural customs

- Our task force in Taxkorgan Tajik Autonomous County pairs up with 19 local households lifted out of poverty and regularly visits local villagers to help them solve difficulties and eliminate outdated rural customs.
- Xu Yangqiu, the first Party secretary of Huajiashan Village, compiles the "Three Character" village rules and takes household conduct as an important indicator for the selection of civilized households.
- Xie Yuchuan, the first Party secretary of Sanjiaotian Village, forms a folk song and dance team, improves the level of environmental governance, and cares about the elderly living alone to shape rural harmony.





Patriotism Education hall of a boarding primary school in Taxkorgan Tajik Autonomous County



Sanjiaotian Village folk song and dance team

## Vitalization of the environment



### Implementing environmental governance projects

- We repair and upgrade sanitation facilities in Taxkorgan Tajik Autonomous County and build new village-level septic tanks to ensure a clean environment.
- In Panzhou, we secure special government funds for sewage treatment and living environment improvement and effectively tackle environmental problems to give villages a new look.



### Advancing water diversion and irrigation projects

- We implement the water diversion and irrigation project in Sarejilega Village, Taxkorgan and open irrigation channels for two million square meters of cultivated land and grassland to improve the production capacity of agriculture and animal husbandry, the living environment, and production conditions.
- We build a new water diversion pipeline and regulating pond in Panzhou to solve the irrigation problem of one million square meters of land in two villages.



## Case Assisting relocation efforts and contributing to the vitalization of the environment in the paired assistance areas

Anshan Iron and Steel Group focuses on the ecological efforts at relocation sites for the vitalization of the environment in Taxkorgan Tajik Autonomous County to build beautiful villages. In 2022, in the Tatikuli relocation site, Anshan Iron and Steel Group conducted land leveling, improvement, planting, etc., with plants covering more than 2.13 km<sup>2</sup> of land, turning the desert into an oasis. We also implemented the “toilet revolution” and “water diversion and irrigation” projects to properly treat waste and open up irrigation channels for a better rural living environment and rural living facilities.



Wheat grows well after land leveling and improvement

## Vitalization of organization structures

Trying to stimulate the vitality of village Party organizations through Party building, we hope to translate the political and organizational advantages of primary-level Party organizations into the development strengths in rural vitalization with better organizational momentum.

- We donate RMB **500,000** as Party building funds and continue to promote the joint Party building of Party branches.
- We invest RMB **800,000** to build a standardized Party building activity base in Huajiashan Village and regularly carry out policy publicity, farmers' night schools, and other activities to enhance the foundation at the primary level.



Huajiashan Village of Panzhou City builds a standardized Party building activity base



## Deepening consumption-driven assistance

The Company vigorously implements consumption-driven assistance by facilitating the supply and demand between rural areas and consumer markets and mobilizing the government, the market, and all stakeholders to expand the consumption market of agricultural products so that rural residents can have higher incomes. In 2022, we completed consumption-driven assistance of RMB 73.66 million.

### Ensuring smooth production and marketing channels

- We purchase agricultural products from paired assistance areas and give them as benefits to employees instead of direct donations.
- We promote brands through live-streaming e-commerce channels and set up counters for special agricultural products from paired assistance areas in supermarkets, canteens, museums, and other places of Ansteel to sell agricultural products from Taxkorgan Tajik Autonomous County and Panzhou to Liaoning and Sichuan Provinces.

### Joining hands to support procurement

- We have signed a strategic cooperation agreement with Guizhou Panjiang Refined Coal Co., Ltd. to directly purchase coal products worth over RMB 5 billion to effectively promote regional economic development.
- We cooperate with central SOE consumption assistance e-commerce platforms and organize the “Dynamic Agriculture Week” consumption assistance activities.
- We communicate with the Bureau of Economy and Information Technology and the Rural Vitalization Bureau of the paired assistance area, improve the catalog of goods for consumption assistance, and address obstacles in the “last mile” of agricultural products from fields to tables, turning resources into the economic strengths for common prosperity.



Employees order products on the “Dynamic Agriculture Week” consumption assistance platform



Agricultural products purchased from paired assistance areas and given as benefits to employees

## Outlook

In 2023, led by the efforts to create demonstrations, Ansteel will follow benchmarks in evaluations, focus on improving efficiency, profitability, and management, and pursue world-class innovation, competitiveness, governance, influence, and leadership. We will give full play to the role of reform as a driver for breakthroughs and coordinate the world-class enterprise demonstration actions, management improvement actions, value creation actions, and leading brand actions to build a world-class enterprise.

—**Driven by innovation, we will develop world-class sci-tech innovation capabilities.** We will improve our capability of independent innovation on all fronts, strengthen the research of key technologies, and sharpen our ability as a global technology creator. We will contribute to the development of national strategic sci-tech forces and the construction of major national innovation platforms.

—**Concentrating on value creation, we aim to shape world-class core competitiveness.** We will enhance resource allocation and integration, optimize the allocation of resources along the value chain to serve the development pattern of the “dual core + third pole”, and improve our control of strategic resources to give the Company more say and influence in the global market. To develop high-quality products, we will strengthen total quality management and upgrade processes and equipment. Ansteel will benchmark against world-class standards to improve value creation and business performance indicators so that we will shift our focus from quantity and scale to quality and efficiency.

—**Deepening reform to empower the Company, we will pursue world-class governance capabilities.** Adhering to the Party’s leadership over SOEs as a major political principle and carrying out SOE reform to establish a modern enterprise system, we will intensify efforts to build a modern enterprise system and perfect the corporate governance mechanism. We will reinforce the market-oriented operation mechanism and focus on the effectiveness of the three reforms. To strengthen strategic management, based on the “five drivers” strategic evaluation model, we will implement and upgrade strategic planning. Efforts will be accelerated to build a digital Ansteel and promote “data empowerment, control upgrading, business collaboration, and manufacturing efficiency”. We will speed up the establishment of a world-class financial management system, namely the “three in one” financial management system of Ansteel. The Company will establish a lean management system based on the whole value chain and a long-term lean management mechanism with full participation and continuous improvement. We will strengthen compliance management, enhance risk control, and integrate legal affairs, compliance, and risk control based on the “Three Verticality and One Horizontality” law-based Ansteel work system.

—**Serving national strategies, we intend to become globally influential.** We will push forward the development of world-famous brands and formulate and implement differentiated brand strategies to improve the image and reputation of Ansteel. To foster excellent corporate culture, based on the “Ansteel Constitution”, we will expand the influence of Ansteel culture. Aspiring to create a model of green and low-carbon development, we will develop low-carbon metallurgical technology under the roadmap of Ansteel for carbon dioxide peaking and carbon neutrality, promote low-carbon energy transformation, and improve energy efficiency and clean production. Complying with high standards of CSR performance, we will consolidate the results of rural vitalization, comprehensively evaluate indicators of the effectiveness of paired assistance, and secure another “good” rating from the authorities.

—**Strengthening the Company through the power of talent, we aim to form world-class leadership.** We will train first-class entrepreneurs, improve the ability of personnel in charge, and increase the proportion of outstanding young officials to optimize the structure of the management team. We will also build a team of high-level sci-tech leaders, implement the open competition mechanisms, develop a “talent enclave”, and establish a collaboration mechanism for talent to settle in central cities and services for production bases. The Company will strengthen the formation of a team of skilled workers, implement skill training plans at different levels, and put in place an evaluation system for skilled professionals with an improved incentive system.

—**Motivated by typical examples, we will set world-class pilot demonstrations.** The Company will build a coastal modern intelligent steel base and a green, eco-friendly, and whole-process intelligent and transparent fine steel base in the coastal area with industry-leading cost control, technology, products, and labor productivity. We will develop a world-class mineral resources industry with global competitiveness in pursuit of the three “world-class” goals. Looking forward to building a world-class vanadium and titanium industry base, we will take swift actions to promote vanadium products, titanium chemicals, and other industrial projects, expand the scale of chloride process titanium dioxide, and increase the use of vanadium products in the field of new energy. We will set an example of modern governance and focus on the construction of three “new models” for an advanced governance paradigm.



## Key Performance Indicators

Economic	Unit	2020	2021	2022
Total revenue	RMB billion	274.750	383.457	336.616
Total operating costs	RMB billion	268.108	357.472	332.173
Total profit	RMB billion	6.957	17.463	8.014
Total assets	RMB billion	483.322	491.976	481.008
Owner's equity	RMB billion	133.812	150.981	155.358
Asset liability ratio	%	72.31	69.31	67.70
Total tax amount	RMB billion	13.927	22.487	17.207
Yield of iron (pig iron)	million tons	53.8516	52.6622	53.5724
Yield of steel (crude steel)	million tons	55.5520	55.6533	55.6490
Yield of steel products	million tons	52.0501	52.2538	52.2847
Yield of iron concentrate	million tons	48.5540	49.8396	52.6058
Yield of high vanadium iron	ton	34,800	36,800	36,000
Yield of titanium dioxide powder	ton	235,500	244,400	243,500
Ranking among Fortune Global 500	—	401	400	217
Ranking by World Steel Association	—	7	3	3
Steel exported	million tons	2.9039	3.2952	3.2971
Proportion of steel exported	%	5.55	6.26	6.16
Board meetings	—	13	8	9
Matters discussed and deliberated by the Board	—	32	36	28
Economic responsibility audits	—	18	22	17
Audits and evaluations for investment projects	—	2	3	4
Cost audits of investment projects	—	14	12	9
Management audits	—	10	20	8
Other audits	—	13	3	13
Net deduction of project funds	RMB million	76	66	73
R&D investment	RMB billion	8.614	14.815	13.056
Intensity of R&D investment	%	4.04	3.86	3.88
Patent applications accepted	—	1,872	2,103	2,477
Patent authorized	—	1,309	1,435	1,675
Effective inventions	—	4,699	5,323	6,296
International standards released and revised	—	3	4	2
National standards released and revised	—	11	10	13
Industry standards released and revised	—	6	2	2
Industry and provincial-level projects that received technology awards	—	30	34	37

Environmental	Unit	2020	2021	2022
Proportion of clean energy (including nuclear power, wind power, hydropower, and photovoltaic power)	%	17.50	18.67	26.59
Year-on-year decrease of comprehensive energy consumption per RMB 10,000 of output value (comparable price)	%	0.95	0.17	1.82
Year-on-year decrease of new water consumption per ton of steel produced	%	-1.51	2.20	1.49
Year-on-year decrease of SO <sub>2</sub> emissions	%	4.19	9.29	14.36
Year-on-year decrease of NO <sub>x</sub> emissions	%	0.32	-1.59	9.55
Year-on-year decrease of the COD emission	%	0.67	7.53	29.70
Year-on-year decrease of new water consumption per ton of steel produced	%	2.56	2.73	5.35
Year-on-year decrease of new water consumption per ton of steel produced	%	2.56	2.73	5.35
Water recycling rate of Anshan Iron and Steel Group	%	98.40	98.43	98.46
Water recycling rate of Pangang	%	95.22	95.25	95.31
Water recycling rate of BenSteel	%	98.34	98.30	98.31

Social	Unit	2020	2021	2022
Complaint resolution rate	%	100	100	100
Number of Anshan Iron and Steel Group's suppliers who obtained ISO14001 system certification	—	8	9	17
Number of Anshan Iron and Steel Group's suppliers certified by the environmental management system	—	8	9	17
Number of Anshan Iron and Steel Group's suppliers certified by the occupational health and safety system	—	8	9	16
Number of potential suppliers rejected by Anshan Iron and Steel Group due to non-compliance with social responsibility	—	0	0	0
Number of Anshan Iron and Steel Group's suppliers that were suspended cooperation due to non-compliance with social responsibility	—	0	0	0
Total number of employees	—	119,418	173,597	164,003
Proportion of female employees	%	15.20	13.60	13.20
Number of new hires	—	318	428	1,040
Proportion of new hires	%	0.30	0.20	0.60
Number of employees resigned	—	583	897	1,248
Employee turnover rate	%	0.50	0.50	0.80
Labor contract coverage rate	%	100	100	100



Social	Unit	2020	2021	2022
Social insurance coverage rate	%	100	100	100
Employee training investment	RMB million	103.25	148	120.12
Training hours per employee	hour	55	65	60
Training investment per employee	RMB	976	996	872
Proportion of management and technical personnel	%	24	23.10	23.30
Number of recipients of allowance for people in distress	——	43,385	28,843	29,014
Total investment in allowance for people in distress	RMB million	18.0065	17.4489	19.91
Number of recipients of student grant offered by employees	——	22	1,185	3,092
Total investment in student grant offered by employees	RMB million	0.04	0.9560	1.5766
Number of employee medical assistance recipients	——	2,702	2,035	9,107
Total investment in employee medical assistance	RMB million	12.23	9.3834	17.4830
Coverage rate of employee physical examination	%	100	100	100
Coverage rate of employee occupational health records	%	100	100	100
Total investment in work safety	RMB billion	1.272	1.932	1.789
Trainees of safety training	headcount	232,512	228,518	265,414
Coverage of safety training	%	100	100	100
Number of newly added occupational patients	——	1	3	2
Increase/decrease rate of injuries per thousand employees	%	-13	-57	-17
Paired assistance funds	RMB million	38.2455	42.0560	43.01
Other charitable activities, student aid, and improvement of the community environment	RMB million	45.0146	32.0825	38.5394
Total social donations	RMB million	83.2601	74.1385	81.5494
Assistance funds introduced for counties receiving central departments paired assistance	RMB million	0.79	10.78	85.61
Purchase of agricultural products from areas out of poverty	RMB million	54	56.89	73.66
Agricultural products from areas out of poverty sold with the help of Ansteel	RMB million	2.48	1.16	2.35
Assistance officials dispatched	headcount	47	51	64
Trainees of central departments paired assistance training helped by Ansteel	headcount	3,766	2,399	2,817
Expenditure of Panzhou coal by targeted purchase	RMB billion	2.515	3.990	5.540
Young volunteers	headcount	6,012	5,039	4,334
Volunteer services	session	1,010	949	543
Participants in volunteer services	headcount	12,120	11,337	11,015
Total hours of volunteer services	hour	36,450	34,011	33,045

## CSR Honors

No.	Honors
1	Ansteel was rated A for the first time in the annual performance assessment of the heads of central SOEs, and the Party Committee of Ansteel was again rated A in the assessment of the responsibility system for Party building in central SOEs.
2	Highly commended by officials of the State Council, the SASAC, and the Party Committee and the government of Liaoning Province, the reorganization of BenSteel into Ansteel was hailed as a landmark case of the three-year action plan for SOE reform.
3	Ansteel's two projects, Research and Practice of Differentiated Ideological and Political Work System in the New Era and Leveraging CPC Resources, Inheriting CPC Legacies, and Creating a Red Ansteel, are granted the highest honor in the field of ideological and political research in China.
4	The Chengdu Advanced Metal Materials Industry Technology Research Institute Co., Ltd. under Ansteel Vanadium and Titanium (Steel and Iron) Institute and BenSteel Information Automation Co., Ltd. are listed as "science and technology reform demonstration enterprises".
5	The detachment of Guo Mingyi's volunteer team at Angang Steel Company Limited Main Coking Plant was awarded the title of Best Volunteer Organization by the Publicity Department of the Communist Party of China and the Civilization Office of the Communist Party of China Central Committee.
6	Ansteel received the inaugural award for excellence in low-carbon steel production for our low-CO <sub>2</sub> emission blast furnace charge solution from the World Steel Association.
7	Iron and Steel Group and Pangang have been rated as China's most patented and innovative steel enterprises for three consecutive years.
8	Angang Steel Company Limited, Pangang Chengdu Materials Institute, and Pangang Group Mining are recognized as enterprises with IPR advantages in China for the first time.
9	ISO 22055:2019 switch and crossing rails international standard is granted the 2022 China Standards Innovation Contribution Award.
10	The patent "method for preparing high-strength coke from chemical waste" receives the 23rd China Patent Award.
11	BenSteel 2000MPa hot-formed steel is ranked the first prize in "2022 5th China Automotive Lightweight Design".
12	Ten leading projects, including "key technologies and applications of green and efficient utilization of Panxi vanadium resources", obtain the 2022 China Metallurgical Science and Technology Award.
13	Eight scenarios of four units, including Angang Steel Company Limited, Ansteel Mining Group Co., Ltd. Qidashan iron mine, Chaoyang Iron & Steel, and Xichang Steel & Vanadium were awarded excellent scenarios of intelligent manufacturing in 2022.
14	"Blade steel by Pangang Group Sichuan Changcheng Special Steel Co., Ltd. helps China achieve breakthroughs in heavy-duty gas turbines" was listed as one of the top ten influential events in China's special steel industry in 2022.
15	Bayuquan Steel Subsidiary, Bengang Steel Plates Co., Ltd., Benxi Beiyang Iron & Steel (GROUP) Co., Ltd., and Pangang Group Xichang Steel & Vanadium Co., Ltd. were awarded the "30·60 Decarbonization Goal Best Practice and Energy Efficiency Benchmarking Demonstration Enterprise" by the China Iron and Steel Association.
16	Ansteel is granted the Commendation Award of the 7th China Grand Awards for Industry.
17	Ansteel's paired assistance was evaluated as "good" by the Central Rural Work Task Force for three years in a row.



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Expert Opinion

In 2022, the Report to the 20th National Congress of the Communist Party of China states the need of “striving in unity to build a modern socialist country in all respects and advance the great rejuvenation of the Chinese nation on all fronts”. It also established new goals for regional coordinated development to “make further progress in the large-scale development of the western region, achieve new breakthroughs in the full revitalization of the Northeast”. These guidelines have encouraged us to work diligently on our new journey and deeply implement the regional coordinated development strategy, injecting strong momentum into China’s unique path to modernization. Ansteel has closely followed suit, and compiled and released its 16th sustainability report, titled *2022 Ansteel Group Corporation Limited Sustainability Report*.

This report highlights Ansteel’s sense of responsibility. It made plans and layout surrounding its mission of “producing better material, creating more wonderful life”, and took “prosperity” as its main responsibility, demonstrating the role of Ansteel as an important driving force in serving the regional coordinated development strategy. The Company actively contributes to the revitalization of the regional economy, natural ecology, partners, and local communities, undertaking its due responsibilities to promote regional revitalization and leveraging its role as a backbone of the steel industry to contribute to the great rejuvenation of the Chinese nation.

The report pays attention to current trend. The section, the base for learning the guiding principles of the 20th National Congress of the CPC, demonstrates Ansteel’s deep understanding and implementation of the guiding principles of the 20th CPC National Congress, helping to ingrain those principles into the minds of employees. Furthermore, features on state-owned enterprise reform showcase Ansteel’s high-quality achievements in the three-year action plan for state-owned enterprise reform, laying the foundation for a new chapter in its development.

The report places a strong emphasis on key CSR actions and is more reader-friendly. It begins with a “New-era Steel Industry” CSR list with exquisite images, showcasing Ansteel’s major achievements in fulfilling its responsibilities in 2022 and interpreting its original aspiration of “remembering the responsibility of the eldest son of the Republic and dedicating ourselves to serving the country”. Contributions to SDGs in the beginning of each chapter illustrate that Ansteel aligns with international sustainable development goals, contributing to the implementation of UN’s Sustainable Development Goals in advancing innovation, protecting environment, boosting education and community development. The “Iron Will” section tells readers with cases and pictures about the outstanding responsibility practice of Ansteel, such as “Independently developing the world’s largest pre-steelmaking integrated and intelligent ironmaking center” and “Hua Chunying recognizes the transformation of the rolling tailings pond of Ansteel Mining Group Co., Ltd. into an ecological garden”. By focusing on and responding to key issues like green development, digitalization, safety, and quality development, this report reflects the spirit of the times and the iron will of Ansteel employees in fulfilling national and social responsibilities.

Sustainable development calls for continuous investment and efforts. Looking ahead, I hope that Ansteel will continue strengthen cooperation with various stakeholders, actively explore new paths for high-quality development, as well as understand the relationship between global sustainable development and corporate development and shoulder more social responsibilities. With the focus on sustainable development responsibility, driving force, internal drive, collaboration, and value, Ansteel is about to fulfill new responsibility in the steel industry for the new era.

Yu Zhihong  
President and Editor-in-chief of China Sustainability Tribune



# Feedback

Dear readers,

This is the Sixteenth sustainability report of Ansteel Group released to the public. We would like to solicit your opinions and suggestions so as to help us make constant improvement in our fulfillment of social responsibility and achieve sustainable development. We would highly appreciate it if you could spare some time to share your thoughts with us on the following issues:

1. Do you think this report reflects the significant impact that Ansteel Group has exerted on the economy, society and environment? (Please tick your option.)

☐ Yes    ☐ Fairly    ☐ No

2. Does this report make an exact and comprehensive analysis of the relationship between Ansteel Group and other stakeholders? (Please tick your option.)

☐ Yes    ☐ Fairly    ☐ No

3. Are the information, data and indexes disclosed in this report clear, accurate and complete? (Please tick your option.)

☐ Yes    ☐ Fairly    ☐ No

4. Are the content layout and format design in this report helpful to your reading? (Please tick your option.)

☐ Yes    ☐ Fairly    ☐ No

What makes the most satisfactory part of this report?

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Is there any necessary information omitted in this report?

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What are your opinions about our report on sustainable development to be released in the future?

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The report is printed on environmental friendly paper.



Access to the Report: For the PDF version, please visit Ansteel Group's official website <http://en.ansteel.cn/>, or scan the QR code.



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